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Towards a Just Transition in Plastic Governance: Grassroots Waste Pickers, Participatory Spaces, and Environmental Democracy in Kenya

Richard Kiaka, Griffins Ochieng, Dorothy Otieno, Ledoner Okeyo, Mariatta Anzazi, Brian Kigame, Clara Orstadious, María José Zapata Campos and Patrik Zapata

Frontpage Photo: Members of a waste picker groups - Saidia People with Epilepsy - at their waste collection point in Mombasa. Credit: CEJAD

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List of acronyms

CEJAD - Centre for Environment Justice and Development
GU - University of Gothenburg
ICLD - Swedish International Centre for Local Democracy
EPR - Extended Producer Responsibility
UN - Habitat - United Nations Human Settlements Programme
NIVA - Norwegian Institute for Water Research
UNIDO - United Nations Industrial Development Organisation
NGO - Non- Governmental Organisations
UNESCO - United Nations Educational, Scientific and Cultural Organisation
UNEP - United Nations Environment Programme
KNBS - Kenya National Bureau of Statistics
FDGs - Focus Group Discussions
CSOs - Civil Society Organisations
NEMA - National Environment Management Authority
COBWAMM - Community Based Waste Management Model
PWDs - Persons with disabilities
CBO - Community Based Organisation
WWF - World Wide Fund For Nature
PET - Polyethylene Terephthalate

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Executive summary

This study draws on the case of Mombasa county, Kenya, to examine the participatory spaces through which grassroots waste pickers engage local government and the implications for a just transition in plastic governance. Using environmental democracy and grassroots innovation frameworks, the analysis extends Gaventa's typology of invited and created spaces by introducing *co-created spaces* emerging from collaboration among waste pickers, civil society, and government. Findings show that invited spaces are often shallow in engagement, while created spaces foster innovation and resistance but yield uneven policy influence. Co-created spaces—such as participatory video and Democracy Labs—enable mutual accountability, recognition of waste pickers' ecological roles, and the reconfiguration of occupational identities. Despite persistent constraints, these spaces demonstrate how embedding grassroots agency within institutions is central to advancing a just transition in plastic governance.

Acknowledgments

We are grateful to the waste picker groups whose work and reflections formed the core data for this report. We thank the County Government of Mombasa for its collaboration, and the civil society organisations that participated in the democracy labs and contributed to the analysis. Finally, we acknowledge the reviewers for their valuable comments and suggestions, which greatly improved earlier drafts.

Preface

By Johan Lilja, Secretary General, Swedish International Centre for Local Democracy

Plastic pollution remains one of the most pressing environmental challenges of our time. As governments and industries pursue technological and policy solutions to address this crisis, the voices and contributions of grassroots actors—particularly waste pickers—often remain marginalized in decision-making processes. Yet these communities are at the frontline of plastic waste recovery and play a critical role in shaping sustainable futures. Governments are currently negotiating a legally binding international agreement aimed at ending plastic pollution by addressing the full life cycle of plastics—from production to disposal—and advancing a circular economy. A central issue in these negotiations is the call for a *just transition* that recognizes and includes all affected actors, particularly grassroots waste pickers who play a critical role in plastic recovery and recycling. While such an agreement would establish a global policy framework, its implementation will ultimately unfold in local contexts where governance responsibilities rest with subnational authorities. Against this backdrop, in 2024 the **Swedish International Centre for Local Democracy (ICLD)** partnered with the **Centre for Environment Justice and Development (CEJAD)** to explore how strengthening local democratic spaces can meaningfully support a just transition in plastic governance.

This report, *Toward a Just Transition in Plastic Governance: Grassroots Waste Pickers, Participatory Spaces, and Environmental Democracy in Mombasa*, offers an important intervention into the debate on just transitions and inclusive governance. Drawing on participatory action research and associated fieldwork, it provides fresh insights into how waste pickers in Mombasa navigate, engage, and transform the governance spaces in which plastic policies are discussed and implemented.

What makes this work especially valuable is its grounded and action-oriented methodology. The report does not simply observe challenges from afar; it partners with waste picker communities to co-create knowledge and generate solutions. The democracy labs featured in this study exemplify how participatory tools can lead to more equitable and context-sensitive policy outcomes.

As a reader, I am struck by the clarity of the argument: achieving a plastic-safe future that is both effective and just requires the active inclusion of historically excluded actors. Waste pickers are stewards of environmental sustainability, but also innovators, citizens, and political agents with legitimate claims to shape the very systems that govern their labor and lives.

I commend the authors for producing a report whose contribution is especially urgent at a time when the world is negotiating a global plastic treaty. It provides valuable guidance for policymakers, practitioners, and researchers committed to building inclusive and resilient systems for plastic governance in Kenya and beyond.

Johan Lilja,
Secretary General, ICLD
January 2026

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About CEJAD

Centre for Environment Justice and Development (CEJAD) is a Public Benefit Organisation registered in Kenya whose mission is to promote sound management of chemicals and waste to protect human health and the environment. For over 8 years, CEJAD's work on addressing plastic pollution has focussed on conducting and publishing extensive research on the evidence of hazardous chemicals in plastics and on strategies for integrating waste pickers in waste management governance and policy implementation. The organisation also advances a multi-stakeholder approach to advocate for regulatory measures that promote sound waste management, just transition for waste pickers and addressing plastic pollution across the lifecycle.

Introduction

The idea of a just transition is one of the key debates currently dominating global policy and political discourse surrounding plastic pollution. While the just transition framework has been extensively applied to decarbonization and energy transitions, its application to plastic governance has only begun to gain traction (Dauvergne, 2023; O'Hare & Nøklebye, 2024; Velis 2022, 2024). This study contributes to emerging efforts to expand the conceptual scope of just transitions by situating plastic pollution within a justice-oriented governance paradigm.

A just transition emphasizes that measures undertaken to reduce, and ultimately end plastic pollution must be fair, equitable, and inclusive for all stakeholders across the entire plastics lifecycle. Central to this principle is the protection of communities and livelihoods affected not only by plastic pollution itself but also by the interventions implemented to address it (O'Hare & Nøklebye, 2024). The concept foregrounds the imperative of embedding justice and equity in the transition toward a plastic-safe future, particularly for those whose livelihoods are either undermined by or directly dependent on the plastic economy (Dauvergne, 2023). Within the framework of normative democratic theory, the all-affected principle asserts that all individuals impacted by collective decisions should be granted a role in the decision-making process and implementation of the decisions (Eckersley, 2004; Goodin, 2003). In the context of plastic governance, grassroots waste pickers comprise a critical segment of this "all-affected" constituency.

Kenya has positioned itself as a continental leader in plastic pollution regulation, having enacted some of the earliest and most stringent bans in Africa (Katunge, 2019; Njuguna, 2018). Yet, despite the progressive intent of these national policies, their implementation has been inconsistent and often ineffective (Ferraro & Failler, 2020). Weak enforcement can be attributed to several factors, including policy ambiguity, insufficient lead time between policy announcement and implementation, and the persistent lack of meaningful engagement with key stakeholders—most notably, grassroots waste pickers (Nwafor & Walker, 2020). At the subnational level, county governments face constrained fiscal autonomy, and waste management services are typically concentrated in affluent neighborhoods and central business districts. In Nairobi, for example, and similarly for Mombasa, over 90% of residents in informal settlements lack access to formal waste collection services (UN-Habitat & NIVA, 2022), resulting in disproportionate plastic pollution burdens in already marginalized areas.

Urban solid waste management challenges in Kenya are not simply technical service failure but are manifestations of deeper structural governance exclusions rooted in neoliberal political economy, postcolonial urban planning, and institutionalized regulatory bias. Following devolution under the 2010 Constitution, counties assumed responsibility for waste management without adequate fiscal transfers or revenue-raising capacity, this resulted in chronically under-resourced services and an increasing reliance on privatized, cost-recovery models that prioritize profitable, formally planned neighborhoods while excluding informal settlements (Gachoki et al., 2022; Haregu et al., 2017). These neoliberal decentralization dynamics intersect with enduring postcolonial planning legacies that historically privileged elite urban spaces and continue to marginalize informal settlements — where the majority of urban residents live — through inadequate infrastructure, limited participation in planning, and the spatial concentration of environmental risk (Myers, 2005; Opanga, 2025; Wangai et al., 2025). At the same time, environmental regulation remains structurally biased toward formal actors, rendering waste pickers, despite their central role in recycling and waste recovery — largely invisible, unprotected, and excluded from decision-making and policy processes (Amugsi et al., 2020, 2022; Koroma et al., 2025).

Together, these intertwined governance failures reproduce social and spatial inequalities in waste service provision and environmental risk exposure, systematically shifting the burdens of mismanagement onto marginalized urban communities while obscuring the structural conditions that normalize exclusion as a routine feature of urban governance rather than an aberration. From a just transition perspective, this constitutes a fundamental failure to align environmental protection with social justice, livelihood security, and equitable access

to urban services, particularly for waste pickers whose contributions remain underrecognized and undersupported (O'Hare & Cass Talbott, 2025). Simultaneously, these dynamics reflect the persistent denial of voice, recognition, and meaningful decision-making power to waste pickers, entrenching inequality as an operational logic of urban environmental governance rather than an exception to it (Kain et al., 2022; Koroma et al., 2025; Valencia et al., 2023).

Plastic waste is estimated to constitute 10–12% of Kenya's total solid waste stream, translating to approximately 966,000 tonnes annually (UNIDO, 2021). The end-of-life trajectory of plastic packaging remains highly inefficient in the country. As of 2018, only 27% of all plastic waste was collected in Kenya, of which 19% was landfilled and a mere 8% recycled (Kabera et al., 2019). Climate change-induced flooding further exacerbates plastic leakage into marine environments (Ford et al., 2022; Van Emmerik & Schwarz, 2020). Approximately 37,000 tonnes of plastics enter the ocean from Kenya each year, accelerating the degradation of coastal and marine ecosystems. Microplastics introduce toxic chemicals, disrupt food chains, and compromise ecosystems that are vital to local economies – particularly those dependent on fisheries and tourism (Hall, 2020). In Kenya's coastal region, these environmental impacts heighten the economic precarity of local and artisanal fishing communities reliant on coastal resources for their livelihoods.

At the national level, plastics account for nearly one-third of the total recyclable material volume collected by grassroots initiatives, making plastic waste one of their most valuable material streams (Kain et al, 2022). These initiatives vary widely in structure and purpose, ranging from cooperatives and community-based organizations to women's and youth groups and social enterprises. Although shaped by diverse motivations and resource conditions, they commonly operate in environments of material scarcity, as observed in other regions (Tirado-Soto & Zamberlan, 2013). In such settings, crises often spark innovations born of necessity, transforming these marginalized spaces into "extreme niches" of experimentation (Zapata Campos et al., 2023). While plastic is abundant, its transformation into a valuable resource depends on deeply embedded social and commercial networks. Grassroots actors leverage local trust, reciprocity, and social capital to organize waste-based enterprises and informal governance systems (Charles, 2021; Grabs et al., 2016; Holt & Littlewood, 2017; Kain et al., 2022). Their engagement with plastic waste is rarely driven by a single rationale. Rather, their actions reflect multiple overlapping logics – economic, social, and environmental – that evolve together and resist easy categorization (Gutberlet et al., 2016).

