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Probing political paradox: Urban expansion, floods risk vulnerability and social justice in urban Africa

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ABSTRACT
Urban managers in sub-Saharan Africa have recently come under intense pressure to prepare for and adapt to the footprints of rapid peri-urbanization and increased climate-related risks. Addressing spatial planning integral with the urban expansion is not only because climate variability is becoming more prominent. Further, within peri-urban zones, people most often live and work in physical areas of hazard that are commensurate with their economic stability. This makes the need for adaptation amidst inadequate resources imperative. These concerns find expression at the local level, where stakeholders' priorities focus on the gap between adaptation needs and existing adaptation efforts. Drawing insights from our study in Accra, which combines the perspectives and experiences of practitioners, academics, and citizens, we show how decisions constructed around flood vulnerabilities, people's actions, and planning processes are seldom neutral. We infer how prioritizing efforts to adapt to floods may privilege some residents and compromise others' support, agency, and capacities to recover. We call for increased attention to how city authorities can creatively move urban planning toward more informed, inclusive, and supportive recovery visions in response to the consolidation of urban peripheries and increased climate exacerbated flooding in the quest for social justice for all.

KEYWORDS
Climate-induced disasters; exclusivity in planning; risk governance framework; social justice

Introduction

Expansion and consolidation of African cities' peripheries are making them "ticking bombs." The process, described as peri-urbanization (Simon, 2020), involves converting land around cities into housing development, industrial and commercial zones, or city-oriented livelihood spaces (Cobbinah, 2021; Møller-Jensen et al., 2020). Such conversion of farmland for non-contiguous, unplanned development amidst infrastructural deficits exhibits unequal geographies, often evoking images of high concentration of poverty and undesirable environmental footprints (Dodman et al., 2017). For Zhongming et al. (2021), a common footprint, flood risk, has increased in frequency and magnitude by almost five-fold over the past 50 years, causing about US$3.6 trillion in economic losses and over 2 million deaths, with 2019 being the costliest year.

In 2018, a World Bank report described African cities as "complex places," where the authorities are constantly at the frontline of responding to climatic hazards (see, Klopstra et al., 2018). The World Economic Forum in 2019 described Africa as the eye of a climatic change storm, while the *Washington Post* ranked the continent's cities as the most susceptible but ill-prepared for climate change (Selormey & Logan, 2019). Empirically, untamed urban expansion produces peripheral spaces where smaller

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settlements enmeshed with agricultural and rural rhythms propel peripheral areas to become binding sites of contestation, social exclusion, and speculation. At the same time, these sites tend to embody hope and aspirations for diverse social groups (Gururani & Kennedy, 2021).

In the last decade or two, Accra, Ghana's administrative and socioeconomic capital, has had its fair share of rapid but largely disarticulated and unplanned development. The process has created "territorial traps" that threaten the livelihoods of some residents and the expanding population and investment opportunities (Oteng-Ababio et al., 2020; Songsore, 2017). Besides, the city's exposure to climate-induced floods has worsened matters. For instance, the city's floods of 1991 and 2009 affected more than 100,000 people (Amoako, 2016). Indeed, the June 3 floods in 2015 affected 52,622 people with 150 casualties, while the economic cost of floods totaled US$55 million, with estimated rebuilding costs of US$105 million (SAL Consult, 2019). And with about 3.3 billion more people expected in cities by 2050, many more are likely to be exposed to flood risks (Sitko & Massella, 2019). Table 1 summarizes selected flood events in Metropolitan Accra between 1959 and 2015 and the number of reported casualties.

Constrained by finance and perennial floods, the authorities in Ghana have initiated several interventions to minimize the impact. For example, a World Bank and Ghana-government-led project (Greater Accra Resilient and Integrated Development Project [GARID]) started in 2019 to reduce the perennial floods (The World Bank, 2019). Similarly, in 2020, GIZ, Allianz, and three municipal assemblies explored how insurance can be part of an integrated flood risk management. Such interventions can create what Cyr (2005, p. 3) terms a "political paradox," where "efforts in hazard mitigation can uncover sensitive social issues placing power elites and other influential stakeholders in difficult political circumstances."

Explaining, Wisner et al. (2004, p. 13) noted that "money can buy design and engineering that minimises (but does not eliminate) the frequency of flood events for the rich, even if they live in the same exposed area." But, for the urban poor, the residential location itself is a livelihood resource. Hence, restoring basic economic livelihoods after floods can take years since the crisis does not end when the immediate physical effects cease (Klopstra et al., 2018). Significantly, in the eyes of the poor, the local governance structure evokes competing concerns, interests, and ideas, some of which gain traction. In contrast, others get occluded by more powerful claims of what should be prioritized, for whom, for what purpose, and by what means (Cobbinah, 2021).

Empirically, studies have examined these catastrophic floods associated with untamed peri-urbanization and climatic variability (Akubia & Bruns, 2019; Amoako, 2016; Poku-Boansi & Cobbinah, 2018). Yet, little has been done on how affected communities are portrayed and how that shapes the desirable recovery processes. There is even lesser work on whose voice is heard in decisions (procedural) than who is affected (distributional). Keeping this in mind, we argue that decisions constructed around events, people, and processes are seldom neutral and defy social justice. We show how vulnerability to floods is far more widespread and has come to characterize a middle-income settlement, maintaining that income poverty is far from the only characteristic of who becomes exposed to floods. We focus on how diverse actors (community, public officials, and non-governmental organizations) convey their varied interests and how the needs of the most vulnerable

Table 1. A summary of flood events in metropolitan Accra (1959–2015).

