

[Check for updates](#)**AUTHORS:**Marc Kalina^{1,2}
Catherina Schenck³ **AFFILIATIONS:**¹Department of Mechanical and Process Engineering, ETH Zürich, Zürich, Switzerland²School of Engineering, University of KwaZulu-Natal, Durban, South Africa³DSI/NRF/CSIR Chair in Waste and Society, Centre for Interdisciplinary Studies of Children, Families and Society, University of the Western Cape, Cape Town, South Africa**CORRESPONDENCE TO:**

Marc Kalina

EMAIL:

marc.kalina@gmail.com

HOW TO CITE:Kalina M, Schenck C. What a mess: Rethinking municipal waste management 30 years into South African democracy. *S Afr J Sci.* 2024;120(11/12), Art. #18995. <https://doi.org/10.17159/sajs.2024/18995>**ARTICLE INCLUDES:**

- Peer review
- Supplementary material

KEYWORDS:

solid waste management, governance, South Africa, inequality, service delivery

PUBLISHED:

30 August 2024



What a mess: Rethinking municipal waste management 30 years into South African democracy

Significance:

Within South Africa, local governments hold the mandate for providing waste management services. Unfortunately, 30 years into our democracy, reliable waste management services remain out of reach for vast segments of the population – a situation which contributes to environmental degradation and increased inequality. Safeguarding service delivery and addressing inequalities requires deep structural changes and a rethinking of our waste management systems. This must include the decentralisation of waste management services to incorporate all stakeholders within the waste value chain, the depoliticisation of local government, and reconsideration of the financial model to allow for a basic level of services to all.

Introduction

In March 2024, members of the South African Municipal Workers' Union (SAMWU) engaged in a period of strike action in eThekweni Metropolitan Municipality that saw severe disruptions to basic municipal services, including refuse collection. In the absence of waste management services, uncollected refuse littered the street, with piles of black bags stacked outside homes and loose pieces of rubbish blown about by the wind and scattered from torn bags, choking pavements and green space (Figure 1). Durban's streets had never been dirtier. No community was unaffected, with rich and poor neighbourhoods alike experiencing service disruption. Yet, although all experienced the strike, its impact was not felt equally. Affluent communities were able to minimise the impact through privatised cleaning and collection services and the ability to bring uncollected refuse back inside (facilitated by the understated luxury of space). However, within eThekweni's informal communities and townships, where municipal waste collection was already irregular or inadequate, uncollected refuse contributed to ever-growing informal dumping grounds. Already a common reality within poor communities, these dumpsites expanded and then overflowed during the strike, washing untold tons of waste into rivers and streams, and transforming vibrant communities into squalid and unsanitary slums.

Although the strike was eventually called off and municipal workers returned to start clearing out the collection backlog, impacts of the strike have lingered, even months later. This is audible in the growing scepticism expressed by ratepayers across the municipality, where communities are reluctant to return to a status quo where disruptions within the municipality can cause such havoc on their streets. Yet, the impacts are even more tangible in low-income communities and informal settlements like Johanna Road, which remain filthy and where dumpsites have only grown since March 2024.

Within South Africa, municipal governments hold the mandate for providing waste management services to all communities.¹ However, strike action aside, South Africa's municipalities have become increasingly unreliable service providers. Plagued with a decreasing taxpayer base relative to the population and increasingly fragile municipal governance and financial management, the financial integrity of South Africa's municipalities has been in



Figure 1: An unemptied bin overflows in Durban's Bulwer Park.

an alarming decline.² Furthermore, although South African municipalities have made major strides in addressing waste management service delivery gaps since the start of democracy and extending solid waste management services to many previously underserved communities, inequality still underpins access to waste management systems across the country, determining who can or cannot access or provide sustainable services. For the millions who live within urban informal settlements or within the countless rural communities stretched across the country, any municipal waste management services, let alone reliable or regular services, remain a distant prospect.³ As the expansion of sufficient municipal waste services into underserved communities remains unlikely within the near future, and the increased fragility of municipal finances threatens to disrupt service delivery within communities where it is already established, we must ask: is this a system we can continue to rely on, and, more importantly, did it ever work for the majority to begin with? Or is it perhaps time to consider alternatives to the centralised waste management services that we have come to expect as *de rigueur* in South Africa's urban areas, and to explore new solutions for communities where municipal services have always been out of reach?

