

Cities that Work



POLICY TOOLKIT

Policy Options for Solid Waste Management

Urban waste management is both a practical necessity and a visible reflection of city governance. In low- and middle-income cities, uncollected refuse undermines health, productivity, and public confidence. It clogs drainage, fuels flooding, and contributes to respiratory disease through open burning.

Solid waste management in developing cities already consumes one-fifth of municipal budgets on average, yet service delivery remains uneven and financially precarious. This toolkit synthesises global evidence and experience to guide policymakers in designing credible, affordable, and politically viable reforms.

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Policy options for solid waste management

Solid waste management (SWM) is one of the most basic and visible functions of urban government. Overflowing bins, blocked drains causing floods, and smoky open dumps create daily inconvenience, tangible public health risks and potent greenhouse gases. They also send a political signal: when waste is managed well, citizens see evidence of competent, accountable government. When it is not, they see failure.

Most developing cities are experiencing rapid increases in both the quantity and complexity of solid waste. The World Bank estimates that global municipal solid waste will rise from 2.01 billion tonnes in 2016 to 3.4 billion tonnes by 2050, with the fastest growth in low-income countries.¹

The composition of waste is also changing; less biodegradable organic matter and more plastics and composites makes disposal more expensive and hazardous.² Managing this growing challenge requires institutional capacity, predictable finance, and sustained citizen engagement.

This toolkit summarises practical lessons from reforming cities across Africa, Asia and the Middle East. It highlights the trade-offs that municipal leaders face between ambition and feasibility, cost recovery and affordability, enforcement and trust. Each section identifies key steps and examples from cities that have succeeded in establishing cleaner, financially sustainable waste systems.

This toolkit accompanies our new synthesis paper "Creating Cleaner Cities: Policy Options for Solid Waste Management". It uses a combination of AI summarising, and writing and editing by the authors, to present practical guidance for policymakers.

Key messages:

1. **Focus on reliable basic collection, with technologies appropriate to local conditions.** Without convenient and predictable collection, no waste system can succeed.
2. **Integrating informal collectors strengthens both coverage and efficiency.** The informal sector is a critical municipal partner that can be supported rather than displaced.
3. **Sustainable funding must balance cost recovery with affordability, while also incentivising proper waste management behaviour.** Effective financial design underpins durable reform and sustains compliance.
4. **Compliance is sustained by trust and transparency, not penalties alone.** Long-term behavioural change requires predictability, communication, and civic legitimacy.

1 Kaza, S., Yao, L., Bhada-Tata, P., & Van Woerden, F. (2018). *What a waste 2.0: a global snapshot of solid waste management to 2050*. The World Bank.

2 See Delbridge, V., & Harman, O. (2025). What's in the bin? Cities' waste data can guide smarter decisions. for detail.

1. Focus on reliable basic collection, with technologies appropriate to local conditions

The essential condition for effective waste management is reliability. Collection must be predictable, accessible, and visibly maintained before any complex reform, such as recycling targets, differentiated tariffs, or private concessions, can succeed. In most developing cities, the immediate challenge is not technology but consistency. Even modest improvements in reliability can rapidly increase public cooperation and reduce environmental risks. Cities should start by identifying service gaps and designing routes and collection systems appropriate to local conditions.

Designing effective collection systems

Cities face a strategic choice between household-based and community-based collection. In planned areas, household storage and doorstep pick-up maximise convenience. In dense informal settlements, this approach becomes costly and physically impractical. In such contexts, communal collection points can achieve higher efficiency if placed strategically. Proximity matters: evidence from Mekelle, Ethiopia, shows that increasing the distance to a bin by just 1% raises the probability of roadside dumping by 0.5%.¹

Collection frequency is also important and must balance cost and convenience. In humid or high-temperature climates, less frequent collection leads to odour and pests, driving illegal dumping. Even high-income households may dump illegally if collection is erratic. Weekly collection is often sufficient for residential areas, but daily service may be necessary for markets and dense urban cores. These service schedules need to be well publicised to set resident expectations and ensure compliance.

Proximity matters—increasing the distance to a bin by just 1% raises the probability of roadside dumping by 0.5%

Optimising transport and logistics

The majority of waste budgets are absorbed by collection and transportation. As cities expand, landfills move further from the centre, increasing haulage costs, as seen in the example of Kampala in the box below. Introducing transfer stations can help reduce the costs and restore collection coverage. Simple maintenance regimes extend vehicle lifespans, while mobile technology can track and optimise collection routes and report missed collections.