Season	No.	(%)	No. of Deaths/displacement
Major rainy Season	17	77	282 deaths recorded/ several people displaces & properties destroyed
Minor Rainy Season	1	5	No deaths recorded
Dry Season	4	18	14 deaths/ 43,087 people displaced
Total	22	100	296 deaths recorded

**2015 Event 150–200 deaths recorded/properties worth about 5 billion Ghana Cedis (US$1.1 billion) destroyed with follow up demolition inflicted on slum dwellers by the state, leading to yet more misery and displacement of slum dwellers

Source: Reported in Songsore (2017).

are addressed. We seek a vital element of "research for impact," where we plan to capture the voices of people who have lived experiences of floods but whose views remain largely unheard (Cobbinah & Darkwah, 2017).

Our paper is organized as follows. The following section conceptualizes vulnerability and social justice from climate-induced risks integral to peri-urbanization perspectives. We examine city managers' political paradox due to the disarticulated peripheral expansion, vulnerability complexities, risk governance, and management. Following that, the background of our case study and methodology is briefly explained. Afterward, we distill our findings regarding the distribution of the costs and burdens of local adaptation policies. We analyze our results from the perspective of what Preston et al. (2014, p. 3) describe as "distributional justice" (i.e., who is affected by climate-exacerbated floods and who benefits from and pays for interventions thereof) and "procedural justice" (i.e., whose voice is heard in decisions). This approach allows for discussion of the implications for policy and conceptual reflections. Our findings contribute to understanding factors determining residents' resilience to climate change-induced vulnerabilities on mobility and livelihood in peri-urban Accra.

Literature review

Conceptualizing vulnerability and social justice

Broadly, vulnerability is the human dimension of disasters. In urban Africa, cities are becoming vulnerable due to untamed expansion and climate-exacerbated flood risk. Conceptually, vulnerability is challenging to define as it could mean differently to different people; hence, we will not engage the divergence over the meaning. Instead, we employ the broad and established definition of vulnerability in sustainability science as "the degree to which a system, sub-system, or system component is likely to experience harm due to exposure to a hazard, either a perturbation or stress/stressor" (Turner et al., 2003, p. 74).

This definition resonates with that of Wisner et al. (2004, p. 11), who see vulnerability as "the characteristics of someone or a community and their situation that influence their ability to anticipate, resist, cope with, and better recover from the adverse effects of an extreme natural event or process." For the authors, vulnerability involves "a combination of factors that determine the degree to which a person's life, livelihood, property, and other assets are susceptible to the discrete and identifiable event in nature and society" (Roger Yates & Chiwaka, 2010). And, for Blaikie et al. (1994), hazard vulnerability is determined by social influences and power and not by the forces of nature. Yet, others (Cyr, 2005, p. 2) believe "risk and hazard potentialities are presented in personal choice."

Suffice to re-affirm that vulnerability varies significantly within and among communities and over time due to physical, social, economic, and environmental factors. These include poor design and construction of buildings, limited official recognition of risks and preparedness measures, and outright disregard for wise ecological management (Wisner et al., 2014). Thus, though the absolute value of losses from floods is often higher in high-income neighborhoods, the reality is that low-income communities face the greatest threat. For example, Wisner et al. (2004) argue that often few rich are flood victims compared to the poor, since the affluent can buy design and engineering that mitigates the frequency of flood events, even if they live in the same exposed environment.

Technically, the rich live in a hazardous environment as a personal choice. At the same time, the poor, who have to use their homes as the avenue to undertake their livelihood activities (e.g., casual labor, home-based or street trading), have a less voluntary option. Further, the homes and possessions of the rich, who often have reserves and credit, are usually covered by insurance and can leverage their networks to find alternative shelter and/or income-earning opportunities after the event. The case of the surviving poor is somewhat different as they frequently have their entire stock of capital (home, clothing, tools for artisan handicraft production, etc.) assembled at the site of the disaster" (Wisner et al., 2004, p. 13).

Following from above, post-flooding moments create intense contestations, attracting multiple actions from multiple social actors with differing perspectives and priorities, underwritten by different capacities, resources, power, and agency, thus causing several aggressive adaptation strategies (Gough et al., 2019). In urban peripheries, where unplanned expansion footprints are ubiquitous, managing the externalities is often dependent on how local policies are designed, implemented, and monitored (Ehwi & Mawuli, 2021). Besides, since the magnitude of the situation usually informs the response strategy, scholars believe such a tendency only simplifies a rather complex and uncertain event and fits administrative needs (Njoh, 2003; Oteng-Ababio, 2013). It misrepresents the event as "natural." It, therefore, shifts the focus from institutional and governance shortfalls, thus depicting the event as one that the authorities could not be prepared for or the response better managed to offer social justice.