Like many grassroots efforts across the Global South, these initiatives in Kenya face formidable structural challenges. Waste pickers in Kenya often operate in informal settlements, around open dumpsites, peri-urban fringes, along coastal beaches and other unregulated "blackspots". Although the waste pickers work largely within the informal economy, their activities are functionally integrated into the formal recycling industry through intermediary market arrangements that channel recovered materials to formal recycling enterprises. More recently, with support from civil society organizations, some waste pickers in Kenya have begun organizing into associations, networks, and community-based organizations, many of which are progressively formalized through official registration with government authorities. While these processes are commendable, waste pickers in Kenya still contend with gender and social inequalities, entrenched power asymmetries between themselves and county governments as well as formal recycling industry, and institutional vulnerabilities that hinder their sustainability and scalability (Seyfang & Longhurst, 2016). Once established, grassroots initiatives require long-term support to stabilize operations, build capacity, and expand networks (Tirado-Soto & Zamberlan, 2013). Many remain heavily dependent on donor funding, NGO partnerships, and the agendas of external actors (Oyake-Ombis et al., 2015). Organizational, legal, and technical hurdles alongside threats such as landfill privatization or closure further constrain their ability to deliver sustained impact (Zapata Campos et al., 2023).

As noted above, the lack of meaningful engagement

with key stakeholders – particularly grassroots waste pickers – continues to be a major factor that undermines effective solid waste policy implementation. Aligned with the principles of a just transition, stakeholder engagement must go beyond nominal inclusion to interrogate the design, intent, and responsiveness of participatory processes. Specifically, it requires assessing whether these processes are genuinely participatory, grounded in local contexts, and capable of addressing the structural inequalities faced by marginalized actors in waste governance.

In response, this report draws on theoretical frameworks from grassroots innovation and environmental democracy to examine the democratic and participatory spaces through which waste grassroots engage with local government actors in managing plastic pollution. Drawing on empirical data from action-oriented research conducted in Mombasa County—a local government jurisdiction in coastal Kenya where waste pickers play a central role in managing post-consumer plastic waste and the County Government holds the legal mandate for solid waste management—this study addresses the following two questions: a) What democratic spaces do grassroots waste pickers engage with local governments on matters of waste management? b) What are the implications of these participatory spaces in meeting the needs of waste pickers and supporting a just transition in the reduction of plastic pollution? We explore these questions based on the case of Mombasa as a representative of local authorities. As a coastal city, Mombasa faces plastic pollution problems from various sectors including coastal tourism and harbor which attracts several commercial activities. In addition, Mombasa hosts the Old Town which is a UNESCO world heritage site.

The remainder of the report is structured as follows: section 2 outlines the theoretical framework guiding our analysis, focusing on deliberative democracy – especially concepts of participation and democratic spaces – and its alignment with broader discourses on good governance. Section 3 presents the research context, examining Mombasa's waste governance landscape with attention to waste streams, regulatory frameworks, and policy implementation. Section 4 details the research design and methodological approach. Section 5 offers an in-depth analysis of the participatory spaces available to waste pickers—categorized as created, invited, and co-created spaces—and the outcomes associated with each. We omit closed spaces in our analysis because it was not part of the data we collected. Section 6 discusses the implications of our findings, while the final section concludes with key recommendations to advance a more inclusive and just transition in plastic governance.

Grassroots innovation, environmental democracy, and just transition

We situate our analysis on a combined theoretical framework that integrates insights from grassroots innovations and environmental democracy literature to examine the interplay between participatory governance, locally driven responses to plastic pollution, and the pursuit of a just transition for marginalized actors in the solid waste sector. This synthesis enables a deeper understanding of how creative local practices are legitimized through democratic processes, and how marginalized actors, such as waste pickers, are able—or unable—to meaningfully influence formal waste governance structures.

Grounded in theories of socio-technical transitions and social movements, grassroots innovation literature focuses on community-based solutions to socio-environmental problems that emerge outside dominant institutional and market arrangements (Smith et al., 2016). These innovations are shaped by the historical, democratic, institutional, cultural, and economic contexts in which they arise (Leach & Scoones, 2007), often triggered by events such as environmental crises, shifting societal discourses (e.g., the 'plastic-free' movement), or changes in regulatory regimes (Hoffman, 1999). Such conditions open up windows of opportunity that enable peripheral actors including grassroots waste pickers to initiate experimental practices and collaborative platforms, that challenge established norms (Hermansen, 2015). For example, in contexts where local governments lack the capacity to manage solid waste—evidenced by uncollected waste, overflowing dumpsites, and height-

ened environmental and public health risks—governance gaps emerge that waste pickers fill through situated knowledge and adaptive practices (Danso & He, 2025; Gutberlet et al., 2017; Myers, 2011). Under such conditions, waste pickers transform precarity into spaces of experimentation, developing alternative practices of collection, sorting, and recycling that sustain livelihoods while mitigating environmental harm (Zapata Campos et al., 2023). These grassroots innovations reframe waste mismanagement from a symbol of state failure into a productive resource, challenging dominant narratives that depict informality as inefficient or disorderly (Carenzo, 2020; Gutberlet, 2021; Gutberlet et al., 2021; Silva et al., 2021). At the same time, crisis conditions catalyze collective action, as waste pickers organize to resist exclusionary privatization, claim access to waste streams, and demand recognition within urban governance, thereby advancing more inclusive and democratically grounded approaches to waste management (Dias & Fernández, 2020; ILO & WIEGO, 2017).

At the local level, grassroots initiatives operate in "niches of experimentation," often within extreme or resource-scarce environments such as informal settlements and dumpsites in low-income urban contexts (Zapata Campos et al., 2023). Within these niches, waste pickers develop knowledge systems, labor practices, informal governance mechanisms, and rules that transform plastic waste from a liability into a livelihood opportunity (Samson, 2015a; Zapata Campos et al., 2023). As Schindler and Demaria (2016) argue, such actors construct regimes of *valorization*—locally rooted frameworks that reimagine plastic waste as a source of social, economic, democratic, and environmental value. Drawing on social theories of value (Çalışkan & Callon, 2009; Graeber, 2001), these regimes emphasize that value is not inherent but imagined, produced, and performed through everyday practices and narratives.
While grassroots innovation theory helps explain the conditions under which waste picker groups generate sustainable alternatives, environmental democracy provides an essential lens for analyzing the political and procedural dimensions of their inclusion in governance. Scholarship in this area examines how democratic institutions and participatory mechanisms can (or fail to) reconcile environmental sustainability with social equity (Pickering et al., 2020). Central to this framework is the belief that those most affected by environmental harms—such as grassroots waste pickers who are exposed to hazardous working conditions and adversely affected by inappropriate policies —and excluded from decision-making, must be afforded meaningful opportunities to shape public policy (Baber & Bartlett, 2020; Gellers & Jeffords, 2018).

Participation is thus viewed as both a normative principle and a practical mechanism for achieving just and context-sensitive environmental governance. Empirical studies suggest that inclusion in agenda-setting, policy formulation, monitoring, and implementation can enhance ownership, improve compliance, and strengthen the legitimacy of environmental policies (Dryzek & Stevenson, 2011; Mason, 2008). However, formal participation spaces do not automatically translate into equitable engagement. As Ogando et al. (2017) and Gaventa (2006) caution, institutional spaces often reproduce power asymmetries, limiting the ability of marginalized actors to influence democracy outcomes. The effectiveness of participation, therefore, hinges not only on structural inclusion but also on the design and intent of participatory processes (Cornwall & Coelho, 2007; Thompson, 2007)

The concept of a *just transition* bridges grassroots innovation and environmental democracy by explicitly foregrounding questions of equity, recognition, and participation in processes of environmental transformation. Originating in labour and environmental justice movements, just transition initially sought to protect workers and communities from the social costs of environmental regulation by demanding democratic decision-making, social protections, and livelihood security (Newell & Mulvaney, 2013; Slatin, 2020). As the concept evolved within climate and sustainability governance (Berthe & Turquet, 2023; Savaresi et al., 2024), it expanded to incorporate broader environmental democracy concerns—namely, whose knowledge counts, who benefits or bears costs, and who has authority in shaping environmental futures (Heffron, 2021; McCauley & Heffron, 2018; Schlosberg, 2007). In contemporary

plastic pollution governance, just transition frameworks are increasingly mobilized to expose how plastic reduction policies, circular economy initiatives, and extended producer responsibility schemes can undermine both social justice and environmental democracy when they exclude waste pickers from decision-making, recognition, and fair participation in value chains (O'Hare et al., 2023; Velis, 2024; Velis, 2022). Framed through environmental democracy, a just transition in plastics therefore demands not only technological or market-based change, but also the institutionalization of participatory governance, recognition of informal labour as legitimate environmental stewardship, and the redistribution of power across plastic value chains—ensuring that those most affected by pollution and policy change are central actors in shaping solutions rather than passive recipients of them (Dauvergne, 2023; Lincoln, 2025; UNEP, 2024).

Since the rise of participatory governance, the concept of *space* has become central to debates on power, democracy, and citizen engagement. Scholars describe spaces in different ways, typically *policy spaces* and *democratic spaces*. Policy spaces are the arenas and moments where citizens and decision-makers interact, often creating opportunities to shape agendas and outcomes (McGee, 2004). Democratic spaces, on the other hand, are sites where citizens assert rights, seek recognition, and influence governance processes (Cornwall & Coelho, 2006).

To analyse how participation is experienced and negotiated by grassroots waste pickers, we draw on Cornwall's (2002) and Gaventa's (2006) conceptualizations of spaces for participation, alongside the notions of epistemic democracy and epistemic justice advanced by Jasanoff (1996; 2004) and Fricker (2007). Together, these frameworks situate participation at the core of environmental democracy and just transition debates by emphasizing that democratic environmental governance requires not only access to decision-making, but also the inclusion of affected actors in shaping how environmental problems are understood, governed, and acted upon. From this perspective, participation spaces are the opportunities, moments, and channels through which grassroots actors engage to influence policies, discourses, decisions, and power relations that structure both environmental outcomes and livelihood futures (Gaventa, 2006).

Participatory spaces are thus, inherently political and epistemic arenas in which struggles over recognition, authority, and knowledge unfold. Power operates not only through formal inclusion or exclusion from decision-making, but also through the privileging of certain forms of knowledge over others—often marginalizing experiential, practice-based knowledge held by actors such as waste pickers (Fricker, 2007; Jasanoff, 2011). Participation, therefore, entails more than consultation or representation: it involves the redistribution of epistemic authority and the co-production of knowledge as a precondition for socially just environmental transitions.

By attending to structural constraints on inclusion and epistemic injustices that shape whose knowledge counts, this approach demonstrates how democratic waste governance and a just plastic transition are undermined when grassroots actors are excluded from decision-making and knowledge production, and how they can be advanced when waste pickers assert agency by challenging dominant knowledge hierarchies and contributing situated expertise to more inclusive and equitable waste governance (Cornwall, 2002; Gaventa, 2006).

Gaventa (2006) provides a typology that illustrates how participatory spaces emerge and how they are tied to power (Figure 1). He distinguishes between *closed*, *invited*, and *created (or claimed)* spaces:

- **Closed spaces** are domains where decisions are made by elites or institutions without public involvement, leaving citizens with little or no opportunity to participate.
- **Invited spaces** are openings created by authorities—governments, donors, or institutions—that invite citizens to take part. Examples include participatory budgeting exercises, consultative workshops, or stakeholder dialogues. While such spaces may provide avenues for influence, the terms of participation are often dictated from above. As a result, they risk reproducing unequal power relations if citizen contributions are ignored or tokenized. Nevertheless, invited spaces can also be arenas

where marginalized groups engage strategically, pushing back against authority and pressing for accountability.

- **Created (**or **claimed) spaces** emerge from citizen initiative—when communities, social movements, or grassroots groups organize their own arenas of engagement, such as protests, assemblies, or community dialogues. These spaces are vital for advancing alternative narratives and decision-making practices, enabling citizens to set the terms of engagement and challenge established authority.