Municipalities and waste management

As noted, within South Africa, local municipalities hold the mandate for providing waste management services to communities. At the national level, the Department of Forestry, Fisheries and the Environment (DFFE) is responsible for the drafting of legislation and regulations that set national norms and standards for waste management, while the respective provincial departments are the responsible licensing authorities for waste management activities and facilities, such as landfills. However, it is the municipality that is ultimately responsible for implementing waste management service delivery.¹ Financed primarily through local tariffs for waste services (such as landfill gate fees, which are also set by each municipality), and supplemented by allocations from property rates, it is local and metropolitan municipalities that provide waste management services, such as waste collection, waste disposal, street cleaning and any waste minimisation or recycling efforts.¹ District municipalities hold very little of this mandate, but are responsible for bulk infrastructure that may be used by more than one local municipality.

Unfortunately, South Africa's municipalities have increasingly struggled to deliver on their service delivery mandate. This is particularly true within local municipalities, which are home to almost 40% of the country's population, where a combination of compounding factors ranging from urban migration, skills shortages and, most importantly, poor financial management have had serious impacts on municipal capacity and financial integrity.^{4,5} Although observers have been drawing attention to these trends for more than two decades, and municipal integrity has been a challenge since the official start of democracy in 1994, the deterioration in municipal stability seems to have accelerated since the COVID-19 pandemic.² For instance, for the 2021/2022 financial year, only 38 out of 257 municipalities achieved clean audits – a further decline from the already abysmal 41 clean audits the previous year.⁶ Although this is not as low as the figure in 2010/2011, when only five municipalities received clean audits, it represents a reversal from modest improvements shown in the late 2010s, which peaked at 48 clean audits achieved in the 2016/2017 financial year. Furthermore, as of 2023, nearly two-thirds of South Africa's municipalities are under financial stress, and, despite efforts by the National Treasury to assist embattled municipalities in the immediate post-COVID-19 period, it is expected that the financial situation of most beleaguered municipalities is likely to continue to deteriorate.⁷

The consequences of this steady deterioration in municipal finances have been increasingly dysfunctional municipalities, manifesting in crumbling municipal infrastructure, administrative instability, declining standards of living and, notably, increased service delivery failures.⁷ Although the full implications of the disintegration of the South African state at the municipal level for waste management service provision, in particular, and service delivery more broadly, have yet to be fully understood, some consequences have begun to manifest clearly. For instance, internationally, the increased hollowing-out of public service provision has been observed to degrade the quality of public services⁸

and to work to the exclusion of those unable to pay, restricting access for low-income individuals⁹. These trends have also been observed in a broad swath of distressed municipalities across the country. For instance, in Makana in the Eastern Cape, municipal collapse contributed to privatised collection for those who could afford to pay, and no collection for those who could not.² It has also manifested through persistent illegal dumping and non-enforcement of bylaws in rural municipalities such as Maruleng in Mpumalanga and Hantam in the Northern Cape.^{3,10,11} Although these examples remain exceptions, trends suggest that they may be an indication of what is in store for all South Africans. If South African municipalities continue to retreat from their service delivery mandate, what are the consequences for South Africa's citizens who rely upon municipal systems daily? Furthermore, as an increasing number of citizens are able to turn away from the state – either through privatisation, migration or non-payment – what are the implications for municipal systems that rely on rates and fees to keep services running? Finally, for those who have already slipped through the cracks of municipal service, or for whom regular waste collection has always been a luxury, what are the consequences of increasingly inaccessible services and increasingly exclusive alternatives?

Waste management inequalities

Inequality determines access to waste management systems across the globe, defining who can or cannot provide or access services.^{12,13} This is particularly true within South Africa, where inequality is deeply rooted in immense historical injustices and continues to leave an indelible (and highly visible) stain on our society. South African municipalities are characterised by inequality, and so are the services they provide. For instance, nearly half of the country's population continues to lack access to waste collection services, predominantly in non-white communities and historically marginalised rural and peri-urban areas.^{11,14,15} Even within better-served metropolitan municipalities, vast sections of our urban populations are denied access to adequate or even basic waste management services, based on either their inability (or presumed inability) to pay property rates, or their lack of title to their land.¹⁶ This inequality has been well documented within township settings, as well as within informal settlements^{2,17}, which include the growing (and precarious) communities often founded illegally on municipal land¹⁸⁻²⁰, and, as in the context of Cape Town's 'backyarders', informal structures erected on the property of formal homes – often in the backyard¹⁰.