Social justice is a product of negotiation. It is controversial to pursue adaptation plans that respond to actual or projected climate change to moderate harm and exploit beneficial opportunities (Amoako, 2016). However, in seeking social justice, the purpose is not well served by just including relatively few voices of limited sets of academic and affluent politicians in the debate. But, equally important are the muted voices, who have similarly significant lived experiences. Preston et al. (2014) proffer three rationales in seeking social justice—ethical, legal, and pragmatic—in the planning, designing, implementing, and benefiting decisions of flood interventions. Ethically, they highlight the human rights component, which uses moral constructs of "right" and "wrong," and a consequentialist perspective. Justice is determined by whether the action delivers the best outcome as agreed by common consent. Legally, they see social justice embedded in international legal frameworks and consider equity a 'common but differentiated responsibility. The pragmatic basis is premised on the fact that local communities are more likely to support climate actions if they see them as fair.

Our study envisages social justice as a product of discourse, argued reasoning, and negotiation, whose conceptualizations vary according to historical, geographical, and cultural context. We conceptualize the term from the two paradigms of philosophy—"moral" and 'consequentialist. We concur that "moral" or "rights-based" approaches prioritize human rights, duties, obligations, fairness of procedures, etc., rather than the outcomes of people's actions (see, Smith & Brown, 2012). We see a commitment to holistic understandings of the role of human activities within nature as relevant in this respect. We support "consequentialist" approaches as providing importance to society's goals, outcomes, and interests (see, Ikeme, 2003). In this respect, a community collectively identifies and agrees on overall preferred goals (e.g., maximization of total welfare). Then subsequent actions and policies are judged regarding how they contribute to these goals, with the greatest happiness of the most significant number becoming the guiding principle of conduct (Mitchell & Tanner, 2008).

Ultimately, we seek inspiration from the risk governance framework (RGF; Collins, 2020) to analyze the distributive-procedural justice nexus. The RGF is a tool designed for risk managers to shape, deploy, and scale effective risk responses at speed. Its components include scientific assessment, risks perception, evaluation, management, and communication. First, the scientific assessment process establishes the likelihood and intensity of risk potentiating adverse effects and identifies those exposed to the hazard (Collins 2020). Second, assessing risk perception takes account of individual and societal opinions, concerns, and preferences and may be influenced by people's anxiety, cognitive, and political bias. Third, risk evaluation is a value judgment, albeit policymakers evaluation may often be at odds with scientific realities or societal consensus. Fourth, the management phase is a decision-making one that involves designing, selecting, and implementing strategies to reduce the adverse effects of risk and gauge the level of social justice. Finally, sharing risk-related information within and between different groups is essential for effective risk governance and crucial for evidence-based management strategies.

The preceding provides an analytical tool for examining our respondents' perspectives on who designs, selects, implements, and benefits from official flood interventions (Bianchetti & Vassallo, 2021). As noted earlier, the financial constraints facing cities mean that such interventions may be shaped by factors and forces other than those identified by the community, or maybe governed by "projects" rather than by "planning" (Grant & Oteng-Ababio, 2016). In our view, decisions constructed around such people's actions are seldom neutral and affect some residents' capacities to recover. In this regard, seeking social justice calls for negotiations with all local actors and institutions to ensure fairness in resource allocation. As Bulkeley et al. (2012) perfectly remarked, this is imperative since if a social group is not recognized, its needs become almost invisible. However, that does not entirely ostracize them from the city as they always have other means to innovate and deconstruct the status quo to fight for a city that works for everyone or makes their actions count. Ultimately, working without a realistic plan or the inability to implement exiting plans creates a vacuum in which other actors initiate individual projects. Such a disjointed approach, which Darkwah et al. (2018) described as a "knee-jerk reaction to emergencies," is likely to create social injustice.

Case area and methods

Study sites

We adopted a case study approach to test our theoretical constructs' validity (Hancock et al., 2021) and unpack a political paradox searching for social justice in Adentan Municipality (hereafter Adentan). We explore how diverse interests in flood risk management develop and materialize in policies, practices, and physical forms. Though Adentan is distinctive in its physical structure, situated at the downhill of the Akuapim-Togo ranges, it provides a good case study to observe changes in peri-urban densification and a flavor of the highly diverse context that Accra presents (Amoako & Inkoom, 2018). Spatially, Adentan occupies an area of 92.84 km^2 and has estimated inhabitants of 95,077 in 2020 (up from the 2010 figure of 77,886), lying 10 kilometers to the northeast of central Accra (see, Figure 1), which is one of the fast-growing conurbations in sub-Saharan Africa. Prior studies (Akubia & Bruns, 2019; Møller-Jensen et al., 2020) aptly described Adentan as a middle-income, largely unplanned settlement, crisscrossed by several streams and experiences two types of rainy seasons: a major season

