



Waste Management Firms: Satisficers and Risk Takers

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BACKGROUND

Nepal's waste management infrastructure is underdeveloped, particularly in urban areas like Kathmandu Valley. The daily waste generation in Kathmandu alone exceeds 1,200 tonnes, with municipal solid waste (MSW) consisting of 70-80% organic matter, followed by plastics, paper, and other materials. Rural areas, while generating less waste overall, face significant challenges in waste collection and disposal due to inadequate infrastructure and logistical constraints.

A baseline survey conducted by the National Planning Commission in Nepal identified municipalities at various stages of planning for waste management activities. Among the 271 municipalities surveyed, 149 (55 percent) have developed plans as a foundation for implementing waste management activities. Of these, 109 municipalities developed annual plans, while 37 municipalities formulated shorter-term plans that spanned less than one year. Additionally, 45 municipalities adopted periodic plans for waste management. There was a sizable variation among the surveyed municipalities regarding the existence and execution of these plans and strategies. Out of the total, 99 municipalities (36.5 percent) reported having plans, while 57.2 percent of municipalities did not have such plans in place. Only 54 municipalities (19.9 percent) indicated they had drafted guidelines for waste management out of the 271 municipalities surveyed. Despite the Solid¹ Waste Management Act (2011) and the Local Government Operation Act (2018) policy implementation remains a constraint in the sector. There is however little policy direction for how private sector firms are likely to be involved in the sector despite the fact that private sector firms, especially SMEs, are likely to be key players in the sector. The images below provide a selected snapshot of some key statistics from the sector.

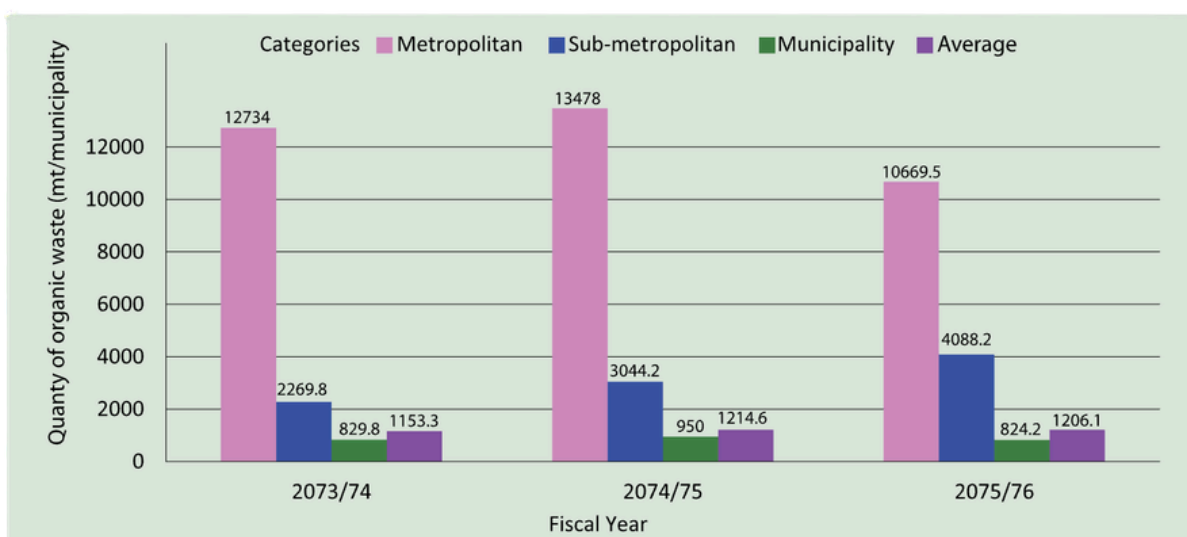


Figure 1: Distribution of the municipalities by their types
Source: Waste Management Baseline Survey of Nepal 2020 Fig 1.1 Pg 4

1. Waste Management Baseline Survey of Nepal 2020
<https://unstats.un.org/unsd/envstats/Censuses%20and%20Surveys/Waste-Management-Baseline-Survey-of-Nepal-2020.pdf>