As mentioned, since 1994, the South African state has made major strides in addressing service delivery gaps rooted in historical inequalities. Yet, despite this progress, it is evident that municipal waste management structures have never really worked for vast sections of the population and, despite 30 years of democracy, have largely failed to provide adequate, relevant or appropriate services to rural or low-income communities. Although those of us within formal communities who benefit from regular waste collection may still decry the deterioration of municipal services, the loss is felt most severely in the country's declining prospects for addressing this inequality. There is growing evidence that the retreat of the state in waste management service provision will drive inequality, and, although we lack a clear understanding of how these inequalities will manifest and how severe their impacts will be, a few points have become apparent.

First, disruptions in waste management services are an inconvenience for the affluent, but for the poor it can be catastrophic, endangering public health and threatening our goal of creating healthy human settlements. This difference was clearly discernible within Durban's 2024 strike action, as well as earlier in Makana, which saw Makhanda's townships transform into "slums" and "dumpsites" as a consequence of the suspension of municipal waste collection services.²

Second, as public services deteriorate, the wealthy are largely able to supplement gaps in coverage with private service providers, while the poor get left further behind. For waste management, this has largely manifested in private collection and cleansing services, either individually arranged or coordinated through private housing estates, Urban Improvement Precincts, City Improvement Districts, or other ratepayer organisations. Although eThekweni may have suspended official collection and cleansing



services during the strike action, in affluent areas like uMhlanga Rocks, street-cleaning activities continued as usual and residents in gated housing estates would have seen their refuse bags collected like normal.

Although this creeping privatisation of waste services has shown clear benefits for those who *can* pay, it raises a number of serious concerns. First, privatisation globally has been found to lead to poorer quality services overall, and especially so for the poor who *cannot* afford to pay and are often excluded from services altogether.^{8,9} Within South Africa, neoliberal approaches to public service provision have been observed to work to the detriment of the poor who cannot afford privatised services, compounding inequality in services received.^{21,22} Furthermore, the ongoing commodification of waste in metros like Tshwane, Johannesburg and Cape Town, has encouraged private-sector participation in recycling and circular economy efforts, but has worked to exclude the poorest from participating within waste and resources markets.^{23,24} Finally, although the private sector may fill gaps in service provision in a useful way, once municipalities cede their mandate, that mandate can be tough to claw back, with Santos²⁵ arguing that privatisation is akin to a one-way street and that the 'restatisation' of services can be a challenge once the private sector has been admitted.

Therefore, although the private sector certainly has a large role in waste management service delivery, and many South African citizens are justifiably wary of their local municipalities, the private sector alone will not produce a more equitable service delivery landscape. If the state is unable to provide services, and the private sector is unwilling to provide services to those who cannot pay, then what alternatives remain? If we tie waste management service provision to an individual's ability to pay, we must accept the reality that the majority of South Africans cannot afford to pay for waste management services, and therefore will not be able to access them.²⁶ Moreover, if we continue to deny individuals and communities access to basic waste management services, then we must accept the inevitability of continued environmental degradation, as well as the erosion of our democratic project that goes hand in hand with denying citizens basic human rights and dignity.

Exploring alternatives

Durban is not an outlier, and, although it took strike action and severe disruptions to service delivery to drive it home to the most privileged, the perilous state of municipal waste management in South Africa should concern us all. Yet, given the fragility of South African municipalities, and their own historical shortcomings at addressing entrenched inequalities, what is the most sustainable path forward, and what alternatives remain if we can no longer rely on the state?

Ultimately, as we have argued before², a dramatic improvement in municipal governance is likely the smoothest pathway towards restored – and hopefully improved and expanded – service delivery. However, at the time of writing, the likelihood of a sudden and significant improvement in municipal health seems low, and although national government has increasingly demonstrated concern about poorly performing municipalities, the track record of national intervention (and broader concerns about governance at the provincial and national level) suggest that this is not a silver bullet for turning around failing municipalities.

