

WHEN STEWARDS ARE TREATED AS POLLUTERS

Governance Exclusion and Socio-Ecological Collapse in the Nairobi River Basin

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THE GAP

Urban river degradation is routinely framed as a technical failure of waste management or infrastructure. This study argues that governance exclusion is the structural driver, and tests this argument using convergent mixed-methods evidence from the Nairobi River Basin across 2018–2024.¹

Riverside communities in Kibera, Mukuru, and Mathare experience severe pollution, disproportionate disease burden, and accelerating ecological decline across the Nairobi, Ngong, and Mathare rivers. They remain entirely outside the formal decision-making structures that govern them.²

The evidence points to a consistent, designed outcome. Infrastructure is withheld and costs are externalised simultaneously, casting communities as the source of a problem they did not create and denying them the authority to solve it.^{3,4}

“This river that you are seeing here is our sewer system”

“Regeneration plans?...What I know is that the government wants to build a wall at both sides of the river to deny us any access to the water”

“We are the ones keeping plastic out of the river, but we are invisible. No one sees us”

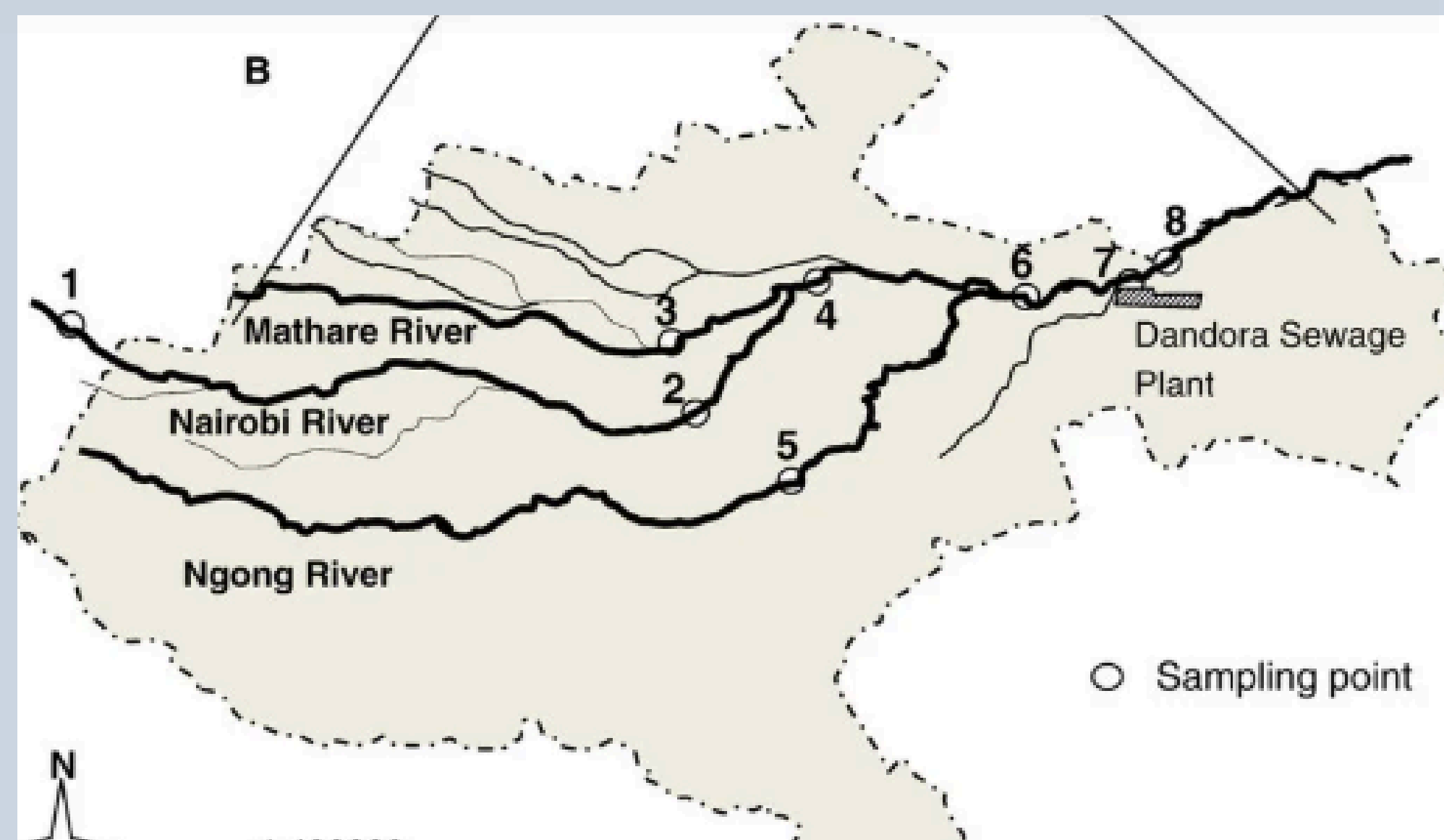
“You can find anything that you can imagine in this water, We’ve even pulled up bodies from this river, especially during the heavy rains”

