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## From fast to slow risks: Shifting vulnerabilities of flood-related migration in Lodwar, Kenya

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## ABSTRACT

Migration triggered by climate variability or climate change is often a problematic yet nearly unavoidable adaptation measure, particularly due to the increasing severity of natural hazards. How relocation is negotiated, and risks are evaluated at different scales are still poorly understood. We discuss the temporality and complexity of risks, that are experienced and approached through socio-spatial differences of intersectional embodiment (Sultana, 2020). The study is based on two flood-related qualitative case studies in the small semi-arid and rapidly growing town of Lodwar in the poorest county of Kenya, Turkana. We propose the typology of fast and slow risks to understand the different strategies, negotiations, and priorities of different people involved. Due to political abstraction, three main slow risks were not addressed: concerning land, water, and income. Consequently, vulnerabilities deepened and shifted at different scales: along the axes of gender and able-bodiedness as women and particularly widows, ageing, sick, and single mothers were bearing the main hardship; but also, between communities as hazard risks were deliberately shifted onto a politically less affluent community. We argue that in the process of negotiations, people have been actively advocating for, trying to manage, and rethinking their slow risks. They have often been employing slow responses, particularly in the form of waiting and reimagining.

### 1. Introduction

Relocation, resettlement, and displacement within the borders of the same country are common adaptation strategies for environmental hazards. It is estimated that without concrete climate and development action, climate change could contribute to the migration of 216 million people within their countries, 40 % of this being in Africa (Clement et al., 2021). Sometimes, migration is the only solution, but it is often caused by compounding reasons (Miller, Ha, Da, Thuy, & Ngo, 2022; Tacoli, 2009; Tan, 2017). How the processes of relocation are negotiated and differently evaluated is still insufficiently explored (see also: Arnall, Thomas, Twyman, & Liverman, 2013) and that is the focus of our paper.

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People who are geographically exposed to hazards and are socio-economically disadvantaged face multiple risks in any adaptation strategy they choose, whether they relocate, stay, or balance between different locations. These risks are evaluated, responded to, and re-assessed in various ways by social groups, communities, and formal institutions. There is some limited evidence that people's relocation is commonly accompanied by a downward spiralling socio-economic position (Miller et al., 2022), that it can widen the gap between better-off and poorer households, and substantially change daily life with a strong gendered impact (Artur & Hilhorst, 2014; Brickell & Speer, 2022; Kusakabe, Lund, Mishra Panda, Wang, & Vongphakdy, 2015). In this paper, we break the binary of migration and staying (Hjälms, 2014; Korzenevica, 2020; Nikuze, Sliuzas, Flacke, & Van Maarseveen, 2019) by analysing how people negotiate and respond to risks at different stages, scenarios and strategies of relocation.

The concept of risk has typically been analysed separately from the long-term effects of adaptation practices. We propose a framework that moves from the temporal dichotomy and focuses on fast and slow risks simultaneously in order to understand a variety of strategies, negotiations, and priorities used by different people involved. We develop it through the conceptualisation and contextualisation of slow risks as a subject of adaptation-related negotiations at different scales and an analysis of how slow risks are shaped by embodied intersectional differences.

In this paper, we analyse two cases highlighting how relocation has been negotiated in Lodwar, a small town in the semi-arid County of Turkana in Kenya, see Fig. 1. Lodwar is prone to destructive floods, with significant impacts experienced in 2016, 2019, and 2020. In addition, erosion of riverbanks has been destroying houses of people who were commonly choosing river proximity for households due to prevalent water scarcity in the region. We apply the term “relocation” as used in Turkana to describe mobility with or without assistance, as opposed to “resettlement”, which refers to efforts to rehabilitate and restore communities and livelihoods (Cernea, 1991; Miller et al., 2022). At times, relocation has resembled hazard-caused displacement, using a definition of forced migration due to dispossession (Miller et al., 2022) or “hardware” resettlement, in which relocation has been treated as a technical exercise with little consideration for social or economic aspects of shifting livelihoods (Arnall et al., 2013; Bang & Few, 2012; Cernea, 1991). Despite the occurrence of floods, to our knowledge, there is no developed policy plan for relocation.

This paper contributes to academic discussions on how relocation is embedded in state-society relations (Arnall et al., 2013) and how it is experienced through social axes of difference. Our paper is grounded in critical feminist political ecology as we join researchers (Elmhirst, 2011; Katz, 2001; Sultana, 2020) in highlighting environmental struggles through the importance of daily life alongside political negotiations of power. We develop the analysis following the lens of intersectionality that has been conceptualised by women of colour and postcolonial feminist scholars (Collins, 2019; Crenshaw, 1989; Mohanty, 1988; Tamang, 2011), as “interlocking systems of oppression and difference in context to explain lived and embodied experiences” (Sultana, 2020, p. 3). Using Sultana's (2020) approach, we take a perspective on embodied intersections that are shaped by socio-spatial differences, such as, poverty, gender, and physical able-bodiedness.

In the following, we discuss a theoretical framework; later, we describe environmental and socio-political setups and relocation cases in Lodwar. In the empirical section, we discuss how people negotiate slow risks as well as how they are embodied in intersections of socio-spatial difference. Political abjection from slow risks and suffering has resulted in shifting vulnerabilities to underprivileged groups (single mothers, women, and politically less connected communities). In response, people have been actively navigating slow



**Fig. 1.** Lodwar is located between two rivers: Kawalase and Turkwel. Five communities are central to the main fieldwork. Contains modified Copernicus data, 2021.

risks through a myriad of strategies, such as negotiating with the government, NGOs, house members, and communities, but also waiting, reimagining, and slow response.

## 2. Negotiating fast and slow risks by the marginalized

Coping with a hazard, managing daily life, and surviving require various complex negotiations. Negotiation is an essential component of politics at different levels and can take many forms. It may involve reflection and transformation of perspectives (Bhabha & Rutherford, 1990; West, 2002), navigation through or interaction with different structural pressures and gender norms (e.g., Besio, 2006; Korzenevica, 2016a, 2016b; Punch, 2007). It usually implies contestation and bargaining (Charmaz, 2005) and is intimately linked with power, agency, and vulnerability.

