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Climate extremes and housing rights: A political ecology of impacts, early warning and adaptation constraints in Lagos slum communities

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ABSTRACT

Slum communities in Lagos, Nigeria, are vulnerable to contemporary flooding and to the potential impacts of climate change. Such vulnerabilities have been linked to rapid urbanization, environmental degradation and weak disaster response, but little attention is paid to the factors that engender these problems in the first place or to why the poor have persistently been at greater risk. Poverty does not always mean vulnerability. Often several elements come into play to exacerbate conditions of impoverishment and susceptibility to risks. By using a political ecology framework, this paper shows that limited access to housing and weak housing rights are two crucial factors that have pushed the urban poor not only to encroach on hazardous landscapes but also to adopt environmentally intolerable coping and livelihood strategies which undermine the biophysical integrity of land and human settlements and also erode natural resilience against flooding. This relationship between housing rights and flooding is explored by a historical review of land and housing policy in Nigeria and its links to slum development and expansion. A mixed method approach involving a household survey, interviews, and focus group discussions, was employed to generate primary data. The results show that conventional approaches to flood prevention have masked structural inequality and social stigma contributing to high vulnerability and low adaptive capacity in slum communities. To boost adaptation, a number of actions are required including eliminating marginalization in housing and land use, promoting good urban governance, and fostering participatory environmental management.

Introduction

The interrelationship between housing issues and flooding raises particularly profound concerns when climate change and variability are taken into consideration. Scientific studies demonstrate that climate change will increase the variability and incidence of extreme weather events such as heat waves and droughts in some locations, and heavy precipitation, storm surges, and potential sea level rise in others (IPCC, 2012; Bicknell et al., 2009; Hanson et al., 2011). In places where people lack adequate shelter, storm surges and floods could directly affect their health through injuries, transmission of infectious diseases and displacements (IPCC, 2012, 2014; Bicknell et al., 2009); or indirectly affect their living conditions through impact on properties, social infrastructure and livelihoods (Wahlstrom, 2003; Cannon and Muller-Mahn, 2010). Such negative impacts could compound existing vulnerabilities while also having retrogressive effects on poverty eradication, social stability, and the enjoyment of human rights especially housing rights (O'Brien and Leichenko, 2000; UNDP, 2007; Barnett, 2010).

Flooding can be particularly devastating for the urban poor and disadvantaged groups who live in substandard housing conditions in low-lying areas or in lands ill-suited for building (e.g., swamplands and floodplains). This group of people are more likely to be displaced by floods but less likely to have the resources, information, or social protection necessary to mitigate their increasingly unsafe situations (Feiden, 2011). This link between poor housing conditions and vulnerability to climate change impacts including flooding has been acknowledged in the literature (Douglas et al., 2008; Adelekan, 2010; Satterthwaite, 2013), but to date, very little planning and investment are directed towards housing for the urban poor. For example, 70 percent of the Lagos population live in slum settlements characterized by extreme flooding that lasts several hours and sweeps raw sewage and refuse into living spaces (UN-Habitat, 2010; World Bank, 2006). In Mumbai, India, a large proportion of the 1000 people who died from the 2005 devastating cyclone were the poor in slum settlements (De Sherbinin et al., 2007). Also, in Addis Ababa, in 2006, flooding killed more than 100 poor people and destroyed several houses in slum areas

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(Douglas et al., 2008). These examples reinforce the importance of adequate housing for the urban poor and also provide an added impetus to realise the Millennium Development Goal of "achieving significant improvement in the lives of at least 100 million slum-dwellers by 2020" (United Nations, 2000).

Adequate housing in the context of climate change goes beyond a development goal; it is a human rights issue. Slum/informal settlements have formed mainly because of unequal and unfair allocation of state resources, rising land prices, distortion in pricing policy in the housing market, and forcible eviction of people from indigenous lands (Morka, 2007; Yeung, 1991). These concerns have not been effectively addressed in past research on human vulnerability to climate change. Among the few studies that highlighted some connections between housing rights and climate change was an Action Aid, 2006 report which explored the local perceptions of floods in five African cities with a focus on housing for the poor (Action Aid, 2006). Displacement Solutions in its 2010 report explored housing, land and property dimensions of climate-induced displacements and offered a range of rights-based approaches as remedial measures (Displacement Solutions, 2010). Recommendations from the report hold promises for the resettlement of displaced persons, but missing therein was a discussion about social vulnerability which facilitated displacement and other impacts in the first place. In the context of Lagos, Adelekan (2010) examined the vulnerability of the urban poor to flooding but constructed the causal factors mainly as a managerial issue; that is, poor urban policies and unplanned development translate flood risks into disaster with a higher impact among the poor. The author made reference to social vulnerability but did not discuss the structural inequalities and deprivations that tend to foster higher risk and lower adaptive capacity among poor communities. Apart from these few studies, information about how the lack of housing right exacerbates vulnerability or how its realization enhances adaptation are still sparse.