In informal or high-density settlements, large collection trucks are often impractical. Narrow, unpaved streets and irregular layouts limit access, resulting in waste left uncollected for weeks. Smaller vehicles – such as handcarts, tricycles, or small-capacity trucks – can provide the

¹ Tadesse, T., Ruijs, A., & Hagos, F. (2008). Household waste disposal in Mekelle city, Northern Ethiopia. *Waste Management*, 28(10), 2003-2012.

flexibility needed to reach these areas. They are cheaper to operate, require minimal road infrastructure, and can be maintained by local entrepreneurs or cooperatives under municipal supervision.

Case study: Kampala, Uganda²

Kampala's sole landfill at Kiteezi, established in 1996 approximately 13 km from the city centre, reached capacity by 2012 but continued operating as the city's only disposal site. Its continued use beyond capacity, combined with heavy rainfall, resulted in a catastrophic collapse in August 2024 that killed at least 35 people and displaced around 1,000. New landfills are now being developed in Dundu, 33 km from the centre, more than doubling the transport distance. While transfer stations have been proposed to manage increased haulage costs and improve collection efficiency, implementation has been limited, and Kampala continues to collect only 40-60% of its daily waste generation of 2,500 tonnes.

Sequencing reforms for credibility

Prematurely layering on complex systems often backfires. Cities that introduced "pay-as-you-throw" schemes or mandatory segregation without ensuring a reliable basic service found that citizens resisted paying for a service they could not trust.

The priority should be predictable collection, visibly delivered across both formal and informal areas. Once reliability is established, governments should communicate this achievement widely to demonstrate tangible improvement, through public notices, radio announcements, and engagement with community leaders. Only when citizens see waste consistently removed will they begin to view the system as credible and worth paying for.

Once regular collection becomes routine, municipalities can strengthen operational efficiency and gradually build institutional complexity. More ambitious reforms, such as introducing recycling incentives and differentiated tariffs, will become politically and practically feasible.

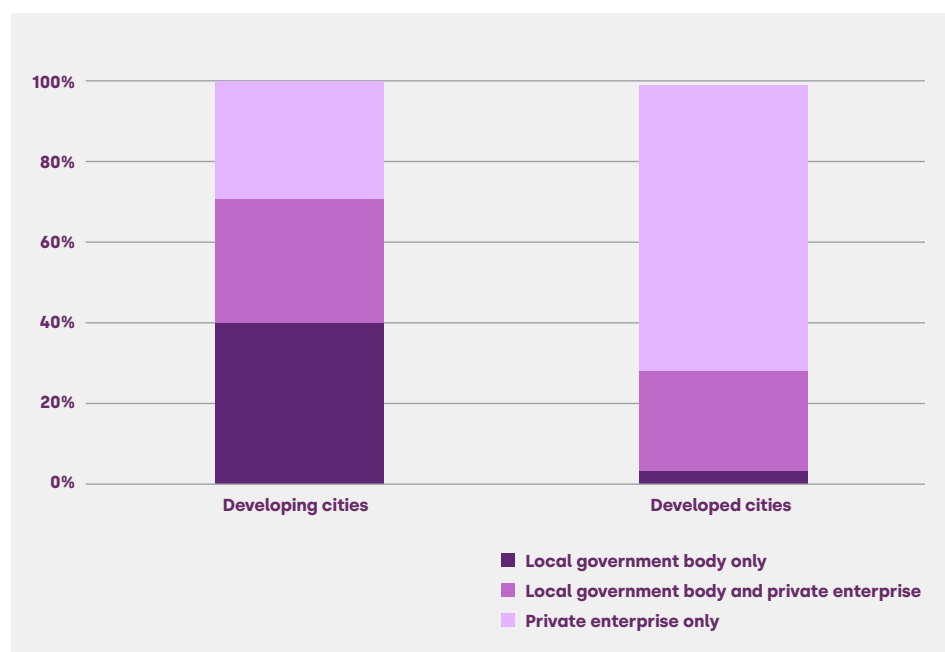
² Aryampa, S., Maheshwari, B., Sabiiti, E., Bateganya, N. L., & Bukenya, B. (2019). Status of Waste Management in the East African Cities: Understanding the Drivers of Waste Generation, Collection and Disposal and Their Impacts on Kampala City's Sustainability. Sustainability, 11(19), 5523. & KCCA <https://www.kcca.go.ug/>

2. Integrating informal collectors strengthens both coverage and efficiency

Solid waste management exhibits “natural monopoly” features: trunk collection and disposal benefit from central coordination, while recycling and organics management often thrive in decentralised, community-led models. Most cities need hybrid systems, centralising fixed-cost functions and localising low-cost, labour-intensive ones.