Risk is an important analytical concept to understand the process of negotiation within the household, between communities, or with the government/municipality. In the latest IPCC report (Reisinger et al., 2020, p. 4), risk is defined as “the potential for adverse consequences for human or ecological systems, recognising the diversity of values and objectives associated with such systems,” and it links hazards, exposure, and vulnerability. The risk approach has been criticised as reductionist (e.g., Zeitoun et al., 2016), though other authors have argued that it can be reoriented towards equity when people’s values are considered (Grasham, Charles, & Abdi, 2022). Perceptions of risk are complex and imply diverse subjective values (Giddens, 1999; Grasham et al., 2022; Reisinger et al., 2020); however, environmental scientists and economists commonly do not acknowledge subjectivity, political influence, inequality or the necessity to include local people in the evaluation of risks (Douglas & Wildavsky, 1983; Fischhoff, Watson, & Hope, 1984; McLaughlin & Dietz, 2008; Slovic, Finucane, Peters, & MacGregor, 2004) despite that they are forced to cope with the consequences. Participation in decision-making and inclusion of communities’ needs and prioritization of “dignity over victimization” (Maldonado et al., 2021, p. 302) are some of the main challenges in recovery (Iuchi, 2014; Oliver-Smith, 1991). The case of Lodwar shows that the practice of excluding people from negotiations leads to maladaptation, particularly by underprivileged groups. Difficulty in coping with risks and evolving vulnerabilities are commonly seen as personal failures and individual responsibilities to solve (see also: Page, 2018) whilst a lack of capacity is viewed as a reason for poverty and marginalisation (as explained by the stakeholders).

The conceptual division of fast and slow risks situates them as equal components of adaptation planning and blurs artificial boundaries. Understanding how people suffer and manoeuvre around fast and slow risks can explain the complexity of adaptation to environmental hazards. In Lodwar, hazard-related risks and long-term consequences of adaptation practices are viewed as separate by policymakers. Risks related to adaptation practices are not merely unintended consequences, they are aspects that people negotiate in advance. Other regional studies show that when unfolding challenges due to relocation or resettlement are ignored, new vulnerabilities emerge or shift, hence people’s ability to adapt to environmental conditions decreases, social disaggregation widens, and people become more dependent on government welfare (e.g., Miller & Dun, 2019; Miller et al., 2022).

The fast and slow risk framework is inspired by studies that emphasize incremental, latent, unrecognised, and often diminished suffering caused by structural causes. Wisner, Blaikie, Cannon and Davis (2003) have conceptualized the progression of hazards into disasters under the cumulative progression of vulnerability, root causes, local geography, and social differentiation. Through the concept of “slow violence,” Nixon (2011) invites to re-focus on slow, often lifelong suffering caused by neoliberal principles of accumulation, geographical or knowledge displacement, destruction of the vernacular landscape, and others. The concept reorients attention from the immediacy of events towards invisible problems, structural inequalities, and vulnerabilities (also: Curato, 2018; Espina & Canoy, 2021; Iuchi, 2014; Tyner, 2022; Willett, 2015). Anderson et al. (2020) emphasised the importance of combining the discussions on emergencies and everyday to understand the governance of lives throughout protracted harm – a slow emergency. In unison with these studies, we argue that suffering related to relocation is driven by political abstraction from slow risks and the exclusion of them in risk evaluation, as well as ignorance of the political landscape of resource management and underlying structural causes of vulnerability.

The embeddedness of slow suffering in protracted marginalisation has been well described by critical political ecologists and activists against structural oppressions. Feminists have been emphasising that violence is imbued with the slow toxicity of racism and sexism (Christian & Dowler, 2019; Lorde, 1997; Mahtani, 2014). Suffering from political abjection is embodied in the intersection of social, spatial, and material differences producing embodied subjectivities vis-à-vis policymakers and planners (Sultana, 2020). Political slowness creates the continuity of suffering and reproduces marginalization, e.g., in case of the slow violence of displacement (Tyner, 2022), slow infrastructural violence (Thomas, 2021; Truelove & Rusczyk, 2022), prolonged neglect of indigenous reservations (Hyndman, 2019) or inaction during socio-environmental disasters (Ahmann, 2018). In the case of water, Truelove and Rusczyk (2022) have been arguing that violence is acted upon women as infrastructural water access enablers.

Suffering does not imply inaction, as response and vulnerability co-exist simultaneously and interchangeably and affect the choice of strategies for the negotiation of risks. Vulnerability is productive (Page, 2018) and is situated in the middle between the passivity of suffering and activity, affecting but not being in opposition to agency (Butler, 2016). Katz (2004) has coined overlapping processes of opposition to power, aimed bringing “emancipatory change” (p. 251): resistance, resilience (endurance and persistence), and rework (organisation, but not polarisation of power relations (p. 247)); and other authors have further elaborated on agency in imagination and planning or even complying with rules (Korzenevica, 2016a). To endure is to withstand a traumatic experience, but also to potentially oppose and resist (Tyner, 2022). Murrey (2016, p. 226) has conceptualised slow dissent to describe “a resistance with perseverance, despite enormous ruptures and pressures, and the density to disrupt the prolonged temporality and multispatiality of multidimensional and compounded structural violence.” Slow responses are incremental as people develop them in conjuncture with livelihood management and adaptation strategies. In relation to relocation, Kusakabe et al. (2015) argue that indigenous people in Lao have been using restricted mobility to resist control from the state. This strategy has not been uniform across the gender divide,

because women lacked the necessary capabilities to employ it. Artur and Hilhorst (2014) have demonstrated that people in Mozambique have resisted resettlement, refusing to give up their lifestyle and breaking the connection with specific places and protection from ancestors. In this case, women have been trying to renegotiate their norms and become more active in the public sphere; moreover, young people saw a window of opportunity through relocation.

The negotiation of environmental risks is a process of relation with the state, society, household, and environment. How people navigate slow risks related to floods in Lodwar is what we discuss next.

