



## Formalising E-Waste Recycling

*A Political Ecology of Respiratory Health Governance at the Dandora Dumpsite*

**Wanjiku Mwangi**<sup>1</sup>

<sup>1</sup> Kenya Agricultural and Livestock Research Organization (KALRO)

Correspondence: [wmwangi@gmail.com](mailto:wmwangi@gmail.com)

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### Author notes

*Wanjiku Mwangi is affiliated with Kenya Agricultural and Livestock Research Organization (KALRO) and focuses on African Studies research in Africa.*

### ABSTRACT

{ "background": "Informal e-waste recycling at major African dumpsites, such as Dandora in Nairobi, poses significant respiratory health risks to workers. Current governance often focuses on formalising these activities through policy, yet the health implications of such formalisation processes remain critically under-theorised within political ecology and African community development literature.", "purpose and objectives": "This article develops a novel theoretical framework to analyse how e-waste recycling formalisation policies reconfigure the political ecology of respiratory health governance for informal workers. It aims to elucidate the mechanisms through which formalisation interventions redistribute health risks, responsibilities, and vulnerabilities.", "methodology": "The article constructs a conceptual framework synthesising political ecology with critical health governance studies. It employs a desk-based, theoretical analysis of policy documents and secondary literature to model the relationships between formalisation, labour conditions, environmental exposure, and health outcomes.", "key insights": "The framework proposes that formalisation policies, while intending to mitigate harm, can paradoxically exacerbate respiratory health inequities by displacing the most vulnerable workers into less regulated segments of the waste stream. A key thematic insight is the central role of 'regulatory displacement' in intensifying exposure to hazardous particulate matter.", "conclusion": "Formalisation must be conceptualised not as a neutral technical solution but as a political-ecological process that reshapes the terrain of health governance, often entrenching existing socio-economic disparities in respiratory health outcomes among the workforce.", "recommendations": "Future policy must integrate explicit health justice criteria into formalisation designs. This requires participatory health impact assessments and the creation of co-governance structures that include informal workers in monitoring and regulating respiratory health protections.", "key words": "political ecology, e-waste, respiratory health, informal economy, health governance, Kenya, environmental justice", "contribution statement": "This article provides a novel theoretical framework that identifies 'regulatory displacement' as a core mechanism linking formalisation policies to adverse respiratory health outcomes, offering a critical tool for analysing similar

**Keywords:** *Political ecology, Informal economy, Respiratory health, E-waste governance, Sub-Saharan Africa,*

*Environmental justice, Neoliberalisation***Article Highlights**

- Analyses how e-waste formalisation reconfigures respiratory health governance for informal workers.
- Identifies 'regulatory displacement' as a core mechanism intensifying hazardous exposure.
- Argues formalisation reshapes health governance terrain, often entrenching socio-economic disparities.
- Proposes integrating health justice criteria and co-governance structures into policy design.

**Theoretical Contribution**

Develops a novel framework synthesising political ecology with critical health governance studies to analyse formalisation's health implications.

*This theoretical analysis models the relationships between policy, labour conditions, and health outcomes.*



## ABSTRACT-ONLY PUBLICATION

This is an abstract-only publication. The complete research paper with full methodology, results, discussion, and references is available upon request.



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