Table 1. No. and Percentage of Municipalities Collecting Waste Collection Charge from the Waste Producers

| Categories | Households | Office/ Institutions | Hotel/ Restaurant | Business house/ Commercial complex | Health Institutions/ Hospitals | Other specify | Total Reporting (N) |
|-----------------------|------------|-------------------------|----------------------|------------------------------------------|--------------------------------------|------------------|---------------------------|
| Metropolitan City | 80.0 | 60.0 | 80.0 | 60.0 | 60.0 | 20.0 | 5 |
| Sub-Metropolitan City | 87.5 | 87.5 | 100.0 | 87.5 | 75.0 | 25.0 | 8 |
| Municipality | 94.3 | 70.0 | 91.4 | 82.9 | 65.7 | 24.3 | 70 |
| Total/ Overall | 92.8 | 71.1 | 91.6 | 81.9 | 66.3 | 24.1 | 83 |

Source: Waste Management Baseline Survey of Nepal 2020 Fig 2.6 Pg 10

Table 2. Number of Municipalities Reporting Different Types of Inorganic Wastes

| Categories | Plastic | Glass | Rubber | Mineral | Other | Total Reporting |
|-----------------------|------------|------------|-----------|-----------|-----------|-----------------|
| Metropolitan City | 2 (100.0) | 2 (100.0) | 2 (100.0) | 2 (100.0) | 2 (100.0) | 2 (40.0) |
| Sub-Metropolitan City | 5 (71.4) | 5 (71.4) | 5 (71.4) | 4 (57.1) | 4 (57.1) | 7 (63.6) |
| Municipality | 104 (67.1) | 101 (65.2) | 88 (56.8) | 87 (56.1) | 68 (43.9) | 155 (60.8) |
| Overall | 111 (67.7) | 108 (65.9) | 95 (57.9) | 93 (56.7) | 74 (45.1) | 164 (60.5) |

Source: Waste Management Baseline Survey of Nepal 2020 Fig 2.20 Pg 16

Table 3. Annual Inorganic Waste Collection - Plastic

| Categories | Number of Municipalities Reporting | | | Average Annual Collection of Plastic (mt) | | |
|-----------------------|------------------------------------|------------|------------|-------------------------------------------|------------|------------|
| | FY 2073/74 | FY 2074/75 | FY 2075/76 | FY 2073/74 | FY 2074/75 | FY 2075/76 |
| Metropolitan City | 1 (20.0) | 1 (20.0) | 2 (40.0) | 3,950.0 | 4,182.0 | 3,172.0 |
| Sub-Metropolitan City | 3 (27.3) | 3 (27.3) | 5 (45.5) | 716.0 | 930.0 | 803.2 |
| Municipality | 55 (21.6) | 76 (29.8) | 97 (38.0) | 194.0 | 201.5 | 270.7 |
| Overall | 59 (21.8) | 80 (29.5) | 104 (38.4) | 284.2 | 278.6 | 352.1 |

Source: Waste Management Baseline Survey of Nepal 2020 Fig 2.21 Pg 16



What distinguishes high growth firms from satisficers?

High-growth firms, (all definitions in the document titled “SMEs in the Tourism Sector In Nepal: Features of High Growth, Satisficing, and ‘Green’ Firms”) in waste management were not likely to engage in green practices themselves, which satisficing waste management firms were significantly likely to NOT engage in green practices themselves.

This is why the link between professionalism and the provision of higher quality products that we see in the green tourism sector is not visible for the urban waste management sector as a whole.

Learning was not a strong driver of productivity in the waste management sector. High-growth waste management firms reported some levels of learning by doing but satisficers did not engage in any significant learning. In fact, satisficers in the waste management sector were significantly more likely NOT to engage in training. These findings are not surprising as success in this sector is not based on providing highly competitive services but rather on being competitive enough to meet the requirements of consumers or local governments in niche markets. Our key informant interviews in the sector also revealed the importance of informal networks controlling these markets, which survey questions are not well suited to capture.