### 3. Context: Flooding and relocation in Lodwar

Turkana is a geographically and socio-economically contested place. Traditionally, Turkana has been the poorest and the most marginalised region of Kenya, populated predominantly by nomadic pastoralists. Poverty is attributed at large to the brutality and ignorance of tribal practices by the British colonial regime (1918–1963), e.g., through land policies that conflicted with indigenous resource use strategies and caused an increase in inter-ethnic conflicts (Otieno, 2016). Devolution (2010/2013), the discovery of oil (2012), and the international infrastructural oil megaproject LAPSSET (starting in the 2010s) have started to bring unequal growth to Turkana. Turkana experienced the highest increase in inequality in 2015/16 relative to 1994 compared to other counties (KNBS, Aceir, University of Nairobi, AFD, & EU, 2020).

Lodwar is a small town with many migrants driven by droughts, ethnic or election-related political violence, family conflicts, and poverty. The main income sources for the urban poor are opportunistic jobs, occasional pastoralism, and trade of vegetables or fish. Sedentary lifestyles and agriculture have been promoted by NGOs and governmental developmental institutions, often with mixed results.

Turkana is a common land with communal rights; however, grazing land in rural Turkana has been progressively reduced (Lane, 2013 [1998]) and since the 2010s, land tenure has become an object of socio-political conflicts as urban land has been increasingly privatised and commodified. Unlike a few decades ago, there is no possibility to settle on free land. Though the importance of documents of land ownership has risen, most of the poor have remained without capacity to obtain them due to a lack of resources and education. Multiple land speculations, grabs, and disputes have been on the rise (Akall, 2021), increasing vulnerability of the disadvantaged groups, especially women (Greiner, 2017). Lokaparparae is scarcely populated, though people say that even if you stand on any barren piece of land, someone will instantly come by motorbike and interrogate you.

Lodwar is prone to unpredictable and destructive river and extreme rainfall-caused floods due to its geography and climate conditions, see Fig. 1. Like other arid and semi-arid lands, Lodwar is so dry that common measurements of drought are hard to apply (Haines, Aletia Imana, Opondo, Ouma, & Rayner, 2017); it is susceptible to flash flooding in part due to the fact that when it rains, it rains intensely. From the 1980s to the early 2000s, total rainfall in Lodwar has been decreasing against a background increase in temperature (Ongoma, Chen, & Omony, 2018). The dynamics of prolonged and hot dry spells followed by intense rainfall can trigger flash flooding in dry riverbeds such as the Kawalase (Haines et al., 2017) and river flooding such as that associated with the Turkwel river. The last major floods happened in 2016, 2019, and 2020; according to the overall Turkana data, in 2016, it was estimated that 1000 people were immediately displaced (Juma, 2016); in 2019, 15 000 people were estimated to be affected (OCHA, 2019); in 2020, 1,000 people were displaced (Floodlist, 2020; OCHA, 2019). A changing climate may continuously increase many risks; even more stable elements of the physical water-climate nexus may be altered. Most model projections suggest that the long rains season in Lodwar will get wetter with the intensity of rain events increasing (Kendon et al., 2019). Combined with future increases in temperature, for which there is high confidence, the conditions for drought and flash flooding are set to increase (Trisos et al., 2022).

In Lodwar, floods pose risks to life, health, housing and other property, though experiences vary by socio-economic factors. Typically, women, children, the elderly, and the sick are most affected due to spending a lot of time at home; at the same time, men

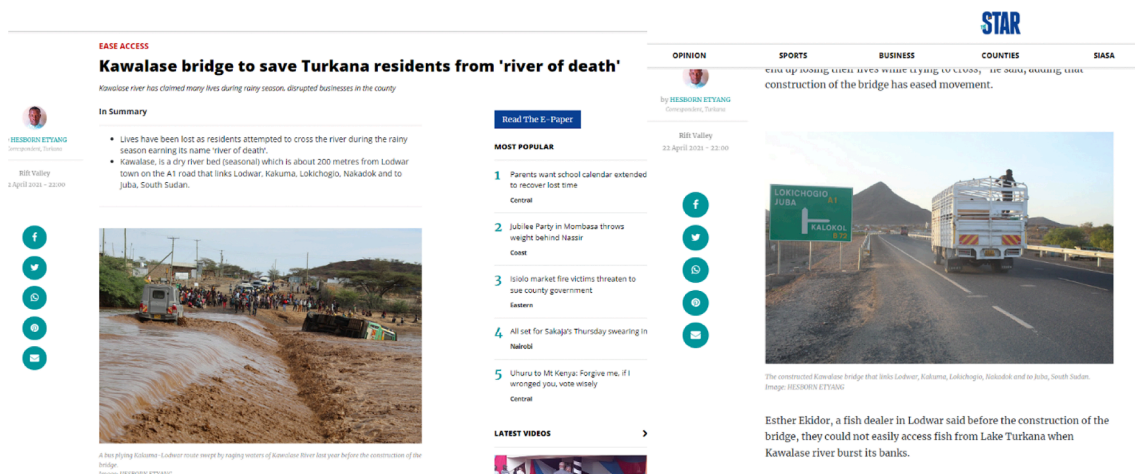


Fig. 2. Newspaper The Star article on the benefits from the Kawalase bridge. (Eyang, 2021).

often engage in dangerous rescue operations. People apply different strategies to cope, such as taking out loans, asking for help from relatives or officials, changing their income source, or restructuring their families. Commonly, people relocate to safer grounds, mostly to Lokaparparae. The process is not straightforward; often people are forced to move together with relatives, split families to live in different locations, or even become homeless until a solution is found.

