City-Level Climate Action Planning in Kano, Nigeria

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Keywords	DIY urbanism, climate hazards, mitigation, Islam
City Population (Metropolitan Region)	7,000,000
City Area (Metropolitan Region)	499 km^2
City GDP	26.4 billion USD
Climate Zone	Bsh (hot, semi-arid)
ARC3.3 Linkage	Urban Planning, Design, and Architecture Element

Introduction. Kano, Nigeria is the southernmost trans-Saharan trading city, with a history stretching back to the late tenth century. Residents are predominantly Hausa and Fulani language-speaking people, with strong indigenous and Islamic cultural and spiritual mixes. Today, the city continues to serve as a commercial and cultural center of the northern Nigerian region. Since 1980, the city's population has nearly tripled to roughly 4 million inhabitants (National Bureau of Statistics, 2016). As the second largest city in Nigeria after Lagos' nearly 13 million residents, it is striking that, unlike Lagos, Kano does not have a comprehensive state-led strategic plan for climate change mitigation and adaptation. In fact, one interview with a recently retired director of the Kano Urban Planning Authority stated "adaptation and mitigation strategies are not priorities of the agency at the moment" (Mohammed et al., 2019, p. 314). Rising temperatures, prolonged droughts, and severe flooding events pose threats to the city's economy, human settlements, and heritage sites, including its ancient city walls and the Great Mosque in the city center.

For these reasons, we turn our gaze to forms of action beyond the state, and how Kano is the site of local efforts to adapt to climate change through the reaffirmation of pre-colonial indigenous knowledge systems. This case study draws together investigations into Kano's decentralized and indigenous maintained morphology. Since the period of British colonial domination, Kano has experienced a mix of traditional and Islamic forms of governance systems, upon which emerged a form of do-it-yourself (DIY) Black urbanism. This case study uses nascent examples of ecosystem management and intervention to postulate the city's climate future. We center these forms of organization that are largely illegible to Western-led global networks that evaluate climate action based on state- and municipal-level policy.

Brief History. Kano does not currently have a city-level risk assessment or climate action plan. Moreover, a review of available literature and conversations with local stakeholders suggest that Kano does not have any municipal plans or policies that address climate change. The absence of a local climate action planning framework should be understood within the context of a weak urban planning system and fragmented local government structure, one borne of a history of prolonged British colonial disruption and dispossession. Nigeria's ratification of the Kyoto Protocol and subsequent amendments situate the country as a developing nation, "not producing any significant emissions [but] suffering the consequences" (Simire, 2018). Nigeria's national-level plans all mention the importance of subnational jurisdictional integration but do not provide a clear path to action.

Analysis, Evaluation, and Implementation. The lack of attention and action on the part of local government actors is not representative of the whole of climate action planning in Kano or Nigeria. Initial evidence suggests that climate action planning is underway, instigated largely by individuals and organizations outside of local government, often in the face of non-engagement by local government actors. Community-based actors are responding to observed climate change impacts in the absence of formal assessments and plans that provide frameworks, evidence base, and strategies for climate adaptation. "Barefoot planners" such as farmers located outside of the local government apparatus have no formal policy authority. Instead, they draw their power from ordinary, incremental, and persistent practices of climate change adaptation: tree planting, community-scale water management, mutual aid networks to repair damaged infrastructure, and so forth.

In many cases, there are few empirical records of these activities. The investigations of these efforts that do exist, however, have been documented as part of very nascent pilot projects such as Building Nigeria's Response to Climate Change (BNRCC), which was created as part of a collaboration of civil society and international organizations such as the NGO Nigerian Environmental Study/Action Team (NEST), the United Nations Development Programme (UNDP), the

United Nations International Children's Emergency Fund (UNICEF), and the Canadian International Development Agency (CIDA). State agencies, such as the Federal Ministry of Environment – Special Climate Change Unit (SCCU) have begun to be involved as well, though funding sources remain largely external actors (Hansen, 2020). The BN-RCC pilot involved several interventions intended to support the management of challenges such as "deforestation for arable agriculture, firewood marking, logging, charcoal production, furniture/woodworking and wanton exploitation of non-forest resources" (Amonum, 2023, p. 354).