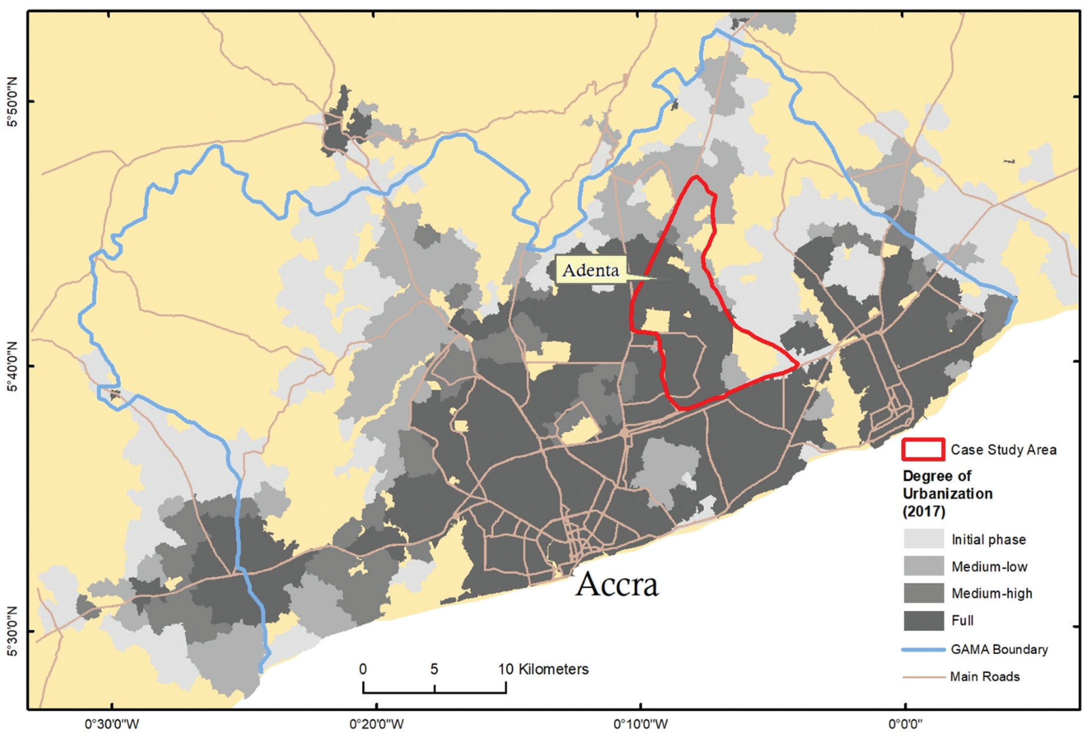

Figure 1. Map of metropolitan Accra, showing the level of urbanization. Source: Authors construct

from April to July and a minor one from September to November. Often, newcomers increasingly settle on marginal lands, which adds to how households are differentially exposed to flooding and how that reflects in their adaptation strategies.

Developmentally, Adentan earned its fame in the 1980s when the SSNIT and Housing Down projects commenced. After that, individuals started building owner-occupied houses, which peaked in 2012, when the authorities expanded the main road to Accra. Another catalyst is Adentan's proximity to the "Tertiary Education Hub in Ghana" (housing over 12 institutions including the University of Ghana, University of Professional Studies, Wisconsin University College, Trinity Theological Institute; Ghana Institute of Public Administration, etc.) and thus, attracting more in-movers. In recent years, Adentan, like other assemblies, has benefited from several legislative and policy frameworks as part of the governance system to support spatial development. These include the Local Government Act of 1993 (Act 462)—now Local Governance Act of 2016 (Act 936)—the National Development Planning Systems Act of 1994 (Act 480), the Land Use and Spatial Planning Act 2016 (Act 925), and the National Urban Policy Framework (2012), and the National Building Regulation Act (LI 1630).

Despite this plethora of administrative frameworks and legislations, Adentan continues to remain a product of planning systems' inadequacies (e.g., poorly resourced planning agencies), land management distortions (e.g., land tenure challenges), and counterproductive institutional roles with traditional rulers usurping the powers of planning agencies (Akubia & Bruns, 2019; Fuseini & Kemp, 2015). In the oldest part of Adentan, including Frafraha and some villages around Ashley Botwe, the silhouettes of residents remain different and continue to experience increased vulnerability to climate change as spatial planning that produces resilient futures is lacking. Data from the NADMO office confirm the increasing incidences and persistence of catastrophic floods in Adentan (see Table 2).

The growing number of affected households and victims may suggest a geographical spread of flood incidences. With only ten flood-affected communities registered, corresponding to 522 people involved in 2019, it rose to 22 communities and 892 affected people in 2021. It is striking that flooding persists even though rainfall is reduced from 212 mm to 186 mm. This observation is consistent with Accra's Climate Adaptation Plan (CAP) document, which states that "even though average rainfall in Accra had reduced by 2.4% since 1960, the rate of flooding had increased with a 1°C rise in average temperatures." Considering the projected population and climate change threats, we can only infer that the burden on residents and essential amenities in vulnerable neighborhoods will deepen, hence the need for timely intervention to safeguard this climatically fragile urban space.

Research methods

Methodologically, our paper draws on two main sources of data. Firstly, insights from a scoping report and secondly, on materials, comments, and testimonies from workshop participants, organized on 27 and 28 of May, 2021 to validate the earlier settlement profile report. The initial data collection involved two methods: direct observation and in-depth interviews. The researchers observed the research

Table 2. Major reported flood incidents and recorded impact in Adentan (2019–2021).

	2019	2020	2021
Estimated rainfall (in mm)	212	208	186
Total number of Communities registered	10	13	22
Total number of Households registered	105	144	179
The total number of persons affected	522	598	892
Total Male (adult)	177	352	493
Total female (adult)	165	236	389
Total Male (child)	83	167	94
Total female (child)	97	149	94

Source: Data from NADMO Municipal Office, Adentan—2021 locations over visits in November–December 2019 and January 2020. The team sought to disaggregate and document the level of physical planning and identify local flood-prone hotspots. We conducted face-to-face interviews with experts from purposefully selected agencies, including public officials and representatives from traditional authorities and residents' associations (for a detailed methodology, see, Møller-Jensen et al., 2020).