Disaster management in Lodwar has been sporadic, slow, reductionist, and uncoordinated. The existing policies address only an overarching disaster response plan at the national level (Republic of Kenya, 2009). Local committee that involves NGOs, government representatives, and other stakeholders provide immediate humanitarian relief or assistance in relocation on an adhoc basis to floods, covering issues exclusively related to immediate humanitarian needs, land, and housing. The adhoc contingency plans were written only in response to what seemed like an imminent risk of the Turkwel dam spillage, flooding and displacement in 2020 (Lokwang, 2020; The county government Turkana, 2020; Turkana county government, 2020). The Kawalasee bridge built in 2021 aiding safe passage during the floods from the peri-urban area to Lodwar has been perceived as the main solution to floods (Fig. 2). To our knowledge, there is no official response to river diversion risks. Absent or adhoc resettlement policies can exacerbate economic, physical, and social insecurities that cumulatively produce impoverishment and vulnerability (Cernea, 1995; Nikuze et al., 2019). A few INGOs are directly working with flood response and relocation through a well-designed participatory approach that nevertheless focuses exclusively on the physical shifting of households; moreover, has been described as corrupt and unfair by respondents. When faced with the question of difficulties people are experiencing related to relocation, INGO representatives answered that these issues have been addressed already, will be in a few months, or are exaggerated.

### 3.1. Relocation from Napetet to Lokaparparae

The decision to relocate implies careful planning that includes financial considerations, the availability of institutional support, and the evaluation of slow risks in a new place. Sometimes the decision to migrate includes various reasons beyond the hazard (see also: Artur & Hilhorst, 2014). We discuss the relocation route from Napetet to Lokaparparae. Napetet is a well-connected, densely populated location with geographical proximity to income sources, markets, and acceptable schools, as well as water taps and a supportive community where food sharing is common. Napetet is a frequent receiver of different NGO programmes. Lokaparparae was chosen as a destination for relocation after the joint negotiation process between community leaders, (I)NGOs, and government representatives. Lokaparparae is scarcely populated with migrants, far from town and income sources, with no electricity, poor water sources, and sub-standard schools. It is commonly described as a "location of victims". In addition to flood related relocation migrants, Lokaparparae is inhabited by people who cannot afford living in central Lodwar, those who fled ethnic violence or poverty from the rest of Turkana. Both locations are populated by the poor and extremely poor, though in Napetet, unlike in Lokaparparae, there were also people who were socio-economically and relatively better off. In Napetet people are mostly occupied in opportunistic small jobs from town, in Lokaparparae options are limited, people collect wood, make baskets, burn charcoal and engage in motorbike business. When people relocate, they need to rethink their daily lives and income, as well as to adjust to time-consuming, lengthy water collection, mostly done by women or children. Even though water tanks have been secured, water has not been provided for months. Most of the women cannot continue with their usual income source.

### 3.2. River diversion

Flooding and erosion have been slowly encroaching on Napetet, pushing it to the brink of destruction. After the floods in 2019, Napetet residents formed a Napetet Rescue Team. Residents pursued the river diversion initiative, at first digging a trench manually (Etyang, 2019), eventually convincing the government to take action. The government supported the project that implied the creation of a water channel from upstream through Natambusio, the sparsely populated small community on the opposite bank of the Kawalasee river. As per our knowledge, this project has not been publicly documented, and all the information we acquired comes from the interviews with activists in Natambusio and Napetet, who have been carefully noting different stages of the conflict and the project itself.

In response to the construction, residents of Natambusio immediately mobilised themselves and protested. At first, they misjudged the presence of heavy machinery, believing it related to a youth employment programme. Later, they organised demonstrations (200 women and men participated), set up meetings with local leaders (who never turned up), and mobilised a "human rights activist" who tried to demand compensation but became silent and disappeared at later stages. They demanded access to full information, consideration of their evolving risks, and finding solutions that could be satisfactory both to Natambusio and Napetet. After visiting multiple ministry departments, they were only successful in connecting to the Office of Justice, the head of which came to listen to their problems and tried to advocate for their rights briefly. They believe that river diversion will destroy their houses in the next flood. Throughout the resistance, Natambusio activists have been receiving threats of prison, death, or sexualized violence (women). Activists claimed corruption, spirals of fear and silencing as reasons that enabled the process of diversion. When confronted with the government, they were told that they could relocate should they wish to. Residents have refused to relocate, waiting for flood destruction to present it as evidence of state neglect of their plight.

## 4. Methodology

The paper is based on a set of predominantly qualitative fieldworks that followed inductive principles of grounded theory modified through the epistemology of constructivism (Charmaz, 2005, 2008; Clarke, 2007) that takes a reflexive stance on modes of knowing

through comparison, the development of categories, and a focus on meanings and processes. Specifically, we follow Charmaz (2005) in her invitation to take a critical stance and focus on social justice, with special attention to ideas and actions concerning equity and fairness.

The interrupted flow of the study has been influenced by the availability of funding (three separate small funds), COVID-19 disruptions, and the personal limitations of the lead author. These have extended the study over the four years (2018–2022); however, these also allowed us to observe changes, such as the construction of the bridge (2021), new floods (2019), river diversion processes (from 2019), and above all, prolonged people’s waiting across all these years. The interview guide was iterated in line with the principles of grounded theory; additional topics were suggested by the respondents, such as land grabbing and river diversion. The study was stopped after reaching “interpretive sufficiency”: inclusion of multiple interpretations and cultural complexities (Christians, 2005), yet with the depth and nuance that “permits a critical consciousness to be formed by the reader” (Denzin, 1997, p. 283).

A combination of methods has informed the study (see Fig. 3). The main method was semi-structured interviews. Following the ground theory (Charmaz, 2008), the research topic evolved during the pilot visit; subsequently, data collection and analysis were simultaneous. We aimed to reach “situated knowledge” in the process of construction and deconstruction of meanings in data, contestation, and establishing analytical connections (Haraway, 1988). Researchers were attempting to meet respondents and other family members multiple times (that worked only with some but not others as it was practically difficult) and accompany the main respondents in their daily lives, e.g., by carrying firewood or cooking snacks for customers. Additionally, we have conducted seven focus group discussions specifically on the topics of relocation and river diversion. Focus groups were participatory and reflexive; researchers were approaching common gatherings of people and inviting people who were interested to come for a discussion. This sampling strategy originated from the idea of not picking the respondents but allowing people to decide on their participation. It was not representative but supportive of interviews and was meant to de-structure the usual hierarchies of the facilitator and others. People were invited to comment on the fabricated stories of people involved in relocation. Our findings were complemented by six stakeholder interviews (mostly online) and a participatory workshop with stakeholders (40 people overall), during which we discussed challenges in addressing socio-economic inequalities (Korzenevica, 2022). All the data were translated and transcribed, supported by extensive field notes and frequent peer discussions.