Since informal settlements generally embody a human rights problem on account of the political, economic and social marginalisation of disadvantaged populations, we make a case for a housing rights-based approach in evaluating vulnerability and adaptation to climate change in slum communities. In this study, we argue that understanding the role of housing rights will assist in providing the theoretical foundations required to develop both fair and equitable solutions to dealing with extreme events and their disproportionate impact on marginalised groups. This study adopts a political ecology approach which draws together historical, structural and spatial dimensions of marginalisation in housing and land use policy to show how vulnerability to climate extremes are produced and maintained over time. A micro-political ecology analysis of the housing conditions of the Badia communities (Abete, Badia Central, and Better Life) in Lagos and the events surrounding the July 10, 2011 rainstorm were used to provide critical insights into the current vulnerabilities of slum communities in Nigeria. In the end, we make a strong case for slum upgrades, security of tenure, increase investment in risk-reducing infrastructures, and increase participation of slum dwellers in urban governance and management. We show that adequate housing for the urban poor is both an end in itself and a means to fostering sustainable adaptation.

Political ecology approach to vulnerability and exposure

Vulnerability and exposure are concepts that need to be carefully defined and examined to understand their specific meaning in a particular context. In much of climate change literature, vulnerability is considered to be a function of exposure, sensitivity and adaptive capacity (McCarthy et al., 2001). Exposure refers to the presence of people, livelihoods, resources, infrastructures, and settlements, in places that could be adversely affected by a climate hazard (IPCC, 2012, p. 5). Sensitivity means susceptibility to harm, while adaptive capacity is defined as a combination of the strengths, attributes, and resources available to an individual, community, or country, that can be utilized to prepare for, moderate, or reduce the adverse effects of climate change (IPCC, 2012). This interpretation of vulnerability draws on hazard literature's focus on the extent to which people, infrastructures and biophysical systems are exposed to climate change and the degree to which they can cope and adapt to its effects (O'Brien et al., 2004). A downside of the hazard approach is that the majority of analyses are based on speculations of exposure to climatic risks and an appraisal of aggregate adaptation and adaptive capacity (Adger and Kelly, 1999). While useful, such an approach offers little explanation as to why climatic hazards do not affect social groups uniformly and why adaptive capacity is unevenly distributed among equally exposed populations.

In contrast, a number of scholars argue that vulnerability and exposure are socially and politically constructed. They are simultaneously determined by the political and socio-economic structures that amplify the effects of hazards and by people's capacity to cope and adapt to them (Blaikie et al., 1994; Pelling, 1999). Political ecology explains vulnerability to environmental hazard as evolving from a dialectic relationship between ecology (natural including built environment), a broadly defined political economy (macro-structural constraints), social traditions, and individual agency (Blaikie and Brookfield, 1987; Wisner et al., 2004). This approach incorporates place-based interactions between physical vulnerability (i.e., exposure) and social vulnerability (i.e., structural constraints) in an overall determination of differential social burdens of hazards and how this relationship changes over time and across space (Cutter et al., 2009). In essence, vulnerability is an inherent inability of individuals or communities to cope with external pressure due to a chain of causes and multiple processes occurring at the local, national and global scale (Blaikie et al., 1994; O'Brien et al., 2004). The United Nations Development Program (UNDP), for example, defined "vulnerability as a human condition or process resulting from physical, social, economic and environmental factors, which determine the impact of a given hazard" (UNDP, 2004, p. 11). Such factors include social and economic systems, location and condition of human settlement and infrastructure, environmental assets, and public policy and administration. This understanding makes the role of place and human agency explicit and also draws attention to the environmental, social, political and economic pressures that constrain individuals' capacity to avoid risks in advance and recover from crises when they occur (Adger, 2006).

According to Watts and Bohle (1993), central to an individual's adaptive capacity is the totality of their rights and their social entitlements to basic resources such as information, housing, health care, social welfare, and technological support from the state, civil society and the international community. Entitlements to these resources, however, are restricted or denied for many reasons including gender, race, class or economic status, ethnicity, sexual orientation and political preference (Barnett, 2010). Research suggests reduced adaptive capacity is common where people live in precarious conditions and are deprived of basic rights. Poor people of colour in New Orleans, for example, suffered disproportionately from the impact of the 2005 Hurricane Katrina because of their physical proximity to the source of hazard as well as their pre-existing conditions of poverty and lack of human rights attainment (Mutter and Barnard, 2010). On the other hand, communities that enjoy basic human rights are more likely to have higher adaptive capacity, especially when they can call on their government for social security including social insurance aimed at disaster