The participants for the validation workshop included flood victims and witnesses, assembly public officials, community members and leaders, and elected officials. These were among the interviewees for the settlement report. During the workshop, the public officials recounted interventions the assembly had instituted to ensure that citizen participation in governance beyond the voting booth becomes an essential mechanism for domestic accountability, quoting the tenets of Act 936 and Act 925 to buttress the narrations. These claims received a blatant rebuttal from the flood victims and community leaders who challenged how the "so-called" representatives' "voices" contribute directly to project spending and revenue choices.

A participant also provided several minutes of video footage showing a sample of community solidarity with residents' actual rescue work of flood victims. The other participants confirmed the incidents and identified the specific location where the incident occurred. Participants' comments were recorded during the workshop and later transcribed, after which the researchers systematically and thematically analyzed the data for themes and concepts. This data analysis method involves reading through the data set (that is, the transcripts from in-depth interviews and discussions), and identifying patterns in meaning across the data to derive themes. We also ensured the anonymity of the participants by withholding participants names. Based on and informed by our results, the subsequent sections examine who has a voice and power regarding responses to local climatic-induced emergencies.

Results

This section presents our results under four broad themes: fighting the flood menace—on whose terms?; addressing common risks with contested priorities; learned helplessness and neglected needs; and seeking social justice through self-representation and solidarity.

Fighting the flood menace: On whose terms?

Based on residents' accounts and experiences, Adentan is a flood-prone community with no bounds. The worsening perennial ruthless flooding has attracted annual investment from regional and national authorities. For example, the municipal planning officer revealed that the government spent a total of GH¢680,000 (US$144,448) and GH¢7,000,000 (US$1,478,863) in 2017 and 2019, respectively (see, Table 3), on the construction and desilting (dredging) of the main Odaw basin. According to Officer, the purpose of the intervention was "meant to mitigate the perennial flooding within the Odaw channel and help ease flooding in upstream communities, including Adentan" (also Oteng-Ababio et al., 2020).

Table 3. The annual amount spent on drains construction and desilting on the Odaw basin.

Year	Drains	Desilting
2017	223,042.07 (49,455.00)	2, 304,002.27 (510,865.25)
2018	406,680.89 (83,679.20)	4,010,070.70 (825,117.43)
2019	60,304.37 (11,314.14)	761,554.55 (142,880.78)
Total	690,027.33 (144,448.34)	7,075,627.52 (1,478,863.46)

Source: Unpublished document from Regional Administration

Figure 2. Samples of major dredging works in adentan municipal assembly. Source: NADMO Annual Report, 2020

At the municipal level, the NADMO official presented scenes of dredging exercises (see, Figure 2) undertaken by the assembly (Adentan) geared toward mitigating the chances of flooding in the communities. He recounted:

> In 2019, the assembly spent close to 1 million Ghana cedis undertaking major dredging works at Adjiriganor main drain (50m), Lake Side main bridge to the Dam at Alhaji Taufik (350m), Ashiyie from Vema Technology to the Shell Filling station (1,450m), and at the Accountancy main drain at Gyata Junction (500meters).

For effective policy development and implementation for sustainable floods intervention and adaptation, the interests and perspectives of professionals (e.g., city planners) and residents (i.e., consumers) must be assessed concurrently. However, our analysis suggests that policymakers readily accept the recommendations of engineers and traditional risk analysts and show the people that with public investments, they are now safe. Yet, the focus on single solutions such as drainage construction means that people are not protected against or prepared for extreme events as it can produce complacency, leading to risky decisions and actions. From our analysis, the siloed interventions are different from residents' risk perceptions, thus creating a gap between the intervention residents want and what the authorities provide.

This manifested during the interview sessions and workshops when the residents confirmed these risk-mitigation interventions but questioned who the decision-makers and the ultimate beneficiaries were. They further insinuated possible collusion between the municipal authorities and the affluent personalities in their communities. Our community members unanimously alleged, for example, that selective dredging typically increases flooding in most vulnerable homes downstream. To them, the process instead conveys floodwaters quickly from where poorer families live in informal/makeshift apartments because of mainly financial constraints. They eventually end up in areas with poor design and construction of buildings, unregulated land use planning, a situation which mimics the cliche "robbing Peter to pay Paul," thus compromising social justice.

Though we could not independently verify the residents' claims and the perceived lack of synergy of interests, the results nevertheless point out that vulnerability is complex. The results show that flooding in Adentan is not simply about poverty since both the rich and the poor suffer. However, the general impression is that the poor tend to suffer worst from floods due to their low response capacity. Under the circumstances, we can infer that poverty serves as both a driver and consequence of flood disaster risk, particularly in urban areas with weak risk governance. Prior studies (Cyr, 2005) revealed the urban poor's lack of resources and pressures to live in hazardous locations and conditions. This is consistent with Oteng-Ababio et al.'s (2020) observation that poverty and the other multidimensional factors and drivers that create vulnerability mean that susceptibility to the impacts of floods is often associated with particular social groups, including women, children, migrants, and displaced populations.