Sampling evolved through the study’s progression as it followed the grounded theory principles to fill theoretical categories by developing tentative interpretations and returning to the field to gather more data and refine categories (Charmaz, 2008). For the main fieldwork, the selection of locations was guided by a combination of factors gathered from previous studies, secondary data, and personal knowledge: proximity to river, flood impacts, worry about floods, water sources, and socio-economic vulnerability. Within the communities, we followed the principle of approaching every 4th house while being mindful of making a proportional selection

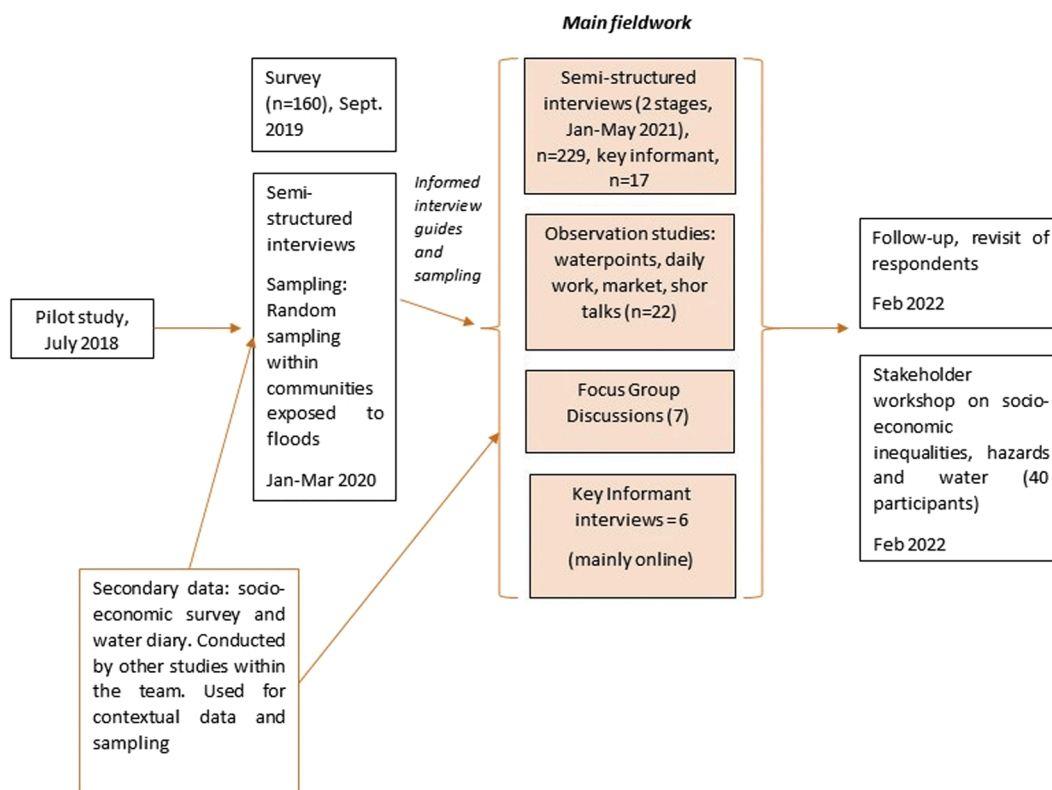


Fig. 3. Flow of methodology instruments.

between ages and sexes. Additionally, we had several days where researchers were purposefully trying to approach vulnerable people as defined by the community: disabled, widowed, extremely poor, and ageing (see overall profile of respondents in the [Table 1](#)). During the 2nd stage of the main fieldwork, we focused on the communities related to the route of relocation (from Napetet to Lokapararae, from Soweto to Illoseget) and Natambusio, a community affected by the river. These were the most affected communities by floods, and each community has contributed different nuances to people's negotiations of risks. Lodwar is a location of multiple contrasts, and therefore we acknowledge that the study is limited to our sample and not representative.

Different researchers conducted the study. If the first author was conducting interviews, it was with the help of research assistants; at other times, Turkana co-authors were leading data collection themselves. A combination of different researchers' positionalities provided different insights; in a conversation with the lead author, people were willing to share something particular about their lives; with the local researchers (who are Turkana from Lodwar), respondents were more eager to engage them in their daily activities.

It is important to mention that local people felt over-researched but under-heard in Lodwar, and occasionally it was causing difficulties in approaching people. Researchers paid special attention not to rush, to build rapport, and to listen to their frequently challenging and emotional stories. The case of river diversion, though, has been silenced, and to our surprise, even many stakeholders have not heard about it. When local activists and opponents of the river diversion were interviewed, they were grateful that someone came to listen to their struggles.

Data have been analysed through the software NVIVO using thematic and narrative approaches. Thematic analysis implies hermeneutic content analysis through pattern recognition and the development of the categories of analysis (Roberts, Dowell, & Nie, 2019). We were inspired by the 5-step thematic analysis developed by Braun and Clarke (2006, 2018, 2021).

Considering the sensitive nature of some interviews, e.g., with activists against river diversion, the decision was made not to disclose the raw data even after the end of the project.

## 5. Results: Negotiation of slow risks

*While preparing the materials, there were two ladies (one was my former respondent) talking, one carrying the child. My former respondent explained that life is hard there and that she planned to return to Napetet to try her business luck in the village. The conversation revolved around family and how they were dealing with the hard life and curfew hours of COVID-19. Another woman suggested coming back to Lokapararae as the whole village [Napetet] will be affected if the river overflows and the river will not isolate anyone [...]. I pointed out the dangers of living in this environment as the clouds have been gathering above our heads, but my respondent told me in Lokapararae there is no water or business. She will return and await floods in Napetet rather than die with hunger in Lokapararae [...]. If she lives in Lokapararae, then she will grow poorer and poorer. She will only be a beggar. / Lokapararae, field notes by Lokomwa Didymus/.*

Conversations as above, describing daily negotiations concerning relocation, were common in Lodwar. Slow risks are involved in different stages of adaptation: relocation, staying, balancing between the two locations, or continuously reconsidering the best options. People at risk have been negotiating these options with stakeholders, families, their kin or even through internal dialogues about the best possible strategy. The example above demonstrates that any chosen strategy can be dangerous in different ways (see also: Artur & Hilhorst, 2014; Nikuze et al., 2019). As in the study by Artur and Hilhorst (2014), many people have been balancing life between two locations. In the following sections, we describe major risks related to land, water, and income and analyse how these risks have been negotiated, shaped, and experienced through embodied intersectionality bounded by socio-spatial difference. It should be noted that these three are the major slow risks that appeared in everyone's responses, though there were other risks, such as schooling and access to health facilities. We will also dissect different response strategies and coping mechanisms people employed.