High-growth waste management companies were less likely to have industry association affiliations relative to lower-growth ones, suggesting that successful firms in the sector depend on other types of networks, very likely informal ones.



High-growth waste management firms are a little more likely to have and benefit from their political networks. Getting business in a sector where opportunities are not high usually requires some political access. However, satisficers were very likely NOT to have connections with local governments, which can help explain why they had little ambition to grow. The waste management sector in most developing countries is still very informal and driven by local political networks. Low-capability firms with effective local political networks can be sufficiently successful without needing to improve their capabilities.

Receiving payments from customers on time was a significant constraint for HGFs in urban waste management. This reflects the informal nature of the business and the difficulty of enforcing payments in weak rule of law contexts when the service and payment are not immediately exchanged. It could also reflect the fact that the willingness to pay for waste management services is not yet strong enough in Nepal. If so, the policy framework should also reflect the market failure and find ways of sustaining demand in an activity important for sustaining the urban environment.

Poor road connectivity was also identified as a significant constraint by HGF firms, as not accessing customers affects their revenues.

The comparison of green tourism with urban waste management shows the significant differences in the types of firms that are emerging depending on the technologies and markets involved. Green tourism relies on better-than-average services and professionalism, while urban waste management relies more on informal networks that provide access to local business opportunities. However, both reveal similar underlying problems that policy needs to address. In both cases, the business models are partially self-sustaining based on market demand, but a better green outcome depends on policy that addresses the relevant market failures. In both cases, the market failure is that not all investments in green practices are justifiable by market returns that the private investor can recover. For a developing country like Nepal, identifying the priority areas of policy support is vitally important. These are areas where the returns to public investments are justified, and where policy design can prevent the capture of these resources by firms that do not then deliver the public good.



Survey Responses*

The results of our survey on SMEs in the sector are presented below. Unlike green tourism firms where we defined specific green practices as the criteria for characterizing firms as green, in the case of urban waste management, we classified all firms in the sector as green on the grounds that they were providing services that improved the urban environment. The adoption of internal green practices did not make too much sense in this sector as these are hard to define when it comes to urban waste management.

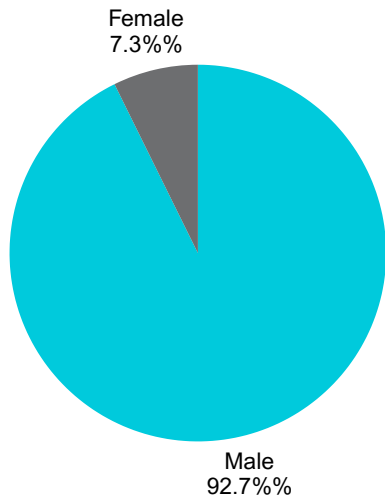


Figure 2: Gender distribution of firm ownership

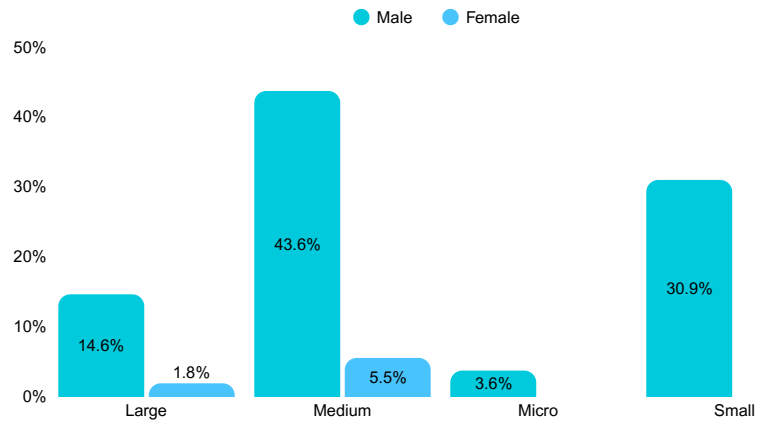


Figure 3: Gender representation and scale of enterprise

The total participation in this sector amounts to 55 individuals, with males constituting the majority at 51 individuals or 92.7 percent, and females representing 4 individuals, or 7.3 percent. Of the 55 firms, 9 are classified as large firms, comprising 16.4 percent; 17 are small firms, accounting for 30.9 percent; 27 are medium enterprises, representing 49.1 percent; and 2 are micro firms, constituting 3.6 percent (Fig 2 above).

