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Climate Adaptation as an Infrastructural Issue in African Cities: A Case for Gender Sensitive Infrastructure.

The impact of climate change in African cities is often presented as a broad challenge encompassing environmental vulnerabilities, economic stress, and infrastructural deficiencies. However, a more in-depth analysis reveals that climate change and infrastructural failures disproportionately affect women, who are often marginalized within urban settings due to gendered social roles and limited access to resources. This article examines the gendered dimensions of climate adaptation and infrastructural challenges in African cities, focusing on Accra and Lagos as case studies. By highlighting the unequal burdens women face, this paper argues that gender-sensitive urban planning is essential for building urban resilience in the face of climate change.

The Infrastructural Root of Urban Vulnerability

In African cities like Accra and Lagos, rapid urbanization and climate change have combined to place immense pressure on aging and inadequate infrastructure. Critical systems, such as drainage networks and water supply facilities, are overwhelmed by increasing urban populations and more frequent extreme weather events. One of the primary issues African cities faces is the fragile and outdated nature of infrastructure[1]. The collapse of Maiduguri's Alau Dam in Nigeria serves as a powerful reminder of the long-term consequences of neglecting critical infrastructure maintenance. While the dam was built to protect Maiduguri from seasonal flooding, its structural weaknesses—caused by insufficient upkeep—led to its collapse during heavy rains, leaving communities vulnerable[2]. The dam's failure reflects a broader pattern seen in African cities: infrastructural neglect that disproportionately affects vulnerable populations, especially women.

In Lagos, the drainage system, built decades ago, is often overwhelmed by heavy rains, causing flooding in low-income areas, particularly those inhabited by women and children. In these communities, women bear the brunt of infrastructural failures, as they are typically responsible for managing household water, caring for children, and ensuring family health and safety. When floods occur, women must navigate hazardous conditions to fetch clean water, manage sanitation, and provide care for sick family members. This role not only exposes them to greater health risks but also limits their ability to engage in income-

[1] Obado-Joel, J. (2023). Urban Resilience and Institutions: How Urban Local Governments in African Cities Can Plan and Respond Better to Climate Change [Presentation], Fall Speaker Series, School of International Service (SIS), American University, Washington D.C. October 1, 2014.

[2]Williams, T., & Kwame, A. (2018). Gendered vulnerabilities in urban flooding: The case of Accra. Journal of Urban Studies, 45(3), 567-588.

generating activities, thereby perpetuating cycles of poverty[3].

Similarly, in Accra, poor waste management contributes to flooding, especially in informal settlements. Waste-clogged drainage systems mean that even moderate rainfall can result in severe flooding. Women living in these areas are particularly vulnerable because they are often tasked with the physical labor of cleaning up after floods and caring for affected family members[4]. The gendered division of labor places disproportionate responsibilities on women in times of crisis, exacerbating their vulnerability to climate-related disasters.

Gendered Impacts of Poor Urban Planning

The urban planning processes in many African cities have historically failed to consider gendered vulnerabilities. Urban resilience requires long-term planning and governance that considers the needs of local populations[5]. However, women's voices are often excluded from urban planning discussions, leading to infrastructure that does not meet their specific needs. For instance, the social expectation that women manage household responsibilities—including water collection, sanitation, and caregiving—places them in direct contact with the failures of municipal infrastructure.

In Lagos, women in informal settlements are disproportionately affected by unplanned urban growth. These areas often lack secure housing, reliable access to water, and proper sanitation facilities, leaving women more exposed to climate-related disasters like flooding. When drainage systems fail, women are forced to spend hours each day securing clean water and ensuring that their homes remain safe from rising waters[6]. This additional unpaid labor limits their ability to engage in formal employment, education, or other opportunities for personal development.

In Accra, the gendered impact of poor urban planning is similarly evident. Rapid urbanization, combined with inadequate drainage and waste management systems, leaves women in informal settlements particularly vulnerable to flooding. In these areas, women are often responsible for securing water for domestic use and managing waste disposal, tasks made significantly harder by infrastructural failures. When floods occur, women are often forced to travel longer distances to access clean water or resort to using contaminated water sources, increasing their risk of waterborne diseases[7]. This added burden on women reflects the gendered nature of infrastructural failures in African cities.

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[3] Nwankwo, E. I. (2021). The impact of infrastructure on women in Lagos informal settlements. African Journal of Gender and Society, 12(4), 232-249.

[4] Olagunju, S., & Ajayi, K. (2017). Caregiving and climate resilience in African cities. International Journal of Climate and Society, 9(2), 89-105.

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Water as a Climate Frontier and Gender Issue

Water management is one of the most pressing climate-related challenges in African cities, and it is a challenge that disproportionately affects women. water will be a major frontier in the climate change debate for African cities[8]. Whether it is the lack of water, the excess of water, or the high cost of water, women are disproportionately affected by water-related challenges due to their roles as primary caregivers and managers of household water supplies.

In Lagos, poor water infrastructure leads to stagnant water during floods, which in turn increases the risk of waterborne diseases like malaria and cholera. Women, who are often the primary caregivers in their families, are more likely to be exposed to these diseases as they care for sick family members[9]. Moreover, the time women spend securing clean water during times of scarcity limits their ability to pursue education or work, further perpetuating gendered inequalities.

In Accra, the situation is similar. Women in informal settlements often bear the brunt of water shortages, forced to spend hours each day traveling to find clean water. During times of water scarcity, women are typically the first to reduce their own consumption to provide for their families. This added burden on women during times of climate-induced water stress highlights the gendered dimensions of climate adaptation challenges in African cities[10].

The Need for Gender-Sensitive Infrastructure Development

Integrating gender-sensitive approaches into urban resilience planning in African cities is a critical need. In cities like Accra and Lagos, infrastructural development should account for the specific vulnerabilities women face in both formal and informal settlements. Simply improving drainage systems and waste management infrastructure without considering how women interact with these systems will fail to address the root causes of gendered vulnerability. Gender-sensitive urban planning involves not only improving physical infrastructure but also engaging women in the design and implementation of these projects. Women in informal settlements are often acutely aware of the limitations of local infrastructure and can provide valuable insights into how to improve resilience in their communities. By including women in urban planning processes, cities can develop more inclusive and effective climate adaptation strategies.

Climate adaptation cannot be seen as solely an infrastructural challenge; it must also address the gendered dimensions of vulnerability. Women, particularly those in informal settlements, are disproportionately affected by the failures of urban infrastructure. To build truly resilient cities, urban planners must consider

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[8] Kente, J., & Phiri, B. (2020). Integrating gender into climate resilience planning: Lessons from Accra and Nairobi. Journal of Environmental Policy, 13(4), 356-372.

[9] Obado-Joel, J. (2023). Urban Resilience and Institutions: How Urban Local Governments in African Cities Can Plan and Respond Better to Climate Change [Presentation].

[10] Osei, G. (2022). Community-driven infrastructure projects and women's empowerment in Lagos. Nigerian Journal of Urban Planning, 16(2), 145-167.

the unique challenges women face and involve them in the design and implementation of infrastructure projects. By adopting a gender-sensitive approach to climate adaptation, African cities can better protect their most vulnerable populations and build resilience in the face of increasing climate threats.

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