Across developing cities, the delivery of solid waste management services falls along a spectrum from full public provision to private contracting and public–private partnerships. Fully public systems offer greater control and equity but often suffer from budgetary rigidity, weak incentives, and political interference. Private contractors can bring investment, efficiency, and innovation, but when poorly regulated they tend to cherry-pick profitable routes or compromise service quality. The effectiveness of either approach depends less on ownership than on accountability. The figure below shows how the balance between public and private provision differs systematically: developing cities rely primarily on public or mixed models, while developed cities have largely privatised collection services.

Figure 1: Waste service provision in developing and developed cities³



Note: Data from 103 cities covering 57 countries

3 Banerjee, S., & Sarkhel, P. (2020). Municipal solid waste management, household and local government participation: a cross country analysis. *Journal of Environmental Planning and Management*, 63(2), 210-235.




For example, in Kigali, Rwanda, waste collection is fully privatised through exclusive franchise zones tendered to twelve private companies every three years.⁴ However, the municipality retains strong control over planning, regulation, and oversight; household user fees – with cross-subsidies for the poorest – fund the service. The result has been collection coverage of approximately 88% and one of the cleanest urban environments in Africa.

However, one key player in managing solid waste is often overlooked. Informal waste pickers and small-scale recyclers perform a crucial public service: they provide low-cost collection from households and businesses, recover valuable materials from dumps, and support extensive recycling networks. Yet they are often marginalised by formal systems that treat them as competitors rather than partners. Harnessing this informal capacity is among the most cost-effective ways to expand coverage and recycling simultaneously.

Informal collectors typically dominate waste management in areas where formal service is weak. In Accra, Ghana, more than half of waste collection is informal, with poor spatial planning and lack of

Harnessing the informal sector is among the most cost-effective ways to expand coverage and recycling.

⁴ Kabera, T., Wilson, D. C., & Nishimwe, H. (2019). Benchmarking performance of solid waste management and recycling systems in East Africa: Comparing Kigali Rwanda with other major cities. *Waste Management & Research*, 37(1_suppl), 58-72. <https://doi.org/10.1177/0734242x18819752>



accessibility inhibiting formal service delivery.⁵ These actors operate flexibly and at low cost, yet without recognition they face police harassment, poor health, and unstable incomes. Integrating them formally enhances efficiency, improves livelihoods, and strengthens the social contract between citizens and municipalities.

Successful integration follows four key principles:

- 1. Recognise existing actors.** Mapping and registering waste pickers and itinerant collectors allow cities to understand existing systems and prevent duplication.
- 2. Provide legal status.** Identity cards or simple permits protect workers and allow inclusion in municipal planning.
- 3. Incentivise organisation.** Supporting cooperatives or associations – such as the SWaCH cooperative in Pune, India – enables small operators to contract collectively with municipalities and negotiate fair terms.
- 4. Invest in safety and efficiency.** Provision of basic protective gear, training in waste sorting, and access to facilities like transfer stations or sorting sheds improve productivity and health.

Experience shows that integration can yield large gains. In Dar es Salaam, Tanzania, private actors including local companies and community-based organisations expanded service coverage from 10% in 1994 to 40% in 2001.⁶ Informal integration also supports circular economy goals: waste pickers can reduce the volume of waste sent to landfills by up to 20%.⁷

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However, full formalisation can impose costly regulations that drive informal actors out of business. The most successful systems use gradual formalisation, combining light-touch licensing with access to municipal infrastructure and progressive capacity-building.