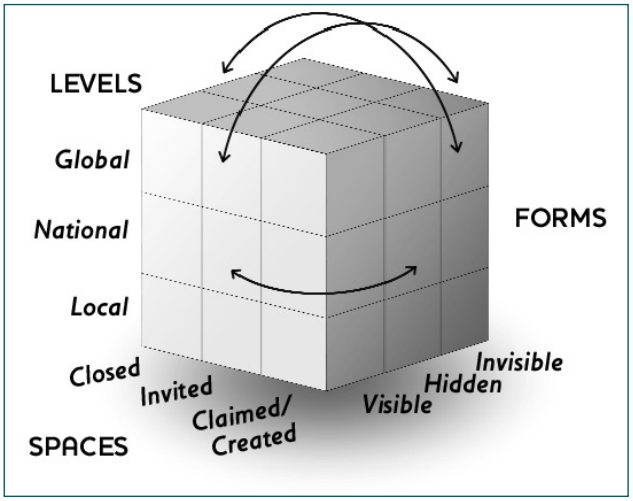

Figure 1: Gaventa's 'Power Cube': levels and forms of power and spaces of participation (Source: Gaventa, 2006)

However, Gaventa's tripartite typology may obscure important overlaps and hybrid forms of participation. In the context of our study, we identify a fourth category: co-created spaces. These emerge through collaborative efforts involving researchers, civil society organizations, grassroots groups, and government actors who jointly shape the goals, rules, and modalities of participation. Drawing from the literature on knowledge co-creation (Jasanoff 1996; 2004; Utter et al., 2021), we define co-created spaces as sites of intentional collaboration where diverse actors integrate their knowledge and experiences to generate governance solutions that could not be developed independently. These spaces are not simply invitations extended by authorities, nor are they purely oppositional counter-spaces; rather, they embody a shared commitment to inclusive governance, negotiated at the intersection of grassroots agency and government authority. Intermediary actors, such as researchers and civil society organizations, play a critical role in catalyzing co-creation processes by facilitating dialogue and knowledge exchange across uneven power relations. In doing so, they can help address epistemic injustices by creating conditions in which marginalized actors' situated knowledge is recognized, articulated, and integrated into collective problem-definition and decision-making processes. However, real-world governance processes rarely fit neatly into such typologies, as participatory spaces often evolve or shift in response to political contexts, actor dynamics, leadership, and issue salience. Nevertheless, for analytical clarity, we examine these spaces as analytically distinct.

The theoretical frameworks we employ in this study provide a multidimensional lens for examining the engagement between grassroots waste pickers and the County Government in waste governance in Mombasa. They enable an in-depth exploration of how grassroots waste pickers mobilize creativity and local knowledge to address solid waste challenges broadly—and plastic pollution in particular—and how these responses are either legitimized or constrained within both formal and informal governance structures. The concept of co-created spaces adds further analytical depth by facilitating an investigation into how collaborative engagement among grassroots actors, researchers, civil society organizations, and government institutions can foster more inclusive and context-sensitive governance processes. Ultimately, this integrated framework allows for a critical assessment of the extent to which participatory mechanisms contribute to a just transition—one that acknowledges grassroots waste pickers not only as environmental stewards and innovators, but also as political actors with the right to shape the systems that govern their work and lives.

Research context

The Case study: Mombasa County

Mombasa County is located along Kenya's Indian Ocean coast and is the country's second-largest urban area, consisting entirely of Mombasa City. It serves as a cosmopolitan hub with an estimated population of 1.2 million residents, resulting in a population density of approximately 4,097 persons per square kilometer (KNBS, 2019). An urban area of this size generates much waste and is in need of robust solid waste management. The county comprises six sub-counties and 29 wards with varying solid waste collection methods. These range from county-operated trucks that primarily serve common collection points to private waste companies and grassroots waste pickers who collect waste directly from households and business premises using handcarts.

Mombasa faces distinct challenges in managing solid waste due to its growing population, thriving tourism industry, and lack of dedicated landfill space (Otundo, 2024). The county generates an estimated 1,000 tons of solid waste daily, yet only 60–65% is collected and appropriately managed. The remainder accumulates in illegal dumpsites, drainage channels, and public spaces (Gakungu et al., 2021; Okuku et al., 2021). By 2021, annual plastic waste generation in the county was estimated at 19,401 tons (Okuku et al., 2021), with over 50% of this volume remaining unmanaged—posing serious environmental and public health risks (Okuku et al., 2021; Otundo, 2024; Wekisa & Majale, 2020).

The inadequacy of waste management systems has resulted in significant plastic leakage into terrestrial and marine environments. This has led to the degradation of marine ecosystems and the endangerment of marine species (Kosore et al., 2022; Okuku et al., 2020; Ombongi et al., 2021). Microplastic accumulation in the coastal waters around Mombasa is of particular concern due to its long-term ecological impacts on critical habitats, including mangroves (Mwaura, 2017; Thiemann, 2023), coral reefs (Mwaura, 2017), fisheries (Ombongi, 2022), macro-invertebrates (Onyango, 2020), and the highly endangered sea turtle populations (Mathenge et al., 2012).

In urban areas, the accumulation of plastic waste in drainage systems impedes water flow, leading to surface runoff and flooding (Namayi et al., 2025; Okaka & Odhiambo, 2019). These conditions create ideal breeding grounds for disease vectors, particularly mosquitoes, thereby increasing the incidence of vector-borne diseases such as malaria and dengue fever (Wekisa & Majale, 2020). Moreover, the widespread practice of open-air burning of plastic waste releases toxic pollutants into the atmosphere, contributing to air pollution and increasing the risk of respiratory illnesses, especially for communities residing near dumpsites and informal waste disposal areas.

Economically, Mombasa's tourism sector, one of the county's key industries, faces significant threats from unmanaged plastic waste (Otundo, 2024). The pollution of Mombasa's iconic beaches, which are central to both the county's cultural identity and economic viability, has led to a decline in tourist visits, negatively impacting local livelihoods (Wekisa & Majale, 2020). These developments point to the urgent need for improved governance and systemic reform in the management of solid waste. Recent estimates suggest that only about 13% of households in Mombasa have access to official waste management services (Wekisa & Majale, 2020). To address this service gap, the county government collaborates with both formal private companies and grassroots waste pickers (Otundo, 2024).

Private companies are typically registered as formal business enterprises and primarily operate as profit-driven entities. Their services are often concentrated in high-income suburbs and commercial establishments (Wilson et al., 2012). While these companies are generally effective in collecting and transporting waste to municipal dumpsites, they are rarely involved in promoting sound environmental practices, such as educating households on waste segregation (Aparcana, 2017). Furthermore, they place little emphasis on the recovery of recyclables. Rather than transforming waste into a valuable resource, a number of private companies largely function as conveyor belts, transferring unsorted, mixed waste directly to municipal

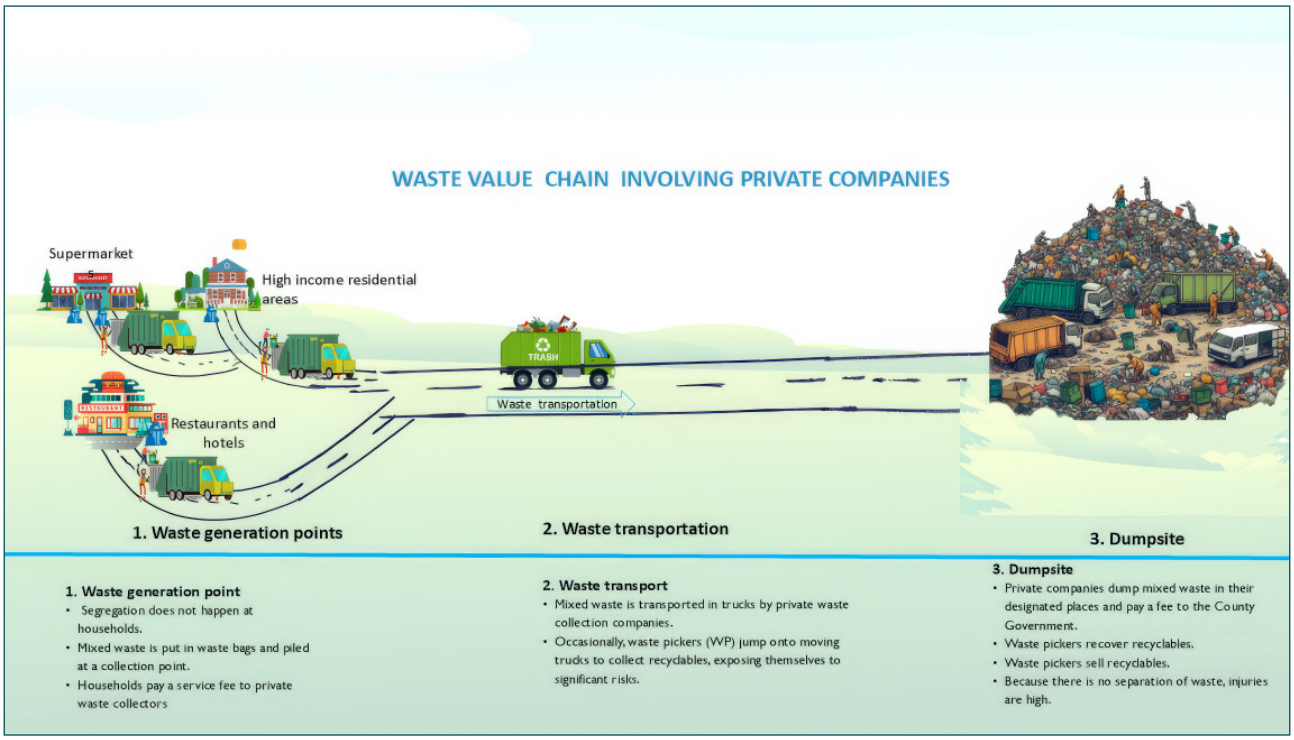

Figure 2: Waste value chain involving private companies

dumpsites (see Figure 2). Consequently, waste pickers are left to scavenge through waste piles to recover recyclables, exposing themselves to significant occupational health risks (Medina, 2007).

In contrast, waste pickers adopt a different perspective by re-imagining what state and market actors have discarded as waste into a source of value (Demaria & Shindler, 2016). They establish two primary value streams from their waste collection activities. First, they generate income by charging households a fee for waste collection services. Second, and often more significantly, they recover recyclable materials, which are then sold to recyclers or repurposed into crafts and artwork for resale to customers (Samson, 2015b). To enhance the efficiency of recyclable recovery, waste pickers actively engage with households by promoting waste segregation practices. They further incentivize participation by offering discounts on collection fees to households that comply with segregation guidelines (Gutberlet et al., 2013) (see Figure 3).

Grassroots waste pickers play an essential role in the waste management ecosystem, particularly in underserved areas. They recover recyclable materials from households, businesses, and dumpsites, and sell them to private companies or recycling processors. Despite their indispensable contributions to resource recovery and waste reduction, these waste actors operate under precarious conditions, facing low remuneration, occupational hazards, and the absence of legal protections. A major contributor to these vulnerabilities is their limited recognition and involvement in waste management policies and decision-making processes.