### 5.1. Land

Land difficulties were diverse and ranged from no to top concern. Only the latest are discussed here. Relocation patterns vary; some people have been assisted by NGOs or the church; others have been moving gradually; and sometimes family members have moved separately. In the case of Natambusio, the chief insisted that families were supposed to relocate to the higher areas if floods became destructive due to river diversion; however, he did not address availability of land or support in a new place. People were forced to take on the responsibility of planning adaptation and displacement despite their limited resources and increased vulnerability due to

**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 %)

governmental projects.

Land grabbing and land conflicts were the risks that people needed to consider at each relocation stage. For instance, one group of kin tried to move to the land that they allegedly had: *“We had secured land as five people, but later it was grabbed by the people who claimed to be indigenous to this place (Ngikajik). They wanted to slash us with pangas, and we decided to leave that place for them, and we came back to this place. I have feared land issues since that day.”* At other times, land was grabbed by people (even relatives) who were more skilled, educated, and had access to the relevant people and institutions. In their relocation schemes, NGOs often prioritised single mothers, divorced and widowed women; however, this group was also most vulnerable to land grabs. They were often granted land in Lokaparparae; however, they frequently found it physically challenging to reach (several kilometres to walk on foot in the heat) and secure fast enough; as a result, it was grabbed by others.

The families who could mobilise networks of relatives or diversify livelihoods often tried to balance different living situations and stay in-between the two places until the next destructive floods or the land issues were clarified. One strategy was to ask a relative (typically a single man, cousin, uncle, or nephew) to stay on the Lokaparparae land for a while. A different approach was to split the family, typically for a man to stay in Napetet while the rest of the family migrated. These in-between juggling approaches were very common, though they were accessible only to well-connected families with both primary adults. Several groups of people could not employ this strategy, e.g., non-Turkana migrants who felt socially alienated, or single mothers.

The power dynamics between the communities defined conflicts between two communities in the case of river diversion. Napetet is better politically connected, as some representatives work in the county government and have the means to corrupt some people within Natambusio. Residents of Natambusio insisted they did care about the fate of Napetet in case of floods, not least because most of them had relations with people in Napetet. However, the perceived unfairness and ignorance of Natambusio’s needs and risks have created strong tensions between communities, and people were left to carry the burden of survival by themselves: *“People of Natambusio don’t have resources and are struggling with basic food. How can they make it for construction materials or to afford the new spaces of land where to relocate?”*.

After losing hope of developing a dialogue and a plan for the protection of Natambusio, people started employing waiting as a strategy, aiming to use suffering from the expected floods as proof of the river diversion consequences for the government. People felt worthless reflecting on the abstraction and abjection by the government: *“I feel our lives look so useless that the government diverts the flood water to our homes. I feel that the river diversion is discrimination from the government and injustice against us”* /a woman activist/. Nevertheless, activists have insisted that they are not going silent; they are waiting for the floods to destroy their houses to appeal for action to relocate them safely. Other options were exhausted, and people decided to use expected suffering as the most efficient tool of negotiation.

## 5.2. Water

Traditionally, for nomadic pastoralists, access to water has always been one of the most crucial aspects of major livelihood decision-making, going back to matriarch Moru a Nayece who settled by the Tarac River and is since associated with the origins of Turkana settlements (Ekiru, 2021). In Lokaparparae, water access has been challenging. Unlike piped water provision in Lodwar town, the main source of water is river wells. In Turkana, water responsibilities are taken by women except for hazards (Korzenevica, Feleke, Musyoka, Taskin, & Ekai, mimeo). In our calculation, women in Lokaparparae spend up to 4–5 hours a day collecting water under the scorching sun, often with children in tow. Though the tanks have been allocated in Lokaparparae, water has been supplied there 1–2 times a week in the best scenario. In the follow-up visit in February 2022, people hadn’t seen water in their tanks since November; moreover, the water tank has been refilled only after the local elder (man) went to the Ministry of Water and made negotiations. The local water tank manager (woman) explained that she felt uneasy about burdening the elder with this request and thus preferred to patiently wait for when he had time.

People accounted for water challenges in their decision-making, often in contradiction to adaptation to the hazard. Older women or single mothers preferred to stay in a flood-prone zone where they could benefit from water support from others or be able to combine water needs with income generation. Other families decided to split to reduce the cost of transporting water. When people were “sensitised” to move away from the river Turkwel due to the risk of the Turkwel river dam overflowing in 2020, they reflected: *“Where do we go? Will we have water and shade for livestock? It is better to die here due to floods rather than await death due to a lack of water”*.

## 5.3. Income

Consideration of relocation reflects the ability of household adults to be engaged in the job market. Living far from the centre implies a necessity to travel long distances daily, and creates disadvantages for men compared to others. The most common job for men in Lokaparparae was driving a motorbike, which was lucrative for some, though characterised with unpredictable profit due to growing competition and risk of accidents. For women, generating income was nearly an impossible task, as they also needed to take care of water needs and small children without the social support they had in Napetet. Some women tried to collect firewood, a very strenuous job with meagre profit, or continue weaving baskets and being forced to sell them five-six times cheaper than in Napetet. Significantly, the most common sources of income for women – vegetable vending, small shops, or small jobs in other houses (washing clothes, cleaning, etc.) are nearly impossible in Lokaparparae due to the large distance to the market, the few and poor local customers, and the amount of time consumed by water collection.