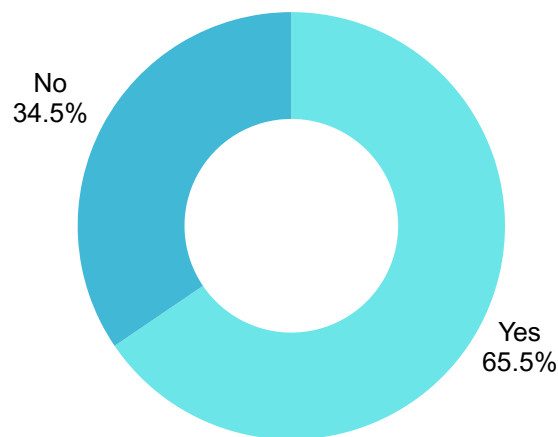


Figure 4: Training/Education before starting business

*These responses are from a segment of the primary surveys of firms undertaken in early 2024.

Nineteen respondents, or 34.5 percent, in the waste sector reported receiving some form of education or training related to their business before starting, whereas thirty-six respondents, or 65.5 percent, did not (Fig 4).

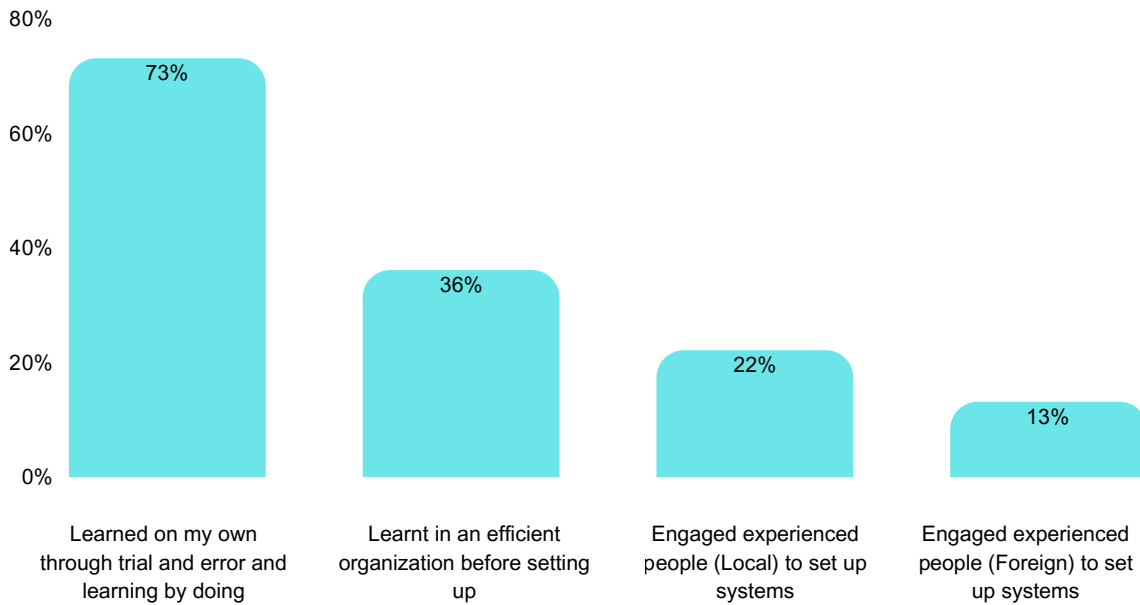


Figure 5: Learning to organize the business

Of the 55 respondents, approximately 36.4 percent (20 individuals) learned business organization from efficient organizations, 72.7 percent (40 individuals) through trial and error, 21.8 percent (12 individuals) engaged local expertise, and 12.7 percent (7 individuals) sought foreign expertise (Fig 5).