Figure 3: Waste value chain involving waste pickers

Methods

The study that informs this report adopted a participatory-action research methodology (Reason and Bradbury, 2008), grounded in the understanding that the iterative cycle of reflection and action can foster both knowledge generation and social change (Krumer-Nevo, 2009). We employed qualitative methods to collect and interpret data, acknowledging that our findings are context-specific and partial rather than detached or universally generalizable (Bryman et al., 2009; McKendrick, 1999). Our analysis was framed within the lens of deliberative democracy, with a particular focus on how participatory processes are enacted (Cornwall, 2002; Cornwall & Coelho, 2007; Gaventa, 2006, 2021), and their capacity to advance inclusive solid waste governance, particularly efforts aimed at reducing plastic pollution.

Fieldwork and data collection were primarily conducted between March and October 2024. We employed a variety of methods, including review of policies and regulations related to solid waste management and citizen participation; focus group discussions with waste picker groups; democracy labs; key informant interviews; participatory videotaping; and plastic brand audits.

1. **Review of Policies and Regulations.** We examined existing policies, plans, and actions developed by the Mombasa County Government to support sustainable and inclusive plastic waste management and to enhance stakeholder participation in governance. Documents were systematically sourced through official websites and obtained from county government officers. Particular attention was paid to how policies address the inclusion of grassroots waste pickers, community-based organizations, women, and youth. Table 1 lists the policy and regulatory documents reviewed.

2. **Focus Group Discussions.** Twelve focus group discussions (FGDs) were held with members and leaders of waste picker groups across the six sub-counties. These discussions provided a

Title of the document	Year
Mombasa County Solid Waste Management Bill, 2019	2019
Mombasa County Solid Waste Management Policy, 2019	2019
Mombasa County Solid waste Management Bill, 2021	2021
The Mombasa County Waste Management Bill, 2017	2017
Mombasa County Climate Change Action Plan for 2020-2024	2020
Ministry of Environment, Climate Change and Forestry Strategic Plan 2023-2027	2023
National Sustainable Waste Management Policy, 2021	2021
Sustainable waste management Act, 2022	2022
Sustainable waste management Bill, 2021	2021
Jumuiya Ya Kaunti Za Pwani 2030 Development Blueprint.	2021
The Mombasa County Climate Change Policy, 2021	2021
The Mombasa County Environmental Health and Sanitation Act, 2017	2017
Climate Change Bill 2024	2024
Climate Change Fund Bill 2025	2024
Mombasa County Ward Development Fund Bill	2024
Mombasa County Programme Based Budget Estimates Fiscal Year 2024/2025	2024

Table 1: Policy and regulations reviewed

platform to explore participant views on existing policies, their involvement in decision-making processes, and their ideas for enhancing engagement in the transition to a plastic-safe future. Empirical material from FGD were compiled by research assistants and later analyzed.

3. **Key Informant Interviews.** We conducted 18 in-depth key informant interviews to understand how the County Government of Mombasa engages with waste pickers and addresses their roles and needs in plastic waste management. Interviews were held with officials from county governments, civil society organizations, and grassroots waste picker groups. These interviews were then transcribed by research assistants and prepared for analysis.

4. **Democracy Labs.** Democracy labs as conducted here are citizen-centered initiatives that bring together diverse stakeholders to collaboratively design processes and make decisions, including those that reinforce the legitimacy of policies, outcomes, and participation. These labs create new public spaces rooted in inclusivity, transparency, and dialogue (Campos et al., 2024:367). They are increasingly recognized as innovative democratic practices for tackling complex social, economic, and environmental issues, particularly in contexts marked by inequality and decline of democracy (Campos et al., 2024). As a transformative research method, the Democracy Lab offers novel platforms and processes through which researchers, citizens, and policymakers can jointly explore and respond to pressing societal challenges (Xiang, 2023).

Researchers conceptualized and organized four democracy labs at different times, bringing together representatives of waste picker groups, county government officers responsible for solid waste management, officials from other government agencies, and members of non-governmental organizations supporting waste pickers and waste management efforts. To organize the democracy labs, we adopted the four-stage approach proposed by Campos et al. (2024). In the first stage, the researchers recruited participants from waste pickers groups. Waste picker groups were invited to propose and prioritize the issues they wanted addressed. Based on these priorities, they also identified relevant government agencies—and, where possible, specific officers—they wished to engage with. We then reached out to these government officials to invite their participation and requested that they nominate additional stakeholders, including representatives from other agencies and NGOs.

The second stage focused on preparing participants. This entailed researchers familiarizing them with the selected topic and agreeing on a neutral meeting venue, which was typically a hotel. The third stage involved the actual dialogue, which was moderated by the researchers. During these sessions, participants were encouraged by the researchers to share their perspectives and insights without resorting to accusatory language or defensive responses. To support open and constructive engagement, we formed working groups of participants with shared interests, helping to minimize confrontation and foster collaboration.

In the final stage, participants were guided by researchers to develop collective conclusions by generating actionable ideas aimed at resolving the identified issues and promoting inclusive decision-making. Researchers then conducted follow-up activities to track whether the decisions reached during the labs had been implemented, and to document outcomes. With the help of research assistants, the conversations during the democracy labs were compiled into notes for analysis.

5. **Participant Observation.** Participant observation enabled us to be part of the social and political world that the waste pickers are often part of or excluded from (Aktinson et al., 1998). Two research assistants, also residents of Mombasa County, attended and actively participated in public participation meetings, workshops, events, and conferences focused on plastic pollution and climate change organized during the data collection process. We supported representatives from waste picker groups in Mombasa County to attend and participate in six of these public events. This direct involvement allowed us to gain first-hand insights into the dynamics of participation, including who was involved, how participants were selected, the prioritization of issues, and the processes of contestation and decision-making. Observing these interactions provided valuable data to address research questions related to the inclusivity and effectiveness of civic engagement in environmental governance.

6. **Participatory Videotaping.** Participatory videotaping is a technique used in action research to involve grassroots or communities in shaping and creating their own film that communicates their own experiences, challenges or voice their concerns to authorities (Lunch & Lunch, 2006). The uniqueness of the technique is that it involves "non-professionals in making their own films as a means to engage communities, develop critical awareness, and amplify citizens' voices to discuss social problems that they prioritize" (Roberts & Muñiz, 2020:1195). It is a technique through which communities or grassroots, including the marginalized, can "speak truth to power" about their concerns with governance or official decisions (Varghese et al., 2020).

The research employed videotaping to capture the daily activities, techniques and interactions of 10 waste picker groups in their natural work environments. The video documentation process followed a participatory and iterative approach. Each participating waste picker group first identified the themes they wished to document. CEJAD communication staff

supported the groups in drafting and refining scripts through multiple iterations. Once the scripts were finalized, the groups specified the footage to be captured and invited CEJAD staff to assist with filming. Editing was undertaken by CEJAD digital content staff in close consultation with the waste picker groups. Following production, each group provided a narrative explanation of the film, outlining their motivations and the key messages and interpretations they intended audiences to derive.

This approach provided a visual and dynamic record of their innovative practices in plastic waste management. By observing their processes in action, such as sorting, repurposing, upcycling or community sensitization, we gained deeper insights into their creative problem-solving methods. The visual data facilitated detailed post-field analysis, enabling us to identify and understand innovations and democratic developments, that might not have been immediately evident during on-site interviews or observations. Videos were screened during local democracy labs to assist the County Government and other stakeholders to understand the needs of these grassroots organizations.

Data Analysis

We employed an inductive approach to analyze empirical data collected through documents review, interviews, focus group discussions, and democracy lab notes, following a three-step process (Charmaz, 2006; Glaser et al., 1968).

First, we read and examined transcripts, field notes, and lab notes detailing participants' experiences with the solid waste governance system and grassroots–county government interactions. This aimed to generate thematic lines related to the processes of creating participatory spaces. For each emerging theme, we created a dedicated file containing all relevant quotes, vignettes, and descriptions. These files were re-read at least three times to confirm, refine, or reject the identified themes. Most thematic patterns converged around three types of participatory spaces: invited spaces, created spaces, and co-created spaces.

In the second step, we developed an interpretive framework to analyze strategies of participation, particularly in relation to the research questions. The thematic files were revisited to identify deeper underlying patterns and relationships. Through this iterative process, we conceptualized policy engagement between the county government and waste pickers as unfolding across three participatory spaces: invited, created, and co-created.

In the third and final step, we conducted a comprehensive re-examination of the categorized material, searching for illustrative examples, excerpts, and vignettes that could help refine, challenge, or nuance our interpretive frames. The analysis of participatory videos followed a similar approach, consistent with established content analysis methods (Krippendorff, 2018).

Ethics consideration

This research received ethics approval from the Institutional Ethics Review Committee of Jaramogi Oginga Odinga University of Science and Technology (Approval No. ERC 44/7/24-03). Key ethical considerations included informed consent and participant confidentiality. All participants provided voluntary informed consent, and anonymity has been ensured through the use of pseudonyms to protect informants' identities.

Findings

Our findings are analyzed in response to the two research questions related to democratic spaces and their implications. In the following we identify and describe the democratic spaces that were observed, documented, and experimentally developed throughout the study (research question 1). These spaces are categorized based on the processes through which they are created and sustained—namely as invited, created, and co-created spaces (Gaventa, 2006; Cornwall, 2002; Miraftab, 2004). We also assess the extent to which these spaces facilitate the meaningful engagement between grassroots waste pickers and the Mombasa County Government in waste governance, with particular emphasis on initiatives aimed at reducing plastic pollution (research question 2). This analysis examines the democratic and participatory spaces through which grassroots waste pickers engage with local government actors in managing plastic pollution.

Invited spaces

In this section, we analyze arenas of participation that are established and sanctioned by national and county government laws to facilitate the development and implementation of policies related to solid waste management. These include spaces where waste picker groups and grassroots civil society actors are invited to engage in decision-making processes, typically within frameworks defined by government agencies, including predetermined rules, procedures, and agendas.

a) Community dialogues

Community dialogues are consultative forums organized by Mombasa County Government to dialogue with waste picker groups and other relevant stakeholders in their communities. Since they are not anchored onto any specific law, these forums serve as informal forums for mutual exchange and learning. They are ad-hoc and called on a need-basis. While these dialogues are not unique to the department for environment, they provide a platform for stakeholders to voice concerns and collaboratively explore solutions regarding solid waste management, within which plastic pollution are addressed.[1]

To increase wider citizen participation, community dialogues are typically held at the Ward level and in accessible public premises. These premises include county government social halls that are spread out in some of the wards within the county. These forums typify invited participatory spaces in that they are created by the county government, in this case the directorate for solid waste management. In addition, the agenda and mode of operation are often decided by the County Government officials. In a context marked by limited public spaces for negotiating democratic decision-making in waste management, waste pickers and civil society organizations (CSOs) have increasingly used community dialogue sessions to engage county officials on various issues. These include advocating for policy inclusion of waste workers, reducing waste management licensing fees, and improving infrastructure for waste collection and disposal.

For instance, during a community dialogue organized by the Directorate of Solid Waste Management in Likoni Ward in 2024, grassroots waste picker groups operating in the area voiced their need for additional garbage trucks from the County Government to prevent the accumulation of waste at collection points. The County Government responded by increasing the number of trucks to the areas. In an earlier dialogue held in 2023 at Tononoka Social Hall, oral testimonies from an umbrella body representing waste picker groups highlighted contentious discussions around the enforcement of standardized pricing for household waste collection services and the widespread issue of non-payment by households.[2] While these two issues do not fall directly under the mandate of the County Government, their discussion reflected the waste pickers' perception of the County's limited ability to regulate private sector involvement in solid waste management. In another community dialogue, waste pickers consolidated their voices to call upon the National Environment Management Authority

1 Interview with an officer from the directorate for solid waste management, on 24/05/2024.
2 Interview with an official of COBWAMM on 23/05/2024.