Addressing a common risk with competing interests

Practically, urban densification experiences in Adentan have produced unequal geography. From our analysis, weak local capacity, the persistence of inappropriate planning regulations, and a lack of coordination between statutory and customary institutions constitute the principal problems (also see, Møller-Jensen et al., 2020). The planning officer from the assembly revealed that such intersecting factors "partly explain why about 70% of residents in Frafaha and those around the Shell Filling station now live in life-threatening conditions" and adapt personalized adaptation strategies. He added desperately: "most lands are sold without recourse to the planning scheme." The NADMO officer also corroborated thus: " … even water bodies, ponds and wetlands are sold and filled for residential purposes with impunity."

However, most (80%) of local participants viewed flood risks in Adentan as having different aspects beyond repair and physical damage. Such complexities call for a more holistic approach that acknowledges the existence of many uncertainties. The participants' perceived officials' ideas in emergencies as conflicting with the priorities of the most impacted. They alleged that the voices of affluent residents with ready access to resources and networks dominated the public discourse on flooding. When asked to substantiate such a highly politically laden allegation, which suggests a high level of tension among and within the community, an astute former Assemblyman and a professional teacher replied presumptuously: "Since flood recoveries commonly require significant state intervention, the ideas of state agencies and their political cronies tend to become dominant—it is these that are financed and acted on." A vice-chairman of a resident's association further alleged that, though individuals, non-governmental organizations, and religious organizations may sometimes be willing to help, the decision of "Big men," working through the state agencies, becomes highly influential and paramount to receive official blueprint. He added: "… they sit in their offices and think for us. … Although the authorities invest in the community, we don't see any positive results." The Assembly Woman elaborated how flood interventions had become sector-specific foci: "… these days, most projects come from the presidency; they don't pass through the assembly … no one is consulted. …, ideally, such interventions ought to cross multiple sectors. Yet, the weight is commonly uneven and targets specific priorities." She recounted how the few local health facilities that serve the most impacted during the rainy season and its associated flooding have been wholly neglected. However, such periods bring more cases of malaria, typhoid, cholera, and gastrointestinal problems. Her submission, which reflects the position of most discussants, highlighted other local challenges such as insufficient beds and staff shortages since the health staff cannot get to work during floods, and sometimes, the accompanied exacerbated localized flooding. Indeed, they horrifically referred to waist-deep flood waters occurring in and around living quarters and health facilities, resulting in the need to evacuate people, property, and equipment to higher levels. According to them, these immediate needs of the most impacted do not generally form part of any official intervention.

The narrative expresses the "openness" and "pristine" description from two perspectives., first, the public officials' endorsement of formal investments to address the flood challenge. Second, the residents dislike authority's focus on single solutions instead of recreating social networks, which the demand on the ground may be just as great remain. The participant's position is a critique against centralized, top-down planning by state agencies, signifying a power struggle between different arms of the state and separate social groups. The situation smacks of conflict of rationalities (Anane & Cobbinah, 2022) where the affluents' wish may not always map closely to the recovery aspirations of the most disaster-impacted get funded. The residents' position resonates with Cobbinah's (2021, p. 5) position that: "although exclusion is denounced in, and democratic participation is guaranteed in the constitutions and legal profiles of many African countries, fair inclusions of all political and economic engagement is lacking."

Learned helplessness and neglected needs

Typically, the participants noted that about 80% of residents around the main drainage at Lake Side Bridge to the dam at "Alhaji Taufik" are experiencing learned helplessness due to the perennial uncontrollable, stressful flood situations. They alleged that the authorities' flood interventions target areas that can attract investments or where the "Big-men live," rendering the needs of the poor almost invisible. Ironically, these residents understand their ill-fate position but feel constrained in taking a different tack due to structural hindrances to inclusiveness, which provoke complications in land use. Recounting his personal experience, a 67-year old retired public servant and an Opinion leader explained what he terms the "politics of post-disaster actions" in Adentan thus:

> . . . there is a high chance that the needs of the marginalized resident may draw lesser attention than others. . . . We [flood-prone zones residents] have the least physical, social, and cultural access to those who matter. . . . less likely to contact support services and institutions . . . . We have no hope but ourselves.

Contributing, an Assembly Woman remarked:

> . . . the voices and concerns of most residents may simply be unheard by those making the decisions. Even the fortunate residents who do gain some attention, not everyone receives equal recognition . . . gender disparities mean the concerns of women are overlooked. The support that might reach the poor may be out of tune with their needs or may undermine their attempts at recovery.

A resident association Vice Chairman also added:

> At times, the minor support does bypass some residents entirely. In effect, their concerns are rendered invisible within the dominant recovery discourses. Such residents remain physically present in the city but administratively absent.

A representative of Gbentanaa Electoral Area recalled the heightened apprehension amongst motorists and residents over the deplorable state of their road networks due to the continuous floods. The NADMO official admitted some informal operators do face severe livelihood and mobility challenges after flooding episode but struggled to offer face-saving justification thus: ". . . the assembly is faced with poor maintenance culture. Yet, the observed neglect is not necessarily a deliberate political act of exclusion—it is made possible under emergencies or by the disruption of norms following the floods." The face-saving remarks by the NADMO officer are also evident in the planning officer's discussion on why some groups fight for a "city that works for everyone." He explained why unplanned development in Adentan has created a territorial trap that renders mobility and livelihoods of disadvantaged groups highly vulnerable thus: "The Chiefs engage in many denials, especially regarding their unregulated and multiple land sales, causing the environmental challenge . . . . It was all graft and corruption. So, our greed caused us to kill ourselves, but nobody wants to admit it." In a sense, these excerpts present the official view on the overriding causes of risk accumulation in Adentan. They provide direct evidence of the non-neutrality of decisions constructed around people's actions or what Bayat (1997, p. 67) terms "a similar collective position" where some social groups struggle to adapt to their local vulnerabilities unaided. This ties in with Oteng-Ababio et al. (2020) remarks that neglecting the needs of the poor does not place them permanently outside of the domain of adaptation. Instead, they devise individualized adaptation strategies that inadvertently only engender others. Such unguided practices are complicit in flood occurrences since the dense networks of self-made ditches and culverts only misdirect sub-surface flow paths to people's homes and workplaces.