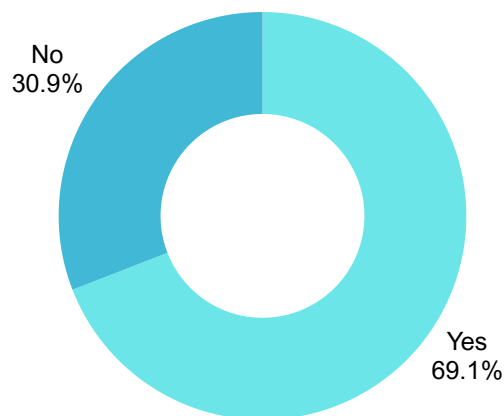


Figure 6: Firms receiving returns

Of the 55 respondents, approximately 69.1 percent (38 individuals) are receiving returns from their business, whereas approximately 30.9 percent (17 individuals) are not receiving returns (fig 6).

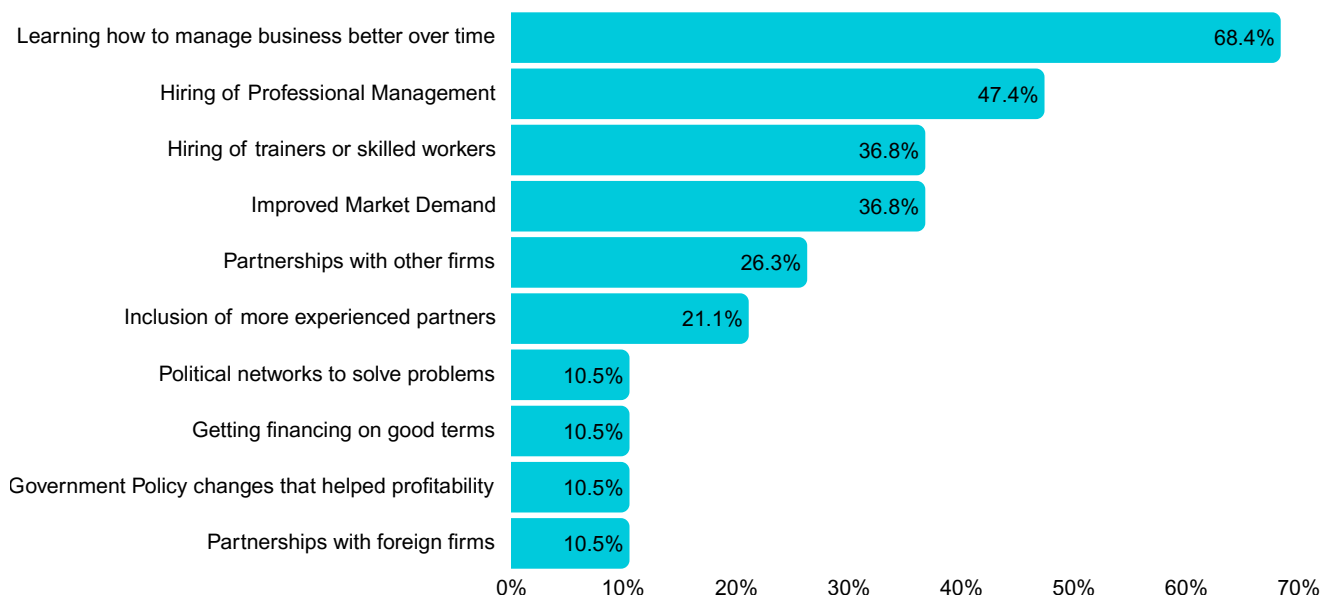


Figure 7: Factors that made firms competitive

Among the firms who are doing well (19 out of 55), the most emphasized factor contributing to competitiveness, cited by 68.4 percent of the total responses, was improved business management over time, followed by the hiring of professional management, noted by 47.4 percent. Additionally, 36.8 percent of respondents acknowledged the impact of increased market demand. Various other factors such as partnerships, government policy changes, and financing were also mentioned by the respondents (Fig 7).