(NEMA) to simplify the licensing processes for waste handling and transportation. They proposed the introduction of a single, consolidated fee of KES 50,000 for material recovery activities, in place of the multiple separate charges currently in place.[3]

Kipevu Waste Managers, a waste picker group, for example, regularly organize community dialogues and invite county representatives. These interactions have led to concrete improvements, such as adjusting waste collection schedules after community complaints about uncollected waste causing foul odors and environmental hazards. Additionally, waste pickers have identified illegal dumping sites and successfully lobbied county officials to provide machinery and personnel to clear the waste.

Even though these dialogues provide a valuable platform for engagement, the interviews revealed several challenges that need to be addressed. A key concern raised by many waste picker groups was the lack of progression from dialogue to concrete action. For instance, while acknowledging the importance of community dialogues as a means of directly engaging with the County Government on matters of solid waste management, a male interviewee from a waste picker group in Mikindani emphasized that:

> *There is a need to maintain consistency of county government officials attending them [community dialogue] so as to realize progression into action. Equally important is for the county government to ensure adequate follow-up and timely implementation of actions agreed upon.*[4]

An official from the Directorate of Solid Waste Management noted that the consistency of organizing community forums—both with the general public and with waste pickers in particular—has been hindered by the absence of a legal framework that supports them, resulting in a lack of formal budget allocation.

b) Formalised public participation

Chapter 10 of the Constitution of Kenya recognizes public participation as a national value and a principle of governance, mandating the involvement of citizens in the decision-making processes of governing bodies. The national government developed the *County Public Participation Guidelines (2016)* to standardize the process across all the devolved units in the country. These guidelines outline principles of public participation and emphasize inclusivity, transparency, and accessibility, particularly for marginalized groups such as women, youth, persons with disabilities (PWDs), and ethnic minorities *(County Public Participation Guidelines (2016).*

Mombasa County has made efforts to institutionalize public participation by organizing forums where CSOs and waste workers are invited to review bills, policies, and plans. Throughout 2024, the County Government conducted public participation for key legislative and policy documents, including the Ward Development Fund Bill, the Mombasa County Budget Estimates for 2024/25, the Climate Change Bill, and the Climate Change Fund Bill. While there may be no obvious link of these legislations and fiscal plan to plastics pollution, they imbued some implications for waste pickers in the sense that they informed allocation of fiscal resources to solid waste management.

Preparations for public participation forums typically involves public announcements through various channels from the office concerned. The County Government through the department that is responsible for the topics under discussion decides and leads the agenda following the guidelines that are formally set for public participation. Comments are invited from the participants that should later be reviewed and considered by the County Government. Table 2 outlines some selected public participation sessions that waste pickers participated in during the research period in 2024 as well as input that they made, further illustrating their depiction of spaces for participatory democracy.

3 Interview with Kishoka waste picker group on 09/08/2024.
4 Comments from a leader of COBWAMM on 23/05/2024.

Document for public participation	Input by Waste Pickers
Climate Change Bill 2024 Climate Change Fund Bill 2025	The need to ensure representation from waste pickers in the County Climate Change Steering Committee and Community Climate Change Committee.
Mombasa County Ward Development Fund Bill	The need to consider waste management as a development activity and create a budget item in the Ward Development Fund to support solid waste collection, sorting and general reduction of solid waste pollution Ward level.
Mombasa County Program Based Budget Estimates Fiscal Year 2024/2025	The need to increase funds for the Department of Environment and Governance to support awareness campaigns and education on solid waste management including waste segregation.
Sustainable Waste Management Discussion in the town hall, Mombasa Edition	The waste pickers called upon the County Government to enhance its garbage collection efforts from waste collection points to dumpsites. In addition, they emphasized the need for NEMA to harmonize the licensing fees for waste handling.

Table 2: Public participation sessions where waste pickers were involved in

While formalized public participation offered waste pickers an opportunity to be part of the County's policy formulation process, several factors constrained the success of this objective. First, many waste pickers considered that their meaningful participation was hampered by what they termed as insufficient communication, especially that which related to information dissemination about an upcoming public participation session. For example, during a focus group discussion with a waste picker group in Kisauni, Bamburi a female official critiqued the invitation procedures and wished they could be more inclusive:

> *I hear they use radio announcements, sometimes internet advertisements but mostly through notices at the Ward Administration Offices. Many people don't see these notices. How will someone working at Mwakirunge dumpsite read those notices? I wish they could use grassroots channels. They need to make use of our waste picker groups. Many of us would come. Sometimes we get the message, maybe through radios, but too late when I have already planned my next days.*[5]

A second challenge was the limited understanding of complex and technical documents as illustrated in an interview excerpt with a NGO official:

> *You find that the documents are tabled on the very day of public participation. They are long, written in technical language and in English. [....]. You cannot blame the County Government for this because that is what the law requires them to do. Verbal translation into Kiswahli is done simultaneously, but insufficient. I think public participation guidelines should allow for people to be provided with popular or easy to read versions of the documents to be discussed.*[6]

Finally, time limitation underpinned by financial inadequacies was also identified to hinder elaborate engagement, especially considering that many of the public participation forums are planned to take one day in a ward:

> *Of course, it would be good if more time can be allocated for deliberations and if issues are not exhausted on the*

5 Notes from FGD held with Mtopanga River Conservation CBO in Kisauni 25/05/2024.
6 Interview with an officer from WWF-Kenya on 20/09/2024 in Nyali, Mombasa.

designated day, plans should be made to continue another day. Our people, especially those with little formal education, absorb these complex issues slowly. But these exercises have very little budgets and must operate within that environment of fiscal inadequacy.[7]

In summary, three main challenges emerged with formalized public participation as an invited space for participatory engagement:

1. Communication channels used by the County Government to publicize public participation meetings do not reach a number of grassroots waste pickers, especially those in hard-to-reach areas.
2. Documents are long and written in technical language that undermines understanding of waste pickers, especially those with little formal education.
3. Short times allocated for public participation due to financial constraints hinder elaborate deliberations.

Created spaces

This section analyzes democratic spaces that emerge through bottom-up initiatives led by waste picker groups including petition letters, office walk-ins, social media and phone communications. These spaces are strategically created by grassroots waste pickers to enhance their visibility and establish platforms for advocacy and resistance. We examine how waste pickers utilize these spaces to assert their agency and influence decision-making processes beyond formal institutional structures.

a) Petition letters to the County

One of the created participation strategies for County – waste pickers engagement is through written formal letters. This formal channel is widely used by some waste pickers groups to articulate specific needs and seek support from county governments. A key example observed in the study was the request by grassroots waste picker groups for access to county trucks to facilitate the transportation of waste from collection points and transfer stations to dumpsites, particularly during environmental cleanup initiatives. At least four waste picker groups—Muungano wa Old Town CBO, Kipevu Waste Managers, Safisha Group, and COBWAMM—advanced these requests, which were subsequently taken up by county officials. In acknowledging the infrastructural constraints faced by the groups, the county provided the requested trucks. Sentiments from an officer from the directorate of solid waste management during an interview confirms these successful incidences:

I received letters on different occasions with requests from the waste picker groups who we have registered. For example, we work very well with the group in Old Town and in Likoni. They once requested us to collect garbage from their collection points. There had been a slight delay due to trucks breakdown. We assisted.[8]

However, waste-picker groups in (for example) Likoni noted during a focus group discussion that slow responses—for example, to waste collection requests—often led to waste accumulating at collection sites for extended periods, sometimes even weeks, thereby heightening environmental and public health risks.[9] Although these delays are unintentional, their occurrence could occasionally erode the positive relationship between the county government and grassroots waste actors.

b) Office walk-ins

Grassroots waste workers and civil society organizations (CSOs) often communicate their needs via direct, in-person engagement with county officials. This informal approach involves physically visiting county offices to present requests and advocate for support.

However, in cases where this method was reported to be effective, existing familiarity between the waste workers or CSO representatives and county officials played a bigger role. Whenever strong rapport or prior

7 Interview with an officer from the Directorate of Solid Waste Management on 24/05/2024.
8 See note 7.
9 Notes from focus group discussion held with SafishaTimbwani Yetu Volunteers Group on 23/04/2024.

acquaintance existed between the two parties, county officials tended to respond more swiftly to the needs presented. Conversely, when the individual making the request is unfamiliar to the officials, responses are often slower or less forthcoming. The interview excerpt below with CAPAPO Solutions illustrates that the success of office walk-in engagements with the County Government is both contingent on the social capital of waste picker groups, and shaped by prevailing power dynamics. Perspectives abound that national and international organizations working on waste governance often enjoy greater access to spaces of influence within the County Government, thereby reinforcing the marginalization of waste picker groups.

> *We are still waiting for the feedback on the license's fees. We have been to the county offices several times to discuss the issue of the high cost of licenses which have not been reduced so far.*
>
> *Waste collection on our end has not been successful. We've approached the county offices to request reduced license fees, get a designated collection site within Majaoni and access to trucks for cleanups, but support is rarely provided. The county only responds when cleanups involve international or big organizations. When we organize cleanups independently, they don't assist us with trucks. Some groups consistently receive county support because of their close connections with officials, which we lack.*[10]

There was a widespread perception that national and international organizations working on waste governance—particularly those with financial resources—enjoy privileged access to spaces of influence within county governments, largely due to their positioning as development partners or donors. This dynamic can inadvertently reinforce the marginalization of waste picker groups, whose limited financial capital constrains their access to similar institutional spaces.

Moreover, some waste picker groups benefit from strong rapport between their leaders and county officials, while others without such connections report delays or limited support. While personal relationships can expedite county responses to waste pickers' needs, reliance on informal relational channels reflects and reproduces unequal power dynamics, selectively privileging certain groups and deepening existing social and economic inequalities within an already marginalized waste picker community.

c) Social media and self-initiated phone communications

Evidence of waste pickers creating participatory spaces through social media and unofficial phone calls emerged from interviews and focus group discussions, where waste pickers described self-initiated strategies to engage the County Government beyond formally sanctioned channels. Waste pickers used these strategies to demand accountability for gaps in waste collection and service delivery. A notable example is the Muungano wa Old Town CBO, which undertook sustained advocacy through Facebook to address persistent waste collection failures in its area of operation. Over several weeks, group members and community residents posted images and updates documenting illegal dumping and uncollected waste in the town center and Marikiti, publicly calling on county officials to act. Participants explained that the visibility and public scrutiny generated through these posts prompted county authorities to respond, leading to the eventual cleaning of the affected areas.[11] In this context, social media functioned as an informal accountability mechanism, enabling waste pickers to apply reputational pressure at times when they had less confidence on the effectiveness of formal enforcement avenues.

Similar practices were reported by members of the Community Based Waste Management Model (COBWAMM) and Safisha Timbwani Yetu Volunteers, who described routinely initiating phone calls to the Department of Environment and Solid Waste Management when they felt waste collection was delayed or incomplete.[12] While some improvements

10 Interview with officials of CAPAPO Solutions on 17/08/2024 in Mombasa.
11 Focus group discussion with Muungano wa Old Town on 16/08/2024 in Old Town, Mombasa.
12 Focus Group discussion with Safisha Timbwani Yetu Volunteers Group on 10/08/2024 in Likoni, Mombasa.

in monitoring and staffing by the county government were noted, operational challenges—such as trucks arriving already partially loaded—continued to result in waste accumulation at collection points. In response, waste picker group members contacted county officers directly to request the reassignment of trucks. These interactions show how waste pickers navigated informal and semi-formal communication channels to secure service delivery in contexts where they felt formal waste governance remained inconsistent.