Additionally, farmers face a quickly changing landscape of climate change-linked soil salinization, the spread of water-borne disease, and local conflicts exacerbated by drought (Adamu & Yusuf, 2023; Michael & Dankyau, 2022). These interventions include switches to high-yield crops, wood-efficient stove distribution, training for livelihood diversific tion (avoiding sole income from farming), changes in irrigation practices, and the Nigerian Meteorological Agency (NIMET) more actively collaborating with farmers to determine the timing of planting and cultivating seasons (Amonum, 2023).

Beyond climate-focused outcomes, the goals of this pilot were to "alleviate the increasing vulnerabilities of the rural communities," by "[reducing] poverty and [improving] living conditions of the vulnerable populations, especially women [and youth]" (Amonum, 2023, p. 354). While many of the interventions developed in this five-year project were led by the National Adaptation Strategy and Plan of Action of Climate Change for Nigeria (NASPA-CCN) and the Federal Ministry of Environment, the short-term international funding for such efforts is a limiting factor. Transformative and systemic interventions would require long-term financing beyond one to five-year grant cycles from foreign aid organizations.

Further Implementation and Concluding Thoughts. Residents often act as first responders to the most devastating impacts of climate change in Kano, forming grassroots, mutual aid networks to pool resources and labor to repair damaged infrastructure in informal settlements in the wake of a disastrous flood, or adapting farming practices to variable rainfall (Barau, 2020a). For example, Millennials and Resilience: City, Innovation and Transformation of Youths Laboratory (MR CITY Lab) is an initiative aimed at engaging young people to restore urban biodiversity in Kano through the planting of local tree species.

MR CITY Lab is a not-for-profit action research partnership initiated in 2017 that is currently hosted at the Department of Urban and Regional Planning at Bayero University, Kano. The lab was launched by Dr. Aliyu Salisu Barau, a professor of urban and regional planning at Bayero University, to give Kano's young people an active role in urban revitalization and restoration, with the dual objectives of demonstrating how such partnerships can "[play a] role in restoring indigenous tree species in a crowded informal African city" and "explore the potential benefits of the restored indigenous tree species for the city and its people" (Barau et al., 2023). The team, composed of university students, local youth, scientists and researchers, practitioners, and community leaders, has planted over 400 indigenous trees in diverse communities across the city and noted instances of facilitated communal dialogue about land and flora, skill building, and heightened gender equity in climate work. Interestingly enough, the project documented that most locals cited the primary benefits of the new indigenous tree presence as related to traditional medicinal use, nutritional use for people and other members of the ecosystem, and convenience for shade in daily life (arguably a climate adaptation benefit but not framed as such by respondents) (Barau et al., 2023). MR CITY Lab is one of more than 22 Sustainable Development Goal (SDG) Labs, which are supported by Future Earth, the Stockholm Resilience Centre and The University of Tokyo Integrated Research System for Sustainability Science (Strain, 2017; Barau, 2020a). The project has also served as a point of decolonial capacity-building to address the erasure brought by generations of colonial rule, as knowledge of local flora is shared and passed across generations through participation in material projects.

The experience of Kano city in northern Nigeria suggests an important role for informal knowledge, actors and practices in local climate action planning. It remains to be seen, however, whether the micro-practices of nongovernmental actors influence coordinated, citywide climate action in Kano. The case highlights the assumptions and inadequacy of existing governance frameworks to capture and characterize nongovernmental inputs and activities in local climate action planning. The DIY urbanism of Kano calls for assessing decentralized, often uncoordinated community-based adaptation measures as visible and as part of local climate action planning.