5 Oteng-Ababio, M., Amankwaa, E., & Boadi, G. (2024). Managing solid waste for a sustainable Accra. International Growth Centre (Policy Brief GHA-22103). & Kaseva, M. E., & Mbuligwe, S. E. (2005). Appraisal of solid waste collection following private sector involvement in Dar es Salaam city, Tanzania. *Habitat international*, 29(2), 353-366. <https://doi.org/10.1016/j.habitatint.2003.12.003>

6 Kaseva, M. E., & Mbuligwe, S. E. (2005). Appraisal of solid waste collection following private sector involvement in Dar es Salaam city, Tanzania. *Habitat international*, 29(2), 353-366. <https://doi.org/10.1016/j.habitatint.2003.12.003>

7 Fergutz, O., Dias, S., & Mitlin, D. (2011). Developing urban waste management in Brazil with waste picker organizations. *Environment & Urbanization*, 23(2), 597-608. <https://doi.org/10.1177/0956247811418742>

3. Sustainable SWM funding must balance cost recovery with affordability, while also incentivising proper waste management behaviour

Sustainable solid waste management requires both large upfront capital investment and reliable streams of operational funding. The capital-intensive nature of SWM stems from the need for collection vehicles, transfer stations, treatment and disposal facilities, and system-wide institutional investments. These costs vary with technology level and system centralisation. Upfront investments are generally funded through a combination of national government transfers, donor or development partner finance (including climate finance), and, to a lesser extent, private investment. Yet, because SWM generates public goods such as public health and environmental cleanliness, it inevitably depends on ongoing public support.

Operating costs – covering labour, fuel, vehicle maintenance, administration, and monitoring – are typically met from municipal revenues. However, the proportion of city budgets dedicated to SWM differs widely: cities like Kigali, Rwanda, and Dakar, Senegal, spend just 2–3% of operating budgets,⁸ while others allocate up to half.⁹ In many cases, revenue collection is insufficient for cost recovery; Kigali, for instance, recovers only 12% of total costs through SWM fees; even its low tariffs are still unaffordable for some residents.¹⁰ Funding mechanisms need to improve cost recovery while also incentivising proper waste management behaviour.

Household charges

Municipalities can finance SWM through three main instruments:

- **Existing taxes** (such as property tax)
- **Flat user charges**
- **Unit pricing or “Pay-as-you-throw” (PAYT) schemes**

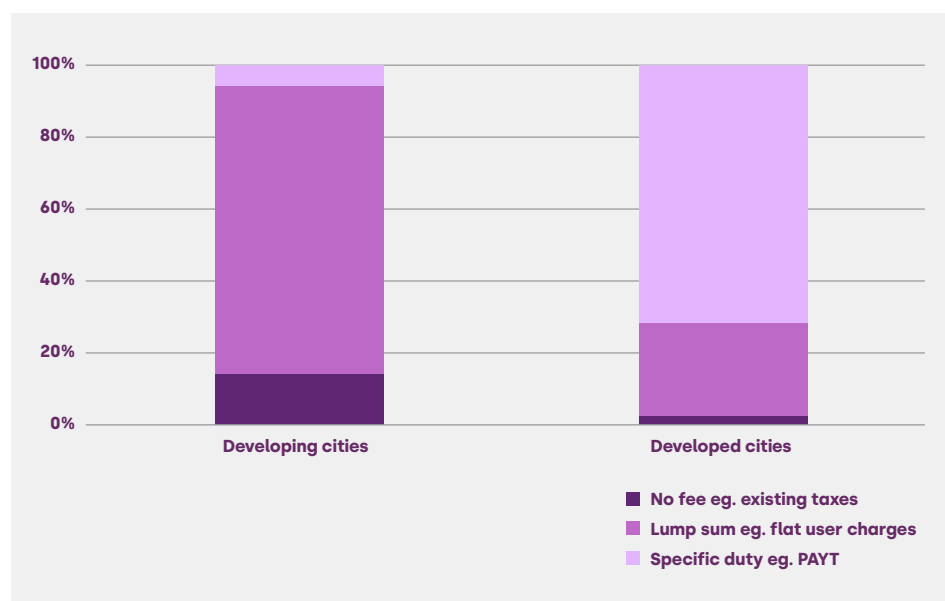
As the figure below shows, developing cities predominantly rely on simpler mechanisms – existing taxes or flat charges – while developed cities more commonly use unit-based pricing that demands higher administrative capacity and enforcement.

8 Delbridge, V., Harman, O., Dia Sarr, K., with, Haas, A., & Venables, A. (2021). Enhancing the financial positions of cities: evidence from Dakar. *UNHabitat Case Study 3*. https://doi.org/10.35489/bsg-igc-wp_2022/3

9 World Bank. (2019). *Solid Waste Management* (World Bank Briefs, Issue. <https://www.worldbank.org/en/topic/urbandevelopment/brief/solid-waste-management>. Rajashekar, A., & Bowers, A. (2019). Assessing waste management services in Kigali. International Growth Centre, Policy Brief.