Taken together, these cases demonstrate how waste pickers actively created participatory spaces through digital platforms and direct communication, asserting agency to shape service delivery and accountability. Rather than relying solely on invited or institutionalized mechanisms, these created spaces enabled waste pickers to articulate demands, respond to governance failures, and influence county government action. Importantly, these practices also reveal that waste pickers' engagement extends beyond income generation from recycling activities; they reflect a broader civic commitment to environmental cleanliness, public health, and plastic pollution reduction. In doing so, waste picker groups and community members emerge as active civic actors, contributing to more democratic and responsive forms of urban waste governance in Mombasa.

Co-created participation spaces

This part focuses on participatory arenas that are jointly established through collaboration between researchers, county government agencies, NGOs, and waste picker groups, including videotaping, plastic audit and democracy labs. Unlike invited spaces, which are initiated by government institutions, or created spaces, which are claimed by waste pickers, co-created spaces emerge through negotiated partnerships in which all actors actively contribute to shaping the agenda, processes, and outcomes. These spaces embody a more deliberative and dialogical form of participation, seeking to bridge power asymmetries and promote mutual learning and shared ownership of governance processes.

a) Videotaping and showcasing

Videotaping was a co-creation by CEJAD and grassroots waste pickers to shape local democratic practices. While CEJAD played a role in planning for footage shooting and editing the films to final products, the waste pickers exercised full autonomy in selecting the storyline and content of their films. They also retained the authority to interpret the significance and meaning of the films. The process of developing these videos yielded critical insights into how waste pickers use visual storytelling to challenge dominant discourses and stereotypes surrounding their identities and roles in solid waste governance. The films also served as tools for engaging authorities, effectively breaking down barriers that typically hinder their access to formal decision-making spaces. To illustrate these outcomes, we present two case study films that emerged from the videotaping exercise.

The first film is from Nuru Youth Development Forum who document their involvement in waste management in the unplanned settlements of Likoni, Mombasa. Through visual storytelling, the group emphasizes that the process of waste handling begins with them—not the County Government. The waste pickers' work involves collecting waste directly from households, particularly from residential dumpsites in areas that are inaccessible to County trucks. They pack the waste in gunny bags, as per County regulations, and transport it to a designated roadside waste collection centre. At this site, they sort the waste primarily to extract recyclable materials such as plastics, glass bottles, cardboard, and metals for resale.

The film recasts the significance of waste pickers in addressing plastic pollution in three key ways. First, by collecting waste from underserved and hard-to-reach areas, the youth play a crucial role in maintaining cleanliness in residential neighborhoods and preventing plastics from being swept into coastal waters during surface runoff, thus contributing to the reduction of marine plastic pollution. Second, the film illustrates how sorting activities reduce the volume of plastics destined for the Mwakirunge open

dumpsite, thereby helping to mitigate the release of carbon emissions associated with open burning. Third, the film demonstrates that waste pickers can and do comply with regulatory requirements, such as packing waste in approved containers and delivering it to designated transfer stations.

When asked why they chose this topic and narrative, one of the group's leaders explained: "We want to show the County Government that we are law-abiding people and that we respect County rules."[13] For the group, the film serves as a medium to highlight their contributions as well as a strategic effort to challenge prevailing stereotypes and affirm the identity of waste pickers as responsible and engaged citizens. In addition, the film communicates their urgent needs—particularly the absence of a designated space for sorting waste. Currently, they are forced to sort materials while simultaneously loading them onto County trucks, a practice that undermines both operational efficiency and personal dignity. This is a gap that the County Government could address, especially given that these waste pickers are directly supporting the County in fulfilling its solid waste management mandate.

A second example of how waste pickers used videotaping to create space for democratic engagement was the film recorded by the Mtopanga River Conservation CBO. A striking feature of the film is the group's demonstration of a functional boat (See Picture 1 below) constructed entirely by assembling plastic bottles recovered from the Mtopanga River and the coastal shoreline at Jomo Kenyatta Public Beach in Mombasa. Through this visual narrative, the group showcases their creativity and practical ingenuity, illustrating how discarded plastic waste—often seen as a symbol of environmental degradation—can be transformed into a valuable resource. Their innovation is not only symbolic; it is proven effective, as they are shown paddling the boat successfully across the water.

The members of the CBO use the film to communicate three key messages. First, they position waste pickers as grassroots innovators whose work yields both environmental and socio-economic benefits. By removing plastic waste from the river and coastal shoreline, they actively contribute to local ecosystem restoration and plastic pollution reduction. Second, they emphasize the scalability of their innovation, demonstrating that it is simple, low-cost, and responsive to the needs of local communities.

Picture 1: Left: A boat constructed by members of the Mtopanga River CBO using PET bottles collected from a public beach in Mombasa. Right: Conference participants testing the boat in coastal waters (Credit: CEJAD).

13 Discussions with Nuru Youth Development Forum on their film on 03/08/2024 in Likoni.

One member notes that their aim is to inspire artisanal fishers, whose livelihoods are threatened by marine plastic pollution, to see potential in reusing waste to build essential fishing vessels. Third, the film is a strategic tool for engaging relevant authorities—particularly the Kenya Maritime Authority, which regulates water vessels in Kenya.

In an interview, one of the group's leaders explained: "We have been told by the Kenya Maritime Authority that our boat is not licensed to transport people in water. We know that also. But we need them to acknowledge that this is an innovation of poor people, people at the grassroots. Instead of writing us off and killing our motivation, we want them to come and tell us what we need to do in order to meet the requirements of the law regulating water vessels."[14] This statement represents waste pickers' broader call for inclusive approach to plastic pollution reduction innovation—one that values grassroots waste pickers' ingenuity and supports pathways for compliance rather than exclusion.

Waste picker group	Short description of the film	Implications to democratic engagement
Nuru Youth development Forum.	Illustrates the process through which waste pickers supports County waste collection and plastic recovery in unplanned residential areas that are hard-to-reach for County trucks	Recognise that waste pickers subsidize County Government waste management roles. De-stigmatizes waste pickers by showing that they do comply with the law, but need support.
Mtopanga River Conservation CBO	Features the group's innovation in reusing plastic bottles recovered from Mtopnaga River and Jommo Kenyatta Public Beach to make a boat.	Recognise that waste pickers innovate simple, low-cost and scalable ways of addressing plastic pollution. Invites law enforcing authorities to support waste pickers to enable their innovations.
Muungano wa Old Town Group	Features grassroots efforts to enhance waste segregation at source in the Old Town area in Mombasa as well as recycling processes like shredding.	Creates awareness that waste pickers go beyond waste collection to educating households on waste segregation. Invites law enforcing authorities to support waste pickers to enable their innovations
Tunaweza PWD CBO	Features innovations by persons with disabilities in repurposing plastic waste.	Invites law enforcing authorities to have inclusive planning in approaches and infrastructure for plastic waste.
Safisha Timbwani Yetu Volunteers Group	Features grassroots efforts to enhance waste segregation at source in Likoni area in Mombasa	Creates awareness that waste pickers go beyond waste collection to educating households on waste segregation.
Mwakirunge Waste Pickers	Features the skills and knowledge of waste pickers at dumpsites in plastic value chains.	Emphasizes the need to involve waste pickers in EPR programs.
CAPAPO Solutions	Features the group's innovation in using recycled plastic waste to make eco desks and benches	Invite law enforcing authorities to allocate Budget and Grants for Grassroots Recycling

Table 3: Summary of films produced by waste pickers groups and implications on local democratic engagement in plastic governance

14 Discussions with Mtopanga River Conservation CBO on their film on 29/07/2024 at Jomo Kenyatta Public Beach, Mombasa.

b) Democracy labs

The democracy labs were co-designed as participatory forums through collaborative efforts involving CEJAD, waste picker groups, and representatives from the County Government. The thematic agenda of each Lab was established through a prioritization exercise led by waste pickers and guided by researchers, reflecting their lived experiences and immediate concerns. County officials were then invited to respond to the identified issues and determine their institutional capacity to engage. Emerging as co-created deliberative spaces, the democracy labs served five critical capacities in the civic and political lives of waste pickers: identity formation, challenging structural inequalities, demanding accountability, fostering resistance, and promoting education on plastic pollution and sustainable waste practices.

Democracy labs as sites for identity formation

A recurring theme across all four democracy labs is the struggle for recognition and dignity. Waste pickers consistently voiced a desire to be seen and treated with respect, particularly those with disabilities. Testimonies from waste pickers operating at the Mwakirunge dumpsite reveal a sense of invisibility and exclusion, often tied to lacking access to essential human rights. Participants described the absence of basic sanitation facilities and healthcare services, noting that many were forced to travel considerable distances to receive medical attention. The following quote from a waste picker from Mwakirunge dumpsite illustrates the point.

> *The sanitary conditions at the dumpsite are poor. There are no toilets or access to water and no nearby health facility, forcing us to travel long distances to access medical care. Waste pickers at the dumpsite are not given proper attention and are often referred to disrespectfully as "chokora" at the hospital.*[15]

The democracy labs also served as platforms for contesting exclusion from decision-making structures. During the first lab, waste pickers collectively demanded formal representation within key policy-making bodies, including the County Technical Working Committee under the Department of Environment and Solid Waste Management, and the County Climate Change Committee. For example, a strong voice of a waste picker recommended that:

> *There is a need to establish a committee within the department of Environment and Solid waste management with representation from both the CSOs and the waste pickers and also be part of the County Climate Change Steering Committee. This will ensure our participation in the county's planning and implementation processes and allow us to contribute our ideas effectively.*[16]

This demand was grounded in a call for procedural justice—to have their voices institutionalized in spaces that determine the rules governing their labor and livelihoods. In response, the Department of Environment and Solid Waste Management invited representatives from both waste picker groups and grassroots civil society organizations to join the County Technical Working Committee.

Asserting accountability and demanding government action

A strong demand for governmental accountability emerged in the second Democracy Lab, where waste pickers outlined concrete needs from the County Government. These included improved waste collection schedules, the provision of additional garbage trucks, and financial support to acquire tricycles for inaccessible routes. Several participants referenced prior election promises—particularly the pledge to provide tricycle trucks—as unfulfilled commitments. They further expressed frustration with the County's failure to adhere to the twice-weekly waste collection schedule, which they argued placed an additional burden on their already precarious work. Thus, the labs served as forums for negotiating service delivery and holding local authorities to account.

15 Comments from a waste picker from Mwakirunge dumpsite during a Democracy lab 28/03/2024.
16 Recommendation from a waste picker dumpsite during a Democracy lab 23/05/2024.

Spaces of resistance and political agency

The democracy labs also perform as sites of resistance against top-down reforms, particularly the County's proposals to privatize waste management services. In the final Lab, waste pickers voiced strong opposition to zoning and privatization plans, which they feared would curtail their access to waste resources and lead to widespread job losses, as captured in the vignette below.

> *We are not properly consulted on the plans and processes of privatization and again private companies have the automated systems that can support waste collection while we, waste pickers, only operate with handcarts. This makes us feel we can be left out of work by the new system which may only benefit the private companies.*[17]

These expressions of dissent were not merely reactive but reflected a deeper political consciousness—waste pickers called for inclusive decision-making processes, transparent deliberations, and protection of their livelihoods. The labs thus became vital arenas for expressing political agency and mobilizing collective action.