Occasionally, the household has been managing financially well; however, the intrahousehold perspective showed great disparities between adults. For instance, Wanjiro (35) [changed name] could not continue with her previous vegetable vending in Lokaparparae.



She tried at first, but there were barely any customers, and people were asking for goods on loan too frequently. She initiated illegal alcohol selling, a risky and problematic business due to frequent police raids. She was asked to stop this business by her husband so he would not get tempted by alcohol. Her husband's motorbike income has been going relatively well, and unlike other families, they did not sleep on empty stomachs. However, driving motorbikes in Lodwar is very dangerous, and several men we have met had accidents that disabled them from work for months. Though relocation did not mean extreme poverty specifically for their family, it increased multiple risks, and Wanjiro became more dependent on her husband. Relocation has denied her the possibility to plan personal income, make savings, secure her children's future, and create an exit plan from the marriage should the need arise – all the strategies that working women commonly make in Lodwar. It is important to acknowledge that women are the largest group being disproportionately affected, but there were also cases of men taking over the carer's role within the family (due to the absence of a main woman and with disabled parents), thus experiencing similar difficulties as women.

Women who relocated occasionally mentioned different ways of planning their resilience in Lokaparparae. They have expressed that "they are used to being here", "they cannot even remember the place of their old house," or "they do not feel sad about leaving it," even though relocation has increased the social, physical, and financial challenges of their lives. Several women tried to raise a goat or two, which was not really considered an income source, and was often referred to as simply an act of pleasure like having a pet. However, everyone also agreed that a goat gives more security in the future; e.g., goats could be sold to cover major expenses (like school fees) or family shocks (such as sickness). Women would occasionally outline their ideas for developing a business, but often they did not seem realistic. In one of the interviews, the lead author *wanted* to ask: "But where would you set your kiosk up and how? I don't see that the place you are pointing at is any different from this place; to me, it seems equally scarce. And how would you arrange the products?" It is not that the author had disbelief or diminishment of the respondent's skills, but rather fear, sadness, and care (Using care as a part of qualitative research, as in: [Middleton & Samanani, 2021](#)) towards the respondent, who may not be able to realise her dreams. She did not ask these questions but allowed the slow hope to grow, to be nurtured and maintained.

## 6. Discussion

Adaptation to flooding involves complex planning of the various outcomes and risks involved. The political approach is abstracted from evolving slow risks at different stages of moving, staying, waiting, and being in-between, moreover, it is centred around a technocratic relocation. On the contrary, at all stages people negotiate and navigate slow risks, mainly access to land, water, and the ability to generate income.

One of the crucial characteristics of slow risks is the complexity of access, defined as the ability to *benefit* from entitlements ([Ribot & Peluso, 2003](#); *cursive* by the author). Land, water, and income sources were *somewhat* available in Lokaparparae; however, they were not attainable due to multiple reasons. Firstly, unregulated land registration, land grabbing, and land conflicts between ethnic groups, powerful groups, and extended families prevented people from relocating or receiving information about whether it was at all possible. Secondly, the rare provision of water to Lokaparparae was unregulated and arbitrary, dependent on negotiations of power relations at different scales. People in Natambusio were unwilling to relocate without knowing about water access. Thirdly, the navigation of resources requires reliable social capital. It ensures the ability to secure land through different networking schemes, it also enables water access when it is temporarily or permanently difficult to obtain by oneself (on the importance of social ties in water: [Bukachi et al., 2021](#); [Gomez-Temesio, 2016](#); [Wutich et al., 2018](#)). Finally, practical barriers (distance) increased difficulties in securing daily income. Managing one's livelihood through opportunistic jobs is a survival strategy that heavily relies on the proximity to the urban centre for the poor in Lodwar specifically and Sub-Saharan Africa in general (e.g. [Langevang, 2008](#) on youth in urban Tanzania).

Migration and mobility at different stages reflect embodied intersectional experiences of difference and shifted/increased vulnerability of marginalised people, resonating with other findings stating that relocation exacerbates pre-existing inequalities ([Arnall et al., 2013](#); [Artur & Hilhorst, 2014](#); [Miller & Dun, 2019](#)). Under multiple pressures in the relocated place, women needed to juggle care, income, and water, always prioritising the latter. Similarly to the study by [O'Leary \(2016\)](#) in Delhi, women's waiting for water tanks to be filled symbolises the slow waiting to be heard and seen. Moreover, relocation has posed a slow risk to people's ability to generate income, reproducing gender roles. Men's breadwinner's role has solidified, alongside women's place at home. Wanjiro intrahousehold's perspective reflects the disproportionate, immediate, and long-term financial vulnerability for women that has emerged due to the inability of both adults to engage in the job market. Wanjiro's case also indicates that the increase of women's vulnerability is not passive but continuously negotiated and compromised. In the case of single or physically challenged women, a lack of access to water, land, and income has pushed them out of relocation options as they did not see a possibility to juggle all the tasks. The case of river diversion has highlighted political abjection and politics of difference in the form of prioritising fast risks and needs of one politically better-connected community only.

Negotiations are dynamic, as their form changes with time and under multiple pressures. To negotiate and navigate slow risks, people employed multiple strategies. They have been considering different options for relocation and occasionally shifting in between, advocating their risks to policymakers, creating multi-step strategies for securing land, rethinking income sources, and negotiating livelihood within the families. More vulnerable people with fewer choices of resilience are often resigned to slow coping. Slow coping does not mean delayed reaction, fatalism, or slow agency. It rather indicates perseverance, navigation of challenges amidst socio-political and environmental hazards, as well as incremental yet continuous rework.

The unpredictability of the timing of the environmental disaster, a lack of resources, and a lack of constructive dialogue with officials have pushed people in Natambusio to manoeuvre their strategies, actively resisting at first and later resigning to waiting. At first, people employed active resistance through mobilisation (as in: [Katz, 2004](#)), later employing waiting as a strategy. Single and physically challenged women, who could not relocate and needed to remain at a flood-prone risk, waited for new floods while

continuing to manage their livelihood. Waiting reflects helplessness in front of political power, as people actively wait for government decisions to consider their risks and are stuck in stagnation (Hyndman, 2019; Tyner, 2022). Waiting is slow, although it can also be suspenseful and strategic. Waiting, in this case, is a strategy and a process of negotiation with the state, not a passive acceptance (Lombard, 2013). As several authors have argued, vulnerability is productive (Page, 2018) and resilience is not an antonym, but rather a dimension of it (Turner et al., 2003).