Without intervention, the proliferation of neoliberal alternatives, including privatised collection, processing and disposal, are the most likely outcome. Yet, this is a future we must be extremely wary of, as the private sector is inherently profit-seeking and will only service those who can pay, and South Africa's own experiences of privatisation in the waste sector suggest increased inequality, and often poorer services.^{2,21,22} What other alternatives exist? Although we do not offer a complete roadmap, we propose a number of radical solutions that should be considered, given the current status quo.

First, we recommend a total reconceptualisation of the municipal system, including the depoliticisation of local government in order to focus on their core mandate of service delivery.^{27,28} Although potential replacements could take numerous forms, professional and functional service delivery hubs, with monitoring and evaluation structures to ensure accountability from the state, residents and civil society, are a must. Examples relevant to South Africa can be found in Wilson et al.²⁸, who refer to participatory

community-based waste management in countries such as Brazil, Mali, the Philippines and various sub-Saharan African countries, including Kenya and Tanzania. These locally developed service delivery models include NGOs, the informal sector, women's groups and local youth to provide services for all.²⁸

Second, if we persist in providing adequate services only to those who can pay or can be linked to a municipal account, then we must accept the accompanying environmental degradation that accompanies denying a vast section of our population the right to a clean and healthy environment.¹⁶ According to the 2022 Census, South Africa has 4297 informal areas housing over 2 million households, in addition to the multitude of backyarders in townships, which represent South Africa's fastest-growing housing sector.²⁹ Not rendering services to these households not only denies citizens a basic right, but affects all communities through the degradation of water sources, land, animal habitats and the local environment. Johanna Road's dumpsites of today, which straddle the uMngeni River, will become Durban's beachfront rubbish of tomorrow. Rather, we propose that the financial model for waste management services must be reconsidered, moving away from providing services only to those who pay rates and can be linked to a municipal account to providing a basic level of services to all, regardless of payment.¹⁶ To ensure financial sustainability, studies such as those by Lohri et al.³⁰, Mokgabodi³¹ and Coffey and Coad³² recommend the use of more than one revenue stream such as rates and taxes, and national government grants (Municipal Infrastructure Grants and Urban Settlement Grants^{31,32}, and cross-subsidising from other income streams (water, electricity, sanitation), extended producer responsibility or polluter-pay principle fees, recycling and selling, and public-private initiatives. Local solutions should also be explored to develop cost-effective and locally relevant services. Godfrey et al.³³ argue for the strengthening of the implementation of policies and good governance to attract investments in waste management infrastructure and services.

Finally, to deliver efficient and appropriate waste management services, we believe that existing service arrangements must be reconfigured and co-designed with local communities. Core members of new waste management plans must include all role players in the waste value chain, including informal waste pickers, private-sector actors and civil society. Furthermore, the strike in Durban has emphasised that informal waste pickers *work*, even when the municipality does not. Although there was no formal collection, tons of recyclable materials were still being removed, sold and recycled by the thousands of informal recyclers who rely on this income for their livelihoods. Waste-picker integration, as outlined in the guidelines approved by the DFFE³⁴, must gain increased urgency and form a core part of any new waste management systems. Furthermore, any new arrangements must be co-designed with local communities to ensure that services are appropriate and effective for each particular community.

These recommendations require deep structural changes and a dramatic rethinking of our waste management systems. To address inequalities and safeguard our environment, we must think beyond centralised systems hinging on the competence of a failing state. This approach does not look 'beyond' the state but rather towards more inclusive arrangements that involve all actors in the waste value chain, in particular communities and the informal sector. The state should not be released from their constitutional responsibility, but should drive and finance more collaborative approaches that are more inclusive in conception, choice and access. This is not a mandate our municipalities alone can hold, and creating cleaner communities requires meaningful change that must occur at all levels of society.

As recent events in Durban, and the experiences of residents in countless other municipalities across the country, have demonstrated, the consequences of failure are dire, with potentially horrible consequences for our environment and society. Our municipalities may fail, but waste management systems cannot be allowed to fail along with them.

Declarations

We have no competing interests or AI or LLM use to declare. Both authors read and approved the final version of the manuscript.