Spaces for education and mutual learning on plastic governance

Finally, the democracy labs were instrumental in facilitating two-way learning between government agencies and waste pickers. Agencies such as the National Environment Management Authority (NEMA) used the sessions to educate waste pickers on Extended Producer Responsibility (EPR) frameworks and their potential roles within them. The Department of Occupational Health and Safety emphasized the importance of ensuring safe and dignified working conditions for waste pickers, including those at Mwakirunge dumpsite. At the same time, waste pickers used the platform to share their experiences of regulatory and infrastructural barriers—particularly the imposition of tipping fees, high licensing costs, and insufficient collection points, which forced many to transport waste over long distances. By sharing these everyday experiences, waste pickers helped to create awareness on their socio-economic burdens and the need for inclusive, context-sensitive waste management reforms.

Capacities of democracy labs	Selected quotes from democracy lab notes	Outcome
Sites for identity formation	Waste pickers at the dumpsite are not given proper attention and are often referred to disrespectfully as "chokora" at the hospital.	Stigmatization of waste pickers is persistent and will require more efforts to address.
Challenging structural inequalities in solid waste governance	We are not properly included in the waste management decision making but are only sensitised after decisions have been made (Lab 1)	Waste pickers representative was incorporated into the County Technical Working Committee under the Department of Environment and Solid Waste Management.
Asserting accountability and demanding government action	Waste is not normally collected in Likoni. Can the County Government ensure that this is addressed (Lab 1) We raised our concern on the delays to collect waste in our collection point. We are here to mention that this has improved, and waste is collected (Lab 3).	Improvement in frequency of waste collection from the transfer stations by the county government trucks was reported in a subsequent Lab.
Spaces of resistance and political agency	Zonation of waste collection will impact our income levels or even block waste pickers from accessing high income suburbs where they expect to find more valuable recyclables (Lab 1).	The County Government put on pause zonation of the waste collection sites.
Education and mutual learning on plastic governance	WWF Kenya representatives provided information on how waste pickers can get involved in a waste segregation project piloted in Mombasa (Lab 2).	Waste pickers were involved in the EPR regulation formulation process.

Table 4: Capacities of democracy labs and outcomes

17 Resentments from a waste picker during a Democracy Lab held on 23/05/2024.

Discussion

To revert to our research questions, this study set out to examine the democratic and participatory spaces through which waste grassroots engage with local government actors in managing plastic pollution and their implications on a just transition to plastic-safe future, informed by the case of Mombasa. Specifically, it asked: a) What democratic spaces do grassroots waste pickers engage with local governments on matters of waste management? b) What are the implications of these participatory spaces in meeting the needs of waste pickers and supporting a just transition in efforts to reduce plastic pollution? In line with these two research questions, this section discusses our findings through the lens of our theoretical framework and the existing literature. We then offer conclusions and conclude with a set of final recommendations.

Participation spaces of engagement and their enabling conditions

We find that grassroots waste pickers and the County Government interact across a spectrum of participatory spaces that align with and extend Gaventa's (2006) typology of invited and created spaces. Building on this, we identify a new category—co-created spaces—which emerge through collaborative design between grassroots actors, civil society, and government institutions. Co-created spaces are not only indicative of participation-as-access, as discussed in deliberative democracy literature (Cornwall & Coelho, 2007; Gellers & Jeffords, 2018), but also embody participation-as-agency, a form of engagement in which grassroots actors actively shape agendas, challenge dominant governance logics, and mobilize local knowledge and creativity. This aligns with Gaventa's conception of power as dynamic and multi-dimensional, where agency is not limited to formal invitations, but is also expressed through the strategic occupation, reshaping, or co-production of participatory spaces, where grassroots actively co-create and preform policy, rather than being its passive recipient.

Furthermore, by mobilizing their situated knowledge and creativity, waste pickers contributed to diversifying the epistemologies through which plastic waste and waste management innovation are understood. Their practices expanded dominant imaginaries of innovation beyond narrow, technocratic conceptions of science and technology, reframing plastic waste as a resource through locally grounded experimentation (Buch et al., 2021; Tovar, L. F.; C. Velis, 2017). From a just plastic transition perspective, this epistemic contribution is not incidental but foundational: transitions that aim to be just must democratize not only outcomes and decision-making, but also the production and validation of knowledge itself (Jasanoff, 2004). As Fricker (2007) argues, justice is undermined when social groups such as waste pickers are systematically denied credibility or excluded from shared interpretive frameworks. In this sense, participation must enable the inclusion and recognition of the knowledge of actors who have historically been epistemically marginalized. Rather than being dismissed as informal or trivial, waste pickers used participatory spaces to assert epistemic authority and to demand state recognition and support for their innovations, illustrating how a just transition depends on correcting epistemic injustices and institutionalizing diverse ways of knowing as a basis for more inclusive and equitable waste governance. In this sense, participatory-as-agency reflects a deeper, more transformative form of engagement, consistent with grassroots innovation frameworks (Smith et al., 2016; Zapata Campos et al., 2020, 2023).

Invited spaces, such as formal public participation forums and ad hoc community dialogues, offer some degree of access for waste pickers but remain fraught with limitations. These include opaque communication strategies, exclusionary documentation, limited deliberation time, and weak follow-through on commitments. These challenges are not unique to the case at hand, as various research, for example, Kaseya and Kihonge (2016) and Nyaranga et al. (2019) have underscored the need for radical measures to enhance public participation in Kenya. As Cornwall and Coelho (2007) and Gaventa (2006) argue, such spaces are often governed by a top-down logic in which participation is permitted on the terms of the state, rather than on the basis of grassroots priorities. While they may institutionalize citizen input, they frequently fail to empower marginalized actors in substantive ways.

Moreover, these spaces are frequently deployed to fulfill legal or procedural obligations for stakeholder engagement, rather than to promote genuine dialogue or power-sharing. Invitations to submit memoranda, attend public hearings, or comment on draft bills may satisfy statutory requirements, but their actual scope for shaping policy, by waste pickers, is often limited (Newman et al., 2004). For many waste pickers, such engagements become a form of window-dressing—extracting visibility without affording influence (Cooke & Kothari, 2001). This phenomenon is referred to in institutional theory as decoupling (Meyer & Rowan, 1977), where participatory discourses are loosely coupled from actual practices to achieve legitimacy without enacting substantive change. Participation in these forums can thus become a ritualized exercise that legitimizes pre-determined decisions, rather than a transformative process grounded in lived experience and grassroots knowledge.

The risk of decoupling raises fundamental questions about the capacity of invited spaces to support a just transition. A transition to a plastic-safe future that merely invites historically marginalized actors to observe or endorse pre-made decisions—without structurally integrating their voices into policymaking—risks reproducing existing power asymmetries (Heffron & McCauley, 2018). We argue that a just transition requires more than inclusion; it demands institutional reform that enables waste pickers and other peripheral actors to co-create the very policies that affect their labor, environment, and livelihoods (Stirling, 2014).

Created spaces, including grassroots use of social media, formal petition letters and government office walk-ins, illustrate the capacity of waste pickers to construct alternative platforms for influence. These grassroots innovations serve both tactical and symbolic purposes—enabling waste pickers to assert agency, build collective identity, and reframe dominant narratives about their role in waste governance. We therefore argue in line with Smith et al. (2016) and Zapata Campos et al. (2023), that these "extreme niches" are not merely coping mechanisms but incubators for socio-technical and democratic transformations.

Over time, such strategies gain traction by leveraging social capital—the networks, trust, and informal relationships that facilitate cooperation and enable access to institutions (Putnam, 1993; Woolcock & Narayan, 2000). Initially, this may take the form of bonding capital within waste picker groups, built on solidarity and shared experience (Woolcock & Narayan, 2000). As their organizing matures, waste pickers often develop bridging capital by forming relationships with key individuals in government and NGOs (Woolcock, 2001). Literature is replete with analysis of these participatory spaces, often under the lens of waste pickers as social movements. Examples include 'recycling networks' that spans the scales of local, national and global contexts (Gutberlet, 2020; Zapata Campos et al., 2021). Other examples from West Africa include waste picker unions who mobilize around the notion of labour as a key component of waste infrastructural systems and use infrastructures as a vital tool for forging collective identities and mobilizing political action (Fredericks, 2018).

In this study, the effectiveness of locally created spaces hinges on the degree of personal familiarity between waste picker group members and government officers. Groups whose leaders or representatives are personally known to government officials—through prior engagements, long-standing interactions, or shared community ties—are more likely to have their concerns heard and acted upon. These forms of recognition create informal channels of influence that can bypass bureaucratic obstacles (Cleaver, 2005; Joshi & Moore, 2004) or rooms to manoeuvre prohibitive formalities (Long, 2015). By contrast, groups lacking such familiarity often find that their letters go unanswered, their visits postponed, and their policy suggestions sidelined, leading to risks of patronage, brokerage and political clientelism, where access becomes contingent on alignment with powerful actors within the communities, or "grassroots" (Zapata Campos et al., 2023).

Accordingly, in contexts where social capital fails to

develop or gain institutional recognition—due to fragmentation within waste picker communities, lack of access to decision-makers, or distrust between actors—these created spaces often struggle to translate into meaningful policy influence. Without strong relational networks and pathways to formal power, such initiatives risk remaining peripheral, symbolic, or isolated, lacking the momentum needed to shift institutional priorities or catalyze systemic change (Gaventa, 2021). Thus, while created spaces hold potential for grassroots policy engagement, we argue that their success is uneven and highly dependent on relational proximity to government and other actors of higher hierarchies and risks exacerbating inequalities.

Co-created spaces, exemplified by participatory videotaping and the democracy labs, offer a different pathway for transformative participation. These spaces blend top-down and bottom-up modalities, enabling waste pickers to shape agendas and decision-making processes in collaboration with government actors, research groups and civil society organizations. They respond to critiques of both invited and created spaces by fostering mutual accountability and shared ownership (Utter et al., 2021). These may include partnerships between local governments and waste picker organizations for the co-production of services. Experiences from several Latin American countries—including Brazil, Colombia, Chile, and Argentina—demonstrate how public–community partnerships have been leveraged to institutionalize waste pickers' roles through the formal recognition of labor rights and compensation for the environmental and socioeconomic services they provide (Rosaldo, 2018). These cases illustrate the potential of such arrangements to move beyond ad hoc inclusion toward more durable governance models that integrate waste pickers as legitimate actors within urban waste management systems.

Intermediary actors such as researchers and civil society organizations play a critical role in the processes that reshape and co-produce spaces of participation. Depending on the actor, their roles may include conceptualizing initiatives, facilitating reflexive iteration, mediating conflicts between local governments and waste pickers, and mobilizing both financial and technical resources to support implementation. As we have argued elsewhere (Zapata Campos et al., 2021), our findings from Mombasa reaffirm that, regardless of where the initiative to create participatory space originates, co-created spaces emerge through multidirectional and relational processes. External actors—such as researchers and civil society organizations (CSOs)—often move inward to catalyze and sustain co-creation by enabling more horizontal forms of knowledge exchange. Simultaneously, these spaces allow grassroots actors to influence, reframe, and redirect the agendas of their supportive allies (Zapata Campos et al., 2021). For instance, through democracy labs and participatory films, waste pickers—supported by CEJAD and other CSOs—reworked the notion of a just plastic transition from an abstract global policy discourse into a locally grounded political project with tangible implications for county-level governance and everyday practices.

Co-created spaces in plastic governance draw heavily on the dynamics of grassroots innovation movements, which emphasize experimentation, reflexivity, and the building of alternatives from below. Much like the "laboratories and niches for innovation" described in grassroots innovation studies (Seyfang & Smith, 2007; Smith et al., 2016), democracy labs and participatory video processes function as locally embedded arenas where new ideas and practices are tested, incubated and refined. By co-producing processes, narratives, and practices together with civil society and local government actors, waste pickers craft institutional niches that challenge dominant hierarchies of urban waste management. In this sense, co-created participatory platforms parallel grassroots innovation laboratories: they enable marginalized actors to experiment with solutions, negotiate meanings, and prototype alternative forms of governance that recognize waste pickers as ecological actors and political subjects (Zapata Campos et al, 2023). These emergent governance innovations expand the repertoire of urban democracy and anchor the

possibility of a just transition toward a circular plastic economy.