10 Rajashekar, A., & Bowers, A. (2019). Assessing waste management services in Kigali. *International Growth Centre, Policy Brief*.

Figure 2: Fee type for waste management in developing and developed cities¹¹



Note: Data from 103 cities covering 57 countries

Existing taxes are administratively simple and face low resistance in low-capacity settings, as they build on existing payment systems and discourage illegal dumping. However, they obscure the real cost of service, limit transparency, and fail to incentivise waste reduction or equitable pricing. For instance, Mzuzu in Malawi funded waste management vehicles through property tax reforms, but without a dedicated user fee.¹²

Flat user charges are a fixed fee levied on all households. They make both users and municipalities more aware of SWM costs. Mandalay, Myanmar, charges households separately for garbage collection alongside building and street lighting fees, enhancing transparency and accountability. Yet flat fees provide no incentive to reduce waste and are regressive, since low-income households pay the same, and therefore a higher proportion of their income.

Flat fees provide no incentive to reduce waste and are regressive: low-income households pay a higher proportion of their income

11 Banerjee, S., & Sarkhel, P. (2020). Municipal solid waste management, household and local government participation: a cross country analysis. *Journal of Environmental Planning and Management*, 63(2), 210-235.

12 Delbridge, V., Harman, O., Jangia, D., with, Haas, A., & Venables, A. (2021). Enhancing the financial positions of cities: evidence from Mzuzu and Malawi. *UNHabitat, Case Study 5*. https://doi.org/10.35489/bsg-igc-wp_2022

Case study: Maputo, Mozambique¹³:

To improve cost recovery and equity, Maputo introduced a waste tax linked to electricity bills. Leveraging an existing billing system covering 90% of households, this hybrid model made payment convenient and more enforceable. The tariff was tiered by electricity consumption – ranging from MZN 10 to MZN 80 per month – linking higher waste generation to higher charges. Cost recovery rose from under 40% to 62% between 2004 and 2010, while service coverage also expanded.

Pay-as-you-throw (PAYT) schemes link payment directly to waste generation. They can take the form of fees per bin, per bag, or by weight. This model promotes fairness and encourages waste reduction, with studies showing recycling rates increasing by roughly 35%.¹⁴ However, it demands administrative and monitoring capacity to weigh, bill, and enforce payment, making it harder to implement in low-capacity municipalities. Where enforcement is weak, PAYT also risks encouraging illegal dumping.

Case study: Bayawan, Philippines¹⁵:

Bayawan introduced a pre-paid sticker system requiring households to purchase a sticker for each 25-litre bag of inorganic waste at a cost of two pesos (USD 0.04). Stickers were sold only at City Hall or authorised points in markets and municipal centres. Each sticker contained two matching identification numbers: one checked by collectors, the other retained for documentation. The system proved effective in reducing waste disposal and collection without evidence of illegal dumping, contributing to Bayawan's reputation as one of the cleanest cities in the country. Recyclable materials in waste sent for disposal decreased from 14% in 2003 to only 1% in 2010, as sellable materials were increasingly segregated at source or delivered directly to local recyclers. However, revenues from the sticker system covered only 3.5% of SWM expenditures, highlighting the tension between encouraging compliance through low fees and achieving cost recovery.

Non-household charges

Commercial and construction waste often constitutes a large share of total waste and can be priced more accurately. Business users produce predictable volumes and can bear cost-reflective fees with lower evasion risks.

13 Stretz, J. (2012). Economic instruments in solid waste management. *Deutsche Gesellschaft für internationale Zusammenarbeit (GIZ) GmbH*.

14 Miranda, M. L., & Aldy, J. E. (1998). Unit pricing of residential municipal solid waste: lessons from nine case study communities. *Journal of Environmental Management*, 52(1), 79-93.

15 Ing, J.-P. (2012). Economic Instruments for Solid Waste Management: Case Study Bayawan, Philippines. *GIZ*.

Landfill taxes or gate fees charge waste collectors or transporters at disposal sites. When compliance is strong, they incentivise waste minimisation and segregation. However, high gate fees without enforcement can trigger illegal dumping, as seen in Ghana, where operators avoided fees by using informal sites. In contrast, Uganda's zero gate fees at the Kiteezi landfill preserved compliance where monitoring was weak. Setting appropriate, differentiated rates, for example lower rates for segregated waste, can encourage better practices.