References

1. National Environmental Management: Waste Act, No. 59 of 2008 [document on the Internet]. c2008 [cited 2024 Jul 10]. Available from: https://www.gov.za/sites/default/files/gcis_document/201409/32000278.pdf
2. Kalina M, Makwetu N, Tilley E. "The rich will always be able to dispose of their waste": A view from the frontlines of municipal failure in Makhanda, South Africa. *Environ Dev Sustain*. 2024;26:17759–17782. <https://doi.org/10.1007/s10668-023-03363-1>
3. Schenck CJ, Nell CM, Grobler L, Blaauw PF. Towards engaged solid waste management for cleaner cities and towns in South Africa. Waste Research Development and Innovation Roadmap Research Report. Pretoria: Department of Science and Innovation; 2022.
4. Kanyane M. Exploring challenges of municipal service delivery in South Africa (1994–2013). *Afr Public Serv Deliv Perform Rev*. 2014;2(1):90–110. <https://doi.org/10.4102/apsdpr.v2i1.45>
5. Statistics South Africa. Census 2022: Key results. Pretoria: Statistics South Africa; 2022.
6. Erasmus D. Only 38 municipalities receive clean audits – Auditor General SA. *Mail & Guardian*. 2023 May 31. Available from: <https://mg.co.za/article/2023-05-31-only-38-municipalities-receive-clean-audits-auditor-general-sa/>
7. Bisserker C. Will debt write-offs stop the rot in delinquent municipalities? *Financial Mail*. 2023 May 11. Available from: <https://www.businesslive.co.za/a/fm/features/2023-05-11-will-debt-write-offs-stop-the-rot-in-delinquent-municipalities/>
8. Navarrete-Hernandez P, Toro F. Urban systems of accumulation: Half a century of Chilean neoliberal urban policies. *Antipode*. 2019;51(3):899–926. <https://doi.org/10.1111/anti.12504>
9. Smith A. Sustaining municipal parks in an era of neoliberal austerity: The contested commercialisation of Gunnersbury Park. *Environ Plann A*. 2021;53(4):704–722. <https://doi.org/10.1177/0308518X20951814>
10. Schenck CJ, Chitaka TY, Tyrrell H, Couvert A. Disposable diaper usage and disposal practices in Samora Machel township, South Africa. *Sustainability*. 2023;15(12), Art. #9478. <https://doi.org/10.3390/su15129478>
11. Viljoen JMM, Schenck CJ, Volschenk L, Blaauw PF, Grobler L. Household waste management practices and challenges in a rural remote town in the Hantam Municipality in the Northern Cape, South Africa. *Sustainability*. 2021;13(11), Art. #5903. <https://doi.org/10.3390/su13115903>
12. Kalina M. Waste management in a more unequal world: Centring inequality in our waste and climate change discourse. *Local Environ*. 2020;25(8):612–618. <https://doi.org/10.1080/13549839.2020.1801617>
13. Kalina M. As South Africa's cities burn: We can clean-up, but we cannot sweep away inequality. *Local Environ*. 2021;26(10):1186–1191. <https://doi.org/10.1080/13549839.2021.1967900>
14. Adeleke O, Akinlabi S, Jen T-C, Dunmade I. Towards sustainability in municipal solid waste management in South Africa: A survey of challenges and prospects. *Trans R Soc S Afr*. 2021;76(1):53–66. <https://doi.org/10.1080/0035919X.2020.1858366>
15. Rasmeni ZZ, Madyira DM. A review of the current municipal solid waste management practices in Johannesburg City townships. *Procedia Manuf*. 2019;35:1025–1031. <https://doi.org/10.1016/j.promfg.2019.06.052>
16. Haywood LK, Kapwata T, Oelofse S, Breetzke G, Wright CY. Waste disposal practices in low-income settlements of South Africa. *Int J Environ Res Public Health*. 2021;18(15), Art. #8176. <https://doi.org/10.3390/ijerph18158176>
17. Mngomezulu SK, Mbanga S, Adeniran AA, Soyey K. Factors influencing solid waste management practices in Joe Slovo Township, Nelson Mandela Bay. *J Public Adm*. 2020;55(3):400–411.
18. Kalina M, Kwangulero J, Ali F, Abera YG, Tilley E. "Where does it go?": Perceptions and problems of riverine and marine litter amongst South Africa and Malawi's urban poor. *PLoS Water*. 2022;1(3), e0000013. <https://doi.org/10.1371/journal.pwat.0000013>