Image 1: *Credit: Millennials and Resilience: City, Innovation and Transformation of Youths Laboratory*

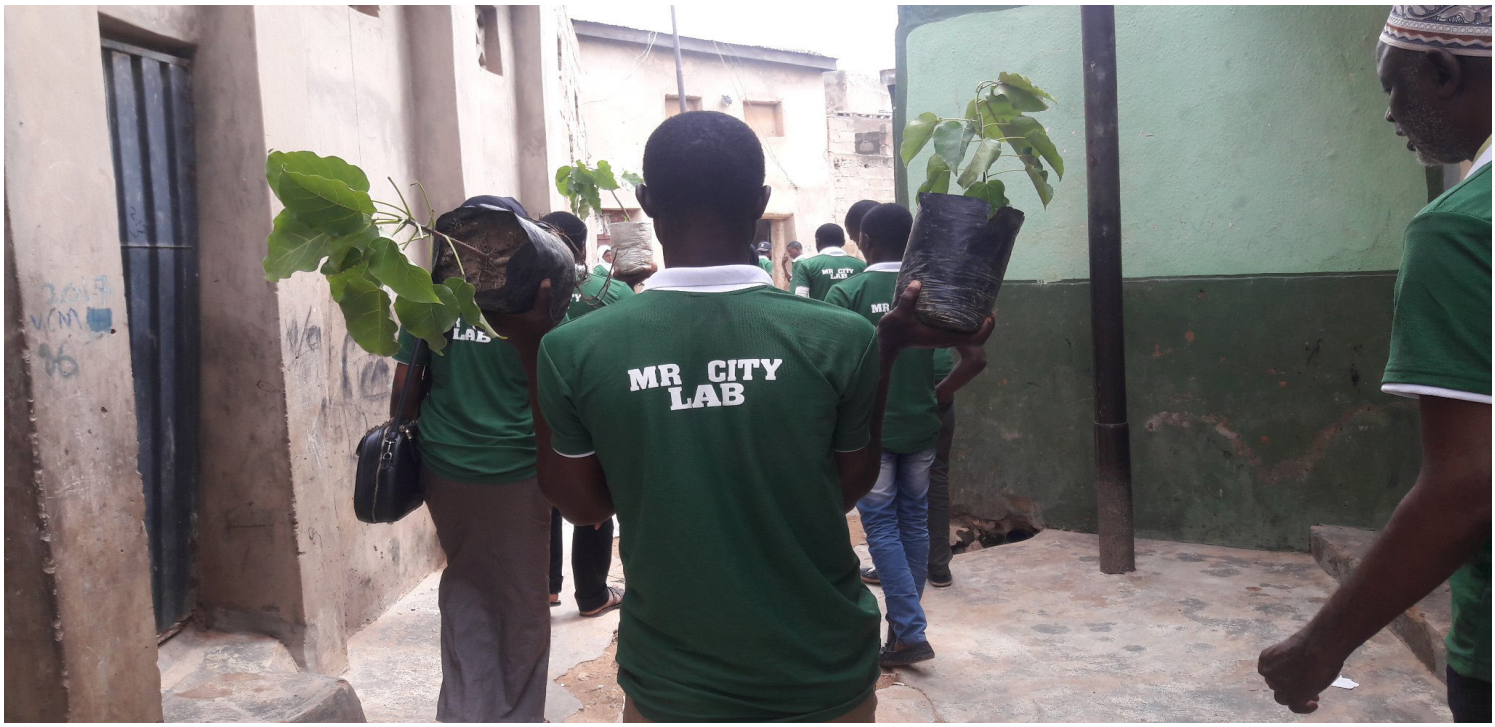

Image 2: *Credit: Millennials and Resilience: City, Innovation and Transformation of Youths Laboratory*

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Acknowledgments

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Additional Data

• **Gross National Income (GNI):** 12,520 USD (Higher-Middle Income)

• **Population Density:** 8,222 people/km^2

• **Gini Coefficient:** 35.1

• **Human Development Index (HDI):** 0.548 (Low)

• **Type of Climate Intervention:** Adaptation