Another increasingly used approach is the "Proof of Service" model, which obliges all major waste generators—such as hotels, restaurants, offices, hospitals, markets, and construction firms—to demonstrate that they have an authorised waste collection arrangement and are paying the associated fees. This mechanism shifts enforcement from direct municipal monitoring of waste volumes to verification of legal service contracts. In Mozambique, commercial establishments in Maputo were required to show proof of a waste management contract as part of their annual municipal licensing.¹⁶ This increased both coverage and transparency: businesses that previously dumped waste illegally or relied on informal collectors were brought into the formal system.

Adapting fee structures to local conditions

Ultimately, municipalities should set prices with a two-part logic: a fixed charge for basic service stability and a variable component where monitoring allows, balancing fiscal sustainability with social equity.

Effective SWM financing systems must also evolve with local realities. As enforcement capacity, willingness to pay, environmental priorities, and policy goals change, so too should the funding models. Sweden's adaptive system, which introduced landfill taxes in 2000 and later banned combustible waste, demonstrates how policy adjustments can drive waste reduction and recycling.¹⁷ A responsive, locally tailored system is essential for both sustainability and fairness.

16 Ferrão, D. (2006). *An Examination Of Solid Waste Collection And Disposal In Maputo City, Mozambique* (Dissertation). University of Cape Town, Cape Town. In.

17 Wilson, D. C. (2015). *Global waste management outlook* (International Solid Waste Association, Issue 1).

4. Compliance is sustained by trust and transparency, not penalties alone

For solid waste management systems to function effectively, citizens must comply with collection rules, segregation requirements, and disposal practices. Yet compliance cannot be bought with punishment alone. While fines and enforcement mechanisms deter non-compliance in theory, sustained behaviour change emerges only when citizens understand, trust, and participate in the system.

In short, compliance is built on a social contract between municipalities and residents – one that pairs credible enforcement with fairness, transparency, and visible service delivery.

The role of penalties

When the cost of bad behaviour exceeds the benefit, individuals are more likely to comply. Municipalities have a range of **graduated penalties** available, varying in severity and purpose:

- **Administrative fines** for littering, dumping, or open burning—typically small but immediate, serving as public reminders of expected behaviour.
- **Service-linked sanctions**, such as suspension of waste collection for repeat offenders or businesses lacking disposal proof, which directly connect punishment to the service being abused.
- **Deposits or performance bonds** for construction firms and market traders, refunded only when waste is properly managed.
- **Community service penalties**, such as requiring offenders to participate in street-cleaning drives, reinforce civic norms while reducing enforcement costs.
- **Escalating sanctions**—starting with written warnings, followed by higher fines or licence revocation—help build fairness and credibility by giving offenders the opportunity to comply before harsher measures apply.

Fines must be high enough to disincentivise illegal dumping, yet not so high that they drive bribery or concealment. The introduction of “day-fines,” which adjust penalties to offenders’ income levels, has been used to balance deterrence with fairness.¹⁸ Still, low-income communities remain the hardest places to impose penalties effectively due to limited ability to pay and the risk of deepening inequality.

However, this logic often breaks down in practice. Sanctions only deter when they are credible — and credibility depends on consistent

Compliance is built on a social contract that pairs credible enforcement with fairness, transparency, and visible service delivery

Fines must be high enough to disincentivise illegal dumping, without driving bribery or concealment.

¹⁸ Kantorowicz-Reznichenko, E. (2015). Day-Fines: Should the Rich Pay More? *Review of Law & Economics*, 11(3), 481-501. <https://doi.org/doi:10.1515/rle-2014-0045>



monitoring and administrative capacity. Many cities lack clear rules and consistent enforcement. Overlapping ministerial mandates such as Ghana's multiple agencies managing different aspects of waste, create confusion about who enforces what, weakening deterrence. Where regulations are unclear or inconsistently applied, citizens perceive enforcement as arbitrary or corrupt, undermining legitimacy. This is countered in Moshi, Tanzania where community-based enforcement allows residents to report violations and share in collected fines, ensuring local ownership of rules. These systems maintain deterrence while avoiding the arbitrary or punitive approaches that erode trust.¹⁹