19. Kalina M, Kwangulero J, Ali F, Tilley E. "You need to dispose of them somewhere safe": Covid-19, masks, and the pit latrine in Malawi and South Africa. *PLoS ONE*. 2022;17(2), e0262741. <https://doi.org/10.1371/journal.pone.0262741>
20. Slekene J, Swan N, Kalina M. Absorbent hygiene products disposal behaviour in informal settlements: Identifying determinants and underlying mechanisms in Durban, South Africa. *BMC Public Health*. 2024;24(1), Art. #912. <https://doi.org/10.1186/s12889-024-18396-y>
21. Mathekganye J, van Heerden L, Ukwandu D. The nexus between water, neoliberalism and sustainable development in postapartheid South Africa. *Afr J Public Aff*. 2019;11(3):41–58. <https://hdl.handle.net/10520/EJC-19604996c9>
22. Yates JS, Harris LM. Hybrid regulatory landscapes: The human right to water, variegated neoliberal water governance, and policy transfer in Cape Town, South Africa, and Accra, Ghana. *World Dev*. 2018;110:75–87. <https://doi.org/10.1016/j.worlddev.2018.05.021>
23. Samson M. Whose frontier is it anyway? Reclaimer "integration" and the battle over Johannesburg's waste-based commodity frontier. *Capital Nat Social*. 2020;31(4):60–75. <https://doi.org/10.1080/10455752.2019.1700538>
24. Samson M, Kadyamadare G, Ndlovu L, Kalina M. "Wasters, agnostics, enforcers, competitors, and community integrators": Reclaimers, S@S, and the five types of residents in Johannesburg, South Africa. *World Dev*. 2022;150, Art. #105733. <https://doi.org/10.1016/j.worlddev.2021.105733>
25. Santos C. Open questions for public water management: Discussions from Uruguay's restatization process. *Util Policy*. 2021;72, Art. #101273. <https://doi.org/10.1016/j.jup.2021.101273>
26. Republic of South Africa. Constitution of the Republic of South Africa, No 108. *Government Gazette*. 1996;378(17678).
27. Baclija Brajnik I, Kronegger L, Prebilic V. Depoliticization of governance in large municipalities in Europe. *Urban Aff Rev*. 2024;60(2):774–789. <https://doi.org/10.1177/10780874231165776>
28. Wilson D, Velis CA, Rodic L. Integrated sustainable waste management in developing countries. *Waste Resour Manag*. 2013;166(2):52–68. <https://doi.org/10.1680/warm.12.00005>
29. Comins L. The shifting landscape of South Africa's informal settlements. *Mail and Guardian*. 2023 October 30. Available from: <https://mg.co.za/news/2023-10-30-the-shifting-landscape-of-south-africas-informal-settlements/>
30. Lohri CR, Camenzind EJ, Zurbrugg C. Financial sustainability in municipal solid waste management – costs and revenues in Bahir Dar, Ethiopia. *Waste Manag*. 2014;34(2):542–552. <https://doi.org/10.1016/j.wasman.2013.10.014>
31. Mokgabodi B. Funding municipal waste management services [document on the Internet]. c2013 [cited 2024 Jul 10]. Available from: https://www.dffe.gov.za/sites/default/files/docs/national_treasury_funding_waste_services.pdf
32. Coffey M, Coad A. Collection of municipal solid waste in developing countries [document on the Internet]. c2010 [cited 2024 Jul 10]. Available from: https://unhabitat.org/sites/default/files/2021/02/2010_collection-msw-developing-countries_un-habitat.pdf
33. Godfrey L, Ahmed MT, Gebremedhin KG, Katima JK, Oelofse S, Osibanjo O, et al. Solid waste management in Africa: Governance failure or development opportunity? In: Edomah N, editor. *Regional development in Africa*. London: IntechOpen; 2020. <https://doi.org/10.5772/intechopen.86974>
34. Department of Environment, Forestry and Fisheries (DEFF) and Department of Science and Innovation (DSI). Waste picker integration guideline for South Africa: Building the recycling economy and improving livelihoods through integration of the informal sector. Pretoria: DEFF and DSI; 2020.