Seeking social justice through self-representation and solidarity

Our findings suggest that some residents in Adentan manage their exclusion from the municipal discourses by appropriating ecologically sensitive lands and other individualized strategies to reproduce themselves to create a city that works for everyone, these strategies tend to defy the municipal zoning rules and ultimately create integrated risks for all residents in the community. Eventually, the rich may have the agency to address their concerns. At the same time, the needs and voices of the most impacted remain muted but seldom completely suppressed as they adopt well-rehearsed strategies to make their actions count.

The analysis suggests that, where a dominant representation of disaster recovery needs is at odds with the grassroots concerns, there are always opportunities for the vulnerable to counter the framing, albeit through illegitimate pathways. An assemblywoman cautioned: "If the disadvantaged are not served effectively . . ., they create the means to redefine their needs and articulate them through their voices and actions. In so doing, they self-organize to try to shape their recovery trajectory." An opinion leader explained how localized social networks develop in response to formally neglected local risks as a vehicle to press for recognition and grievance redressal. Such ad-hoc networks, he noted, typically formed out of shared concern, draw membership from existing kinship, religious, occupational, or political ties, adding:

> . . . we have a WhatsApp platform that links everybody instantly, which helps share information. We have about 150 members and contribute financially [¢50 monthly] for our community needs, including sometimes renting a grader and getting trips of gravels for our road . . . We have been grading the road almost twice every year. Our resident association has been on the neck of contractors assigned to the area who want to cut corners . . . . We sometimes play a role in getting the contractors paid.

A vice-chairman [of a resident association] also recounted how the community is forced to resolve to help themselves and explained virtually:

> Everything, including the bridge there, is being done by ourselves. In September last year, during the heavy rains, it was challenging for market women to cross the stream. School children could not go to school either. At one point, their school bus got stuck in the water, and people had to jump into it to remove the children through the windows (see, Figure 3). There and then, the urgency to construct a footbridge became apparent.

The vice chairman's remark demonstrates the willingness of residents to brush aside the official inactivity to make their actions count. Earlier submission by the vice-chairman indicated how residents have in several ways tried to influence discussions, challenge priorities, and seek social justice through their "self-help projects" and the use of media to attract attention. Though the public officials confirmed a renewed enthusiasm among city authorities to devise a holistic strategy, most residents were skeptical of the initiative as, in their view, "giving voice to the voiceless must move beyond rhetoric." Cobbinah (2021, p. 6) reminds all that addressing issues of fast-paced peri-urbanization and increasing climate change impacts depends on the production of inclusive city systems that are appropriately planned and spatially integrated.

Figure 3. A flooded school bus being assisted by residents, so evacuate the PD. Source: Courtesy A vice President of resident association.

Discussion

Our paper examined residents' and practitioners' self-reported experiences with unplanned urban expansion to deconstruct the inherent social (in)justice in Adentan. Given its stature as one of Accra's fastest-growing administrative and middle-income peri-urban hubs, we sought residents' perspectives on how the perennial floods and prioritized interventions are conceived, portrayed, and implemented. We explored how city authorities develop the capacity for the municipal system to contain climate-exacerbated shocks and stress while maintaining functionality. Our findings broadly confirm earlier studies (Møller-Jensen et al., 2020) that peri-urbanization in Adentan is disarticulated and breeds negative social-environmental transformation, conflicting rationalities, unequal geography, and sacrifices social justice. The key findings are detailed as follows:

First, our analysis of residents 'perspectives suggests that city authorities allocate resources, benefits, and burdens to flood victims between or within the community defies distributive and procedural justice. These are reflected in fairness and transparency in the decision-making, regarding "who decides," "who participates," whose voice is heard, etc. Our findings highlight what Darkwah et al. (2018) describe as "an unfortunate entry of competing viewpoints and interests into a representational arena, in which ideas are commonly partial, and overtly politicised and contested." These competing interests shape the options and support available, ultimately making the affected communities become territorial traps and threatening the livelihoods of the expanding population and investment opportunities. Our study lends credence to earlier studies (Anane & Cobbinah, 2022; Fuseini & Kemp, 2015) which saw most Ghanaian cities as products of the inadequacies of planning systems.

Second, the marketization of housing delivery in Adentan, which commenced in the 1980s, encouraged a building boom. In the process, private developers developed high-quality housing alongside other residents' rather sub-standard, unsanitary conditions (Abubakari & Twum, 2019). The paper reveals the co-evolutionary solid relationship between social justice and how residents come together to create a political paradox of competing ideas of what should be done, by who, and for whom. We sought answers from our participants about who has voice and power in handling responses to climatic-induced vulnerabilities. In their considered opinion, the residents believe the selectivity in the adaptation interventions has made Adentan zone of accumulated risks (e.g., floods) requiring an urgent fundamental paradigm shift.