Rwanda's ban on single-use plastic bags also illustrates this principle. The government combined high fines and rigorous border inspections with clear messaging and private sector adaptation. Enforcement was credible because citizens could see alternatives being made available and the government following through. The combination of deterrence, transparency, and inclusion, rather than punishment alone, sustained compliance over time.²⁰

19 Majoe, N., & Currie, P. (n.d.). Environmental cleanliness in Moshi, Tanzania. <https://interactbio.iclei.org/wp-content/uploads/Moshi-Environmental-Cleanliness-and-Waste.pdf>

20 See Delbridge, V., Harman, O., Glaeser, E., Joshi, M., Spence, E. (2025). Creating Cleaner Cities: Policy Options for Solid Waste Management. *IGC Synthesis Paper*. for detail

From enforcement to engagement – building the social contract

Beyond deterrence, lasting compliance requires addressing the cost and motivation of cooperation. Households often weigh the inconvenience of proper disposal against unclear personal benefits. Municipalities can reduce this burden by improving service reliability—such as regular, visible collection—and by communicating clearly how citizen compliance contributes to cleaner neighbourhoods and public health.

Awareness-building efforts in India's cities (Delhi, Patna, and Indore) combined media outreach, school programmes, and community events to raise awareness of waste segregation. In Delhi, segregation levels increased from 4% to 54% within a week, while Patna saw a 2.5-fold increase over six months²¹. In Quelimane, Mozambique, linking messages about waste disposal to flood prevention reduced waste-blocked drains by up to 15%.²²

Linking messages about waste disposal to flood prevention reduced waste-blocked drains by up to 15%

While awareness can change behaviour in the short term, trust sustains it in the long run. A strong social contract is formed when citizens believe that the municipality will reliably deliver services, and when the municipality trusts citizens to comply voluntarily.

In Lahore and Faisalabad, Pakistan, trust was strengthened by improving service visibility and communication—showing citizens where their taxes and efforts went.²³ Engagement with community leaders also increased participation in fee payment and waste segregation. Evidence across 32 cities confirms that community participation and trust-building have a direct, positive impact on SWM practices at the household level.²⁴

Evidence from 32 cities confirms that community participation and trust-building have a direct, positive impact at household level

Municipalities can reinforce this trust by:

- Ensuring reliable, regular collection and visible service delivery;
- Engaging citizens in rule-setting and decision-making;
- Providing transparent information on how funds are used and how compliance benefits communities.

21 Wadehra, S., & Mishra, A. (2017). Managing waste at the household level: Field Evidence from Delhi. *International Growth Centre*.

22 Leeffer, S. (2023). *It Will Rain: The Effects of Information on Flood Preparedness in Urban Mozambique*.

23 Khan, A. Q., Khwaja, A. I., Olken, B. A., & Shaukat, M. (2022). Rebuilding the social compact: Urban service delivery and property taxes in Pakistan.

24 Guerrero, L. A., Maas, G., & Hogland, W. (2013). Solid waste management challenges for cities in developing countries. *Waste Management*, 33(1), 220-232.

Conclusion

Creating cleaner cities is less about adopting the most advanced technology and more about matching choices to local realities, institutions, and public expectations. Effective solid waste management begins with fit-for-purpose systems: low-cost storage and transport suited to informal settlements; simple, well-sited transfer stations; and disposal or recycling methods that cities can operate reliably. Equally important is securing politically viable funding—balancing affordability with cost recovery through transparent, easy-to-administer fees that align with local capacity. Integrating informal collectors strengthens coverage and recycling, while sequencing reforms so that early improvements are visible builds credibility before introducing more complex or costly systems.

Yet finance and technology alone do not sustain clean cities. Compliance endures when citizens see transparent delivery, fair rules, and clear communication linking their contributions to visible outcomes. Enforcement capacity must be paired with public confidence: penalties deter best when they are proportionate and consistently applied, but long-term cooperation depends on voluntary participation grounded in belief that government delivers. Where these conditions meet, solid waste management ceases to be a recurrent municipal burden and becomes instead a visible symbol of competent, inclusive, and forward-looking urban governance.

Further reading

Kaza, S. et al. (2018). *What a Waste 2.0: A Global Snapshot of Solid Waste Management to 2050*. World Bank.

Guerrero, L., Maas, G. & Hogland, W. (2013). *Solid Waste Management Challenges for Cities in Developing Countries*. Waste Management.

Delbridge et al. (2025). *Creating Cleaner Cities: Policy Options for Solid Waste Management*. IGC Synthesis Paper 2025.



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