NAIROBI RIVER BASIN

| | | | |
|--|------------------------------------|----------------------------------|--|
| >100 Rivers (Nairobi, Ngong, Mathare) | 46+ Informal settlements | 5M+ Nairobi population | 60% Living in informal areas |
|--|------------------------------------|----------------------------------|--|

STUDY AREA

This study took place in 3 major informal settlement areas in Nairobi; Kibera, Mukuru and Mathare Informal Settlements



METHODS

- Water Quality Records**
Multi-point longitudinal sampling along the River Basin: E. coli, lead, dissolved oxygen, turbidity, temperature
 - Health Facility Morbidity Records**
Outpatient data from riverside health facilities: cholera, typhoid, diarrhoeal disease incidence 2018–2024
 - Purposive Household Interviews**
12 extremely-affected households · ecological knowledge, health burden, governance experience, economic coping strategies
 - Multi-Stakeholder Validation Forum**
Cross-sector review of preliminary findings: community leaders, NGOs, waste collectors, county government officials
- Convergent Integration**
Quantitative and qualitative strands merged for corroboration and triangulation across all findings⁵



ANALYSIS

Analysis compared river pollution data with the local health center records and interview accounts from highly affected households and residents, to see how communities experience the crisis.

The analysis utilized the qualitative coding capabilities of NVivo, the statistical analysis features of SPSS, and the data visualization functions of Power BI to synthesize community narratives with environmental and health records.

Bringing the evidence together showed a repeated pattern of pollution, illness, and exclusion across the basin.

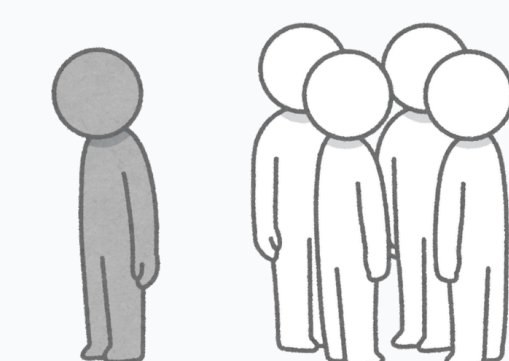
RESULTS

Riverside communities that experienced the **highest** pollution and disease burden had the least influence over river management and decision-making processes. Residents possess strong ecological knowledge and are already undertaking local stewardship efforts, yet these remain **disconnected** from formal restoration and governance systems.

35%
outpatient disease burden



CONTRIBUTIONS



Governance exclusion shapes river degradation, disease burden, and everyday survival along the Nairobi River Basin.



Communities living closest to the river carry the highest costs while holding no formal place in river management.



Sustainable recovery will require formal representation, infrastructure access, and institutional recognition.

References

1 Ngatia, M. et al. (2023). *Effects of Anthropogenic Activities on Water Quality within Ngong River Sub-Catchment, Nairobi, Kenya*. *Water*, 15(4), 660. <https://doi.org/10.3390/w15040660> 2. Nairobi Rivers Commission (2024). Nairobi River Basin Regeneration Programme (NaBREP) nrc.go.ke 3. ACRC (2025). *Systems Change for Water and Sanitation in Informal Settlements: The Mukuru Special Planning Area*. African Cities Research Consortium. 4. Back to Blue / Economist Impact (2025). *The Scourge of Untreated Wastewater*. Nippon Foundation. 5. Creswell, J.W., & Plano Clark, V.L. (2018). *Designing and Conducting Mixed Methods Research*. SAGE. 6. Ostrom, E. (1990). *Governing the Commons: The Evolution of Institutions for Collective Action*. Cambridge University Press.

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