Third, our results point to a growing recognition of worsening problems of accessibility and mobility in Adentan. However, these are crucial in shaping location decisions and emergent spatial structures of the area's densification processes. This perspective is consistent with earlier claims by Akubia and Bruns (2019) that the level of accessibility of urban opportunities co-evolves with urban spatial design. In this regard, Adentan's rapid transformation creates a situation where the settlement is changing structurally with population growth, resulting in new chaotic zones expanding in physical size and sprawling into surrounding areas.

Finally, our paper supports the need to consider flood impact holistically to generate informative lessons to reduce future hazards and/or identify "the most at risk and most impacted." Such a risk governance approach will adequately assess the scale and range of extreme weather events and their potential impact on residents and economies (Amoako & Frimpong-Boamah, 2015). The process provides insights into why floods affect some residents hardest, exacerbate poverty, and reinforces the earlier claims that planning in Africa fends off negotiations and compromises innovative ways of engagement (Cobbinah, 2021). These perceptions and experiences of residents highlight how public discourses on flood interventions in Adentan have failed to capture the voices of the most brutal hit but have gone primarily unrecorded in any available municipal databases.

Conclusion

Our paper adds a voice to the view that a city without an inclusive approach to planning may not deliver resilient future outcomes (Amoako, 2016; Cobbinah & Addaney, 2019; Darkwah et al., 2018; Gough et al., 2019). We have shown how vulnerable groups are negatively impacted by climate-induced hazards such as flooding and bear the brunt of the adaptation processes. Still, they often benefit least from those same policies (Cobbinah & Addaney, 2019). To that extent, some Adentan residents see the local governance structure as misguided and inappropriate. We learned how muted voices shift representations of their needs through local media access, advocacy, and protest. These empower the "marginalized residents" to be heard and respected, thus bringing about more equitable social justice and sustainable flood recovery interventions.

From a policy perspective, the city authorities need to develop a tailored response for vulnerable groups, who generally suffer most from climate-induced vulnerabilities (Amoako & Frimpong-Boamah, 2015). The authorities must work collaboratively with the residents' associations to craft targeted information and advice on flooding for vulnerable groups (Gupte, 2020). From the earliest stage, residents must be consulted on their preferred options in flood alleviation schemes, using available informal approaches to individual households at risk (Simon, 2020). Currently, there is no specific policy on reducing the vulnerability of disadvantaged residents to climate change (Oteng-Ababio & van der Velden, 2021), and the authorities should address this gap. Further, equal attention needs to be paid to how existing arrangements create vulnerability among the various groups while the authorities consider developing longer-term resilience to reduce universal exposure.

Significantly, there is a recognized imperative to build back better, yet little practical, targeted communication of risks exist that will help address the underlying societal drivers of risk that generate and reproduce the differentiated vulnerability. The residents, especially the traditional authorities who are custodians of lands, erroneously continue to think that climate change is a remote challenge rather than an immediate, personal risk (Cobbinah & Addaney, 2019). Ultimately, effective communication of climate change risk among the local vulnerable individuals is critical. Wolf et al. (2010) stated this aptly as captured in Preston et al. thus; 'unless those at risk can identify themselves as such and feel able to take action, merely disseminating information about preventive strategies has limited value. Hence, our quest for social justice makes it imperative to develop targeted communication strategies that draw on local knowledge and experiences (Preston et al., 2014, p. 59).

Our paper highlights the lack of long-term policy preparedness for climate change impacts in Adentan. The process is not well served with short-term knee-jerk interventions that only exclude some social groups' needs and concerns from full consideration. Policymakers need more attention to prepare and build public consensus for action, including dealing with politically controversial issues like land ownership and administration, buildings in waterway structures, controlling wetlands use, and ensuring delivery mechanisms that support adaptation action. This includes organizations like NADMO doing preparatory work in vulnerable communities and adequately engaging the marginalized groups in pre-planning processes.

This does not mean adopting “a one-size-fit-all approach” where a “recovery package” is neatly presented and frozen in time and reeled out automatically to deal with every subsequent disastrous event. Instead, city managers should adapt to new circumstances and be open to the voices of those affected to find out what is working or otherwise, by promoting multi-level grievance redressal mechanisms (World Economic Forum [WEF], 2021). And suppose urban areas everywhere are to stand a chance of becoming more equitable, sustainable, and resilient, then adaption measures must continue long after the flooding event because most disaster impacts take time to truly surface.

Disclosure statement

No potential conflict of interest was reported by the author(s).

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CRediT authorship contribution statement

Lasse Møller-Jensen: Conceptualization, Data curation, Writing – review & editing, Supervision. Jytte Agergaard: Conceptualization, Methodology, Writing - review & editing, Supervision. Manja H. Andreasen: Conceptualization, Methodology, Formal analysis, Writing – original draft. Richard Koffie,: Conceptualization, Methodology, Formal analysis, Gerald A.B. Yiran,: Conceptualization, Methodology, Formal analysis, Martin Oteng-Ababio: Conceptualization, Methodology, Formal analysis, Data curation, Writing – original draft.

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