Implications of the co-created spaces on the needs of waste pickers

Prior studies have emphasized that co-created participatory processes are critical for embedding justice and equity in environmental governance (Gellers & Jeffords, 2018; Pickering et al., 2020). In our study, both participatory videos and the democracy labs acted as spaces for negotiating meanings and building capacities, enabling waste pickers—together with civil society, researchers, and local authorities—to build collective agency and engage more substantively in local governance. These meanings and capacities relate to the strengthening of waste pickers' metabolic contribution (DeMaria, Vico and Fernández Gabard, 2025) and their crucial eco-systemic roles (Millington and Lawhon, 2019), but also to forms of identity-based resistance (Zapata Campos et al., 2023) against "epistemic dispossessions" (Samson, 2015a). In doing so, these co-created spaces challenge structural inequalities in solid waste governance and contribute to reconfiguring the meaning and role of the "public".

Firstly, the consolidation of these co-created spaces helped negotiating the meaning and significance of waste pickers work, particularly in the face of what DeMaria et al (2025) term the "recycling paradox". While waste pickers make critical yet uncompensated contributions to sustainability—such as recovering up to 60% of recycled plastics globally (Lau et al., 2020) — they are increasingly excluded by modern waste policies (e.g. De Maria et al., 2025, document over 70 conflicts on how modern waste policies marginalise waste pickers across Africa, Latin America and Asia that illustrate how contemporary waste policies continue to marginalize waste pickers). In our study in Mombasa, co-created spaces have begun, albeit modestly, to consolidate the role of waste pickers in providing essential environmental services, particularly in underserved and hard-to-reach areas. These spaces also help make visible how waste pickers' work contributes to reducing the volume of plastics that are landfilled helping mitigating carbon emissions.

Secondly, and in close relation to the first renegotiation of meanings, by co-creating these spaces waste pickers reframe their social and occupational identities as "creators of value, as ecological actors playing crucial eco-systemic roles, and as workers who save municipal governments already scarce financial resources" (Millington and Lawhon, 2019, p.1048). Through democracy labs and video production, waste pickers challenge dominant narratives that portray their work as unskilled, illegal and marginal. Instead, they assert themselves as ecological actors, skilled laborers, and value creators who contribute to public service and environmental sustainability. This process reflects what Samson (2015a) calls "ontological insurrection", that is a resistance, to "epistemic dispossession"—the systematic devaluation and stigmatization of waste pickers' knowledge and practices. By reasserting their work as legitimate and skilled, waste pickers disrupt narratives of inferiority and position themselves as actors with agency and technical insight.

The emergence of what Castells (1997) terms "resistance identities" was central to this reconfiguration. Waste pickers, stigmatized and excluded, forged collective identities based on shared values, reclaiming their right to innovate and define their contributions. Drawing from examples in South Africa (Samson, 2015b), Senegal (Fredericks, 2018), and Nicaragua (Zapata Campos et al., 2023), epistemic, religious and spiritual identities have been mobilized to transform waste picking into a domain of knowledge production and moral virtue (Zapata Campos et al., 2023), rather than a stigma. Here, the stories of resilience and sense of injustice narrated by waste pickers, e.g. through the participatory video-taping spaces and the dialogues during the democracy labs, contribute to transform passive, stigmatised waste pickers into political subjects with agency to resist (Scott, 1985, Zapata Campos et al., 2023).

These emancipatory identities are deeply entrenched with the practices of self-research that these co-produced spaces facilitate (e.g. participatory videotaping of waste pickers claims, self-mapping

of innovations, and plastic-brand audits). This self-research generates self-knowledge, in a field where even local government lack systematic data. Self-knowledge awakens consciousness of their environmental contributions and is issued as scientific evidence when negotiating policies in labs, using technologies of power more typical of the powerful (Zapata Campos et al., 2021). Such self-knowledge is both empowering and insurgent. It is empowering since, as Appadurai explains, it "takes this power away from external agencies such as the state and puts it back to where it truly belongs, which is within the community itself" (Appadurai, 2012, p.640). It shifts the center of expertise from the state and large corporations to poor urban communities. It is also insurgent, as it emanates from the informal settlements and the informal economy where the urban poor constitute, in Holston's words, "a more autonomous sphere of self-interested and competent citizens" (Holston, 2009, p.258).

Such collective resistance emerges most powerfully when their innovations are contested, for example the government refusing to license boat made from PET bottles, or ridiculing their innovations, catalyzing new forms of solidarity and political awareness. By asserting their right to innovate and be recognized as skilled and ethical actors, waste pickers challenge systemic exclusion and forge alternative pathways to justice and inclusion within urban environmental governance. This aligns with how Bayat describes that collective resistance emerges, only when individual and more invisible resistance of the quiet encroachers is threatened and risks the access to waste, that consciousness and reflexibility about the political character of their actions arise, often as a result of collective resistance or defence (Bayat, 1997, Zapata Campos et al., 2023).

Thirdly, waste pickers utilize co-created participatory spaces—such as democracy labs and community video screenings—as platforms to contest entrenched structural inequalities in urban solid waste governance. Dominant policy frameworks often uphold a linear vision of modernity and simplistic view of democracy, privileging high-tech solutions like incineration, engineered landfills, shining waste-trucks, and corporate-led recycling, while dismissing informal waste work as primitive and undesirable. As a result, waste pickers receive little to no financial or technical support and are marginally excluded from governance processes. In response, they engage in what Moore (2009) terms the politics of manifestation—making their labor and creativity visible in ways that provoke authorities to confront their own exclusionary practices. Waste pickers' every day, low-tech innovations—such as floating boats ingeniously constructed from PET plastic bottles, or shopping baskets woven from discarded plastic sheets—become political artifacts. These playful yet functional creations expose the biases of a system that privileges, corporate solutions while ignoring the resourcefulness of the marginalized.

These seemingly "silly" innovations serve as what Samson (2015b) calls "visceral, visual denunciations" of the failure of modern waste governance to deliver inclusion and justice. By deploying waste in highly visible, unconventional ways, waste pickers subvert dominant "world-class city" and "modern recycling" imaginaries (Sseviiri et al., 2022, Zapata Campos et al., 2023), which are often used to justify the closure of dumpsites (e.g. Bjerkli, 2015; Mbah et al., 2019) and deny access to recyclable materials. These acts of creative engagement with local authorities assert not just access to waste, but also the right to innovate, to be seen, and to participate in shaping the urban future. Their work renders visible the contradictions of contemporary urban modernity: while elites dream of sleek infrastructures, it is the so-called primitive innovations of waste pickers that reveal the labor, knowledge, and ecological contributions holding the city together (Zapata and Zapata Campos, 2015). In making waste and waste work visible through (seemingly) simple objects, waste pickers lay claim to both the physical and symbolic "right to the city." (Moore, 2012).

Finally, the participatory engagement between waste pickers, local government, and civil society organizations in the democracy labs serve as a powerful mechanism for enhancing accountability in urban solid waste governance. These labs exemplify what Fox (2015) describes as "strategic social

accountability," wherein collective action from below is mobilized to address systemic failures in public service delivery. When waste pickers articulate specific and actionable demands—such as improved waste collection schedules, additional garbage trucks, and financial support for tricycles to access narrow or informal routes—they demonstrate a deep, experiential understanding of the urban waste system. Rather than functioning as tokenistic consultations, the democracy labs emerge as spaces of co-production and negotiation, redefining the relationship between informal workers and local authorities, and by extent, expanding the "public sector and the public sphere" (Samson, 2015a). This expansion of "the public" transforms relations between the local government, formal economy, informal economy, and residents, and contributing to the forging of a more inclusive, participatory, and democratic state (Samson, 2015a).

Yet, co-created spaces are not without limitations. Their durability depends on sustained facilitation, trust-building, and institutional responsiveness. Another limitation is that co-created strategies often take time to gain traction. The process is inherently iterative—requiring learning, unlearning, and re-learning—not only among grassroots actors but also among government officials. Such iterative engagement demands both financial resources and sustained motivation. Keeping both government officers and community participants engaged over time is difficult without predictable support and incentives. We argue that for co-created spaces to be effective in the long term, they must be underpinned by resource commitments and policy mechanisms that institutionalize their relevance and provide continuous support. Without these, co-created spaces risk reverting into consultative performances. Co-created spaces also resemble what Gibson-Graham et al. (2016, p.194) have called "multi-species communities", in which organizations with antagonistic interests converge temporarily. While county officers and waste pickers collaborate in these spaces, these collaborative strategies are typically simultaneous to police persecution and contested tactics (Zapata Campos et al., 2021).

While participating in co-created spaces bring in empowerment and emancipation, it also carries risks of collaborating with "strange bedfellows", with many internal tensions to navigate as well as risks of waste pickers being co-opted either by municipal or corporate actors (Roy, 2009). Risks of patronage, brokerage, political clientelism has been broadly documented in the previous literature (Zapata Campos et al., 2021).

The arguments here reaffirm the imperative of moving beyond tokenistic inclusion toward genuinely transformative participation in waste governance. As Baber & Bartlett (2020) emphasize, democratic environmental governance must expand its moral and institutional boundaries to accommodate the voices, but also knowledge, of those most affected by environmental harms. In the context of Kenya's evolving plastic regulation and Extended Producer Responsibility (EPR) frameworks, for example, this means embedding the insights, innovations, and labor of waste pickers within policy processes—not as afterthoughts, but as co-designers of solutions and policy.

Conclusion

To conclude, this report has examined the democratic and participatory spaces through which waste grassroots engage with local government actors in managing plastic pollution and their implications. Drawing on the frameworks of environmental democracy and grassroots innovation, the findings illustrate how waste pickers and the Mombasa County Government negotiate decisions, ideas and perspectives across a spectrum of participatory spaces—navigating power, claiming recognition, and contesting exclusion. While invited spaces offer limited but symbolic opportunities for input, created spaces emerge as vital platforms for innovation and resistance. Most significantly, co-created spaces such as the democracy labs demonstrate the potential for inclusive, context-sensitive governance, where participation is not merely symbolic but substantively negotiated.

We contend that a just transition in plastic governance requires more than regulatory reform; it demands reconfiguring the political and institutional architectures through which decisions are made. This includes establishing participatory mechanisms that are not only accessible and representative but also capable of addressing historical marginalization and systemic inequalities. For Kenya, and indeed many parts of the Global South, integrating the knowledge, practices, and political agency of waste pickers is not just a matter of justice—it is essential for the success and sustainability of plastic pollution governance.

Recommendations

Drawing on the analyses in this report, we make the following recommendations.

1. Local governments could formalize co-created platforms, such as democracy labs, within waste governance structures to support inclusive and sustained engagement in plastic pollution reduction.

2. National and local governments should ensure waste picker organizations are systematically included in the design and implementation of Extended Producer Responsibility (EPR) and plastic regulation frameworks.

3. Local and national governments, as well as development partners should establish long-term financial and logistical support for participatory processes that require iterative learning, unlearning, and re-learning to keep both grassroots actors and government agencies engaged.

4. Local and national governments together with non-state actors should monitor and evaluate how grassroots innovations influence plastic waste policy outcomes over time, identifying barriers and enablers of uptake.

5. Future researchers could investigate how power asymmetries and social capital dynamics affect the ability of waste picker groups to access and influence plastic governance spaces.

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