Slow reimagining and rework characterise multiple aspects of planning and actions women took in planning, hoping, and imagining different scenarios and possibilities. Often bound by care obligations (Pike, 2019), some women needed to act fast in rebuilding their livelihoods as they had no other choice, particularly those who could not relocate. Women who relocated and could not secure a personal income source emphasised their acceptance and reimagining of their lives, often summarising it with a statement “but I am a Turkana woman”, emphasising resilience, physical and mental strength, and the ability to raise and manage unmanageable conditions, like Wanjiro, who has not stopped trying to find an income source. Their response to slow risks often appeared invisible and, at times, appeared as mental rework, developing acceptance and reimagining their lives. Vulnerability and resilience are simultaneous, interacting in contradictory ways, ranging from suffering to emphasising one’s strength and wisdom.

## 7. Conclusion

Internal migration has been on the rise due to climate change, often becoming maladaptive for the urban poor, as in the case of floods in Lodwar. We propose to analyse environmental relocation as a process of negotiating *temporal* risks. We have divided risks into fast and slow, arguing that the latter has been abstracted from political decision-making, despite being a crucial component of relocation (and adaptation more broadly), actively negotiated and considered by people. Based on the two examples of flood-triggered relocation and river diversion, we identified three slow risks that were ignored: land, water, and income.

The lens of slow and fast risks provides conceptual and methodological advancements. Firstly, it develops a critical lens on the political processes and reasons behind unfolding slow risks. Secondly, it draws on the multi-scalar politics of difference and abjection that enables progression of disadvantages and marginalisation. Finally, slow risks draw attention to a myriad of negotiation and planning strategies, as well as the slow responses that people employ to adapt. We argue that in the process of negotiation, people were actively advocating for and navigating their slow risks, often employing slow responses, particularly in the form of waiting and incremental reimagining at different scales.

In the advancement of the discussion on temporality in environmental struggles, we illuminate “slowness” in the typology of risks, negotiations, and response strategies. We have bridged studies on slow violence (Nixon, 2011), slow emergence (Anderson et al., 2020), environmental studies on the processes of unfolding disasters (Wisner et al., 2003) and resistance to structural challenges (Katz, 2004; Mauch, 2019; Murrey, 2016). Slowness in relocation (and in other adaptation strategies) reflects ignorance of slow risks and related suffering, the incremental accumulation of challenges, as well as slow navigation, planning, managing, reworking, hoping, and imagining while working through these conditions. Within our case studies, people used social networks to adapt, manoeuvred mobility, employed waiting as a strategy, and used expected suffering after the floods as a tool for renewed negotiation. Women who relocated used slow reimagining to cope, adapt, and hope in a new place.

Through the critical lens of feminist political ecology, we have analysed how ignorance of slow risks has been intersectionally embodied through socio-spatial difference, causing vulnerabilities to deepen through processes of relocation. Gender divide has deepened through the increased burden on women or carers to manage rarely and arbitrarily supplied water; or challenges for women to develop their income in a relocated place. Vulnerabilities have also shifted between communities as the governmental project of river diversion has equally diverted the risk of floods to a less affluent community. Moreover, particularly vulnerable groups that are frequently prioritised in adaptation schemes frequently could not benefit from relocation schemes, as they could not cope with the slow risks in the proposed relocated place.

Our work illuminates the process of negotiation embedded in political struggles and aid. Though this paper is unlikely to make any fast and substantial change reflecting the limited nature of social sciences, it aims to remind us that marginalities are not inevitable but actively produced through the politics that perpetuates exclusion (Di Nunzio, 2017) and vulnerabilities in the adaptation processes are nearly always preventable (Adger, 2006). Turkana holds a prejudice towards being “backward”, violent, and aid-dependent. In multiple conversations with stakeholders, there was a prevalent perception of Turkana people being lazy, pretending to be poor rather than hard-working, or unwilling to become “civilised”. In this paper, we aimed to show the complexity of slow risks that people must fight, negotiate, advocate for, and resist. Perhaps, if people could participate in the negotiation of their slow risks, outcomes could be meaningfully different.

This study reinforces the previously outlined necessity to include people in the evaluation of risks (e.g. Maldonado et al., 2021), and it also suggests a novel framework in risk management. We break the common dichotomy of risks and consequences as it postpones political will in addressing people’s challenges in adaptation processes. Instead, we suggest expanding the conceptualisation of risks to include fast and slow risks, emphasizing the immediacy and importance of joint assessment of both types. To advance progress in leaving no-one behind commitment to the Sustainable Development Goals (United Nations, 2015), particularly slow risks of marginalised populations must be considered, or else they are unable to benefit from adaptation initiatives.

The framework has been developed through the exploratory study of the adaptation process to floods in Turkana, and therefore, cannot be directly scalable. However, other studies across the world (e.g., Artur & Hilhorst, 2014; Miller et al., 2022) also indicate the emerging challenges brought by relocation and the prevalence of maladaptation in general (Eriksen et al., 2021). We hope that this article will serve as a springboard for further systematic and comparative research.

## CRediT authorship contribution statement

**Marina Korzenevica:** Conceptualization, Data curation, Formal analysis, Methodology, Project administration, Writing – original draft, Writing – review & editing. **Philemon Ng’asike Ongao:** Methodology, analysis and data collection. **Mary Ngikadelio:** Methodology, analysis and data collection. **Lokomwa Didymus:** Methodology, analysis and data collection. **Peter Ewoton:** Methodology, analysis and data collection. **Ellen Dyer:** Writing.

## Declaration of competing interest

The authors declare that they have no known competing financial interests or personal relationships that could have appeared to influence the work reported in this paper.

## Data availability

The data that has been used is confidential.

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