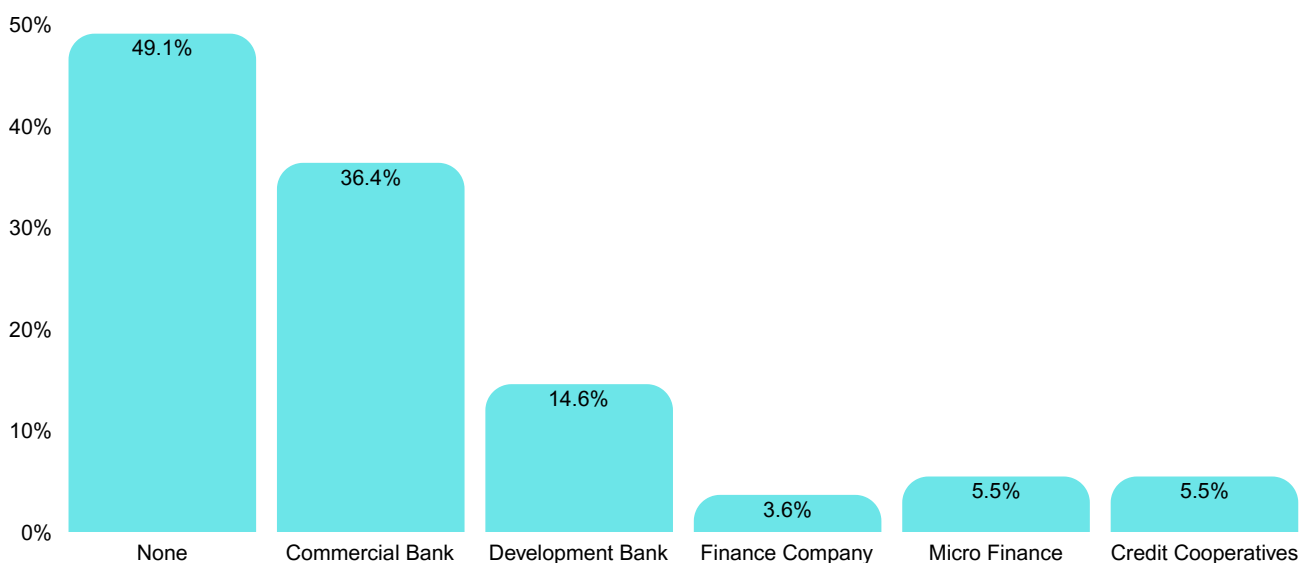


Figure 8: Loan profile

Most of the respondents did not acquire loans, accounting for 49.1 percent (27 firms). Nearly half of these firms (13 out of 27) did not seek loans because they had their own source of capital. Among those who did secure loans, commercial banks were the most common source, utilized by 36.4 percent (20 firms), followed by development banks at 14.5 percent (8 firms), and both finance companies and micro-finance institutions at 5.5 percent (3 firms) each. In the case of tourism the proportion of SMEs accessing commercial banks loans was 63.4 percent. This could either show a lack of ambition among firms in the sector or an inability to provide collateral (fig. 8).

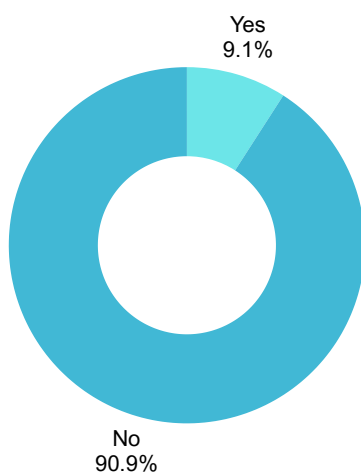


Figure 9: Firms with trademark

Only 5 firms, representing 9.1 percent, reported having registered trademarks, intellectual property, international quality certifications, or, interestingly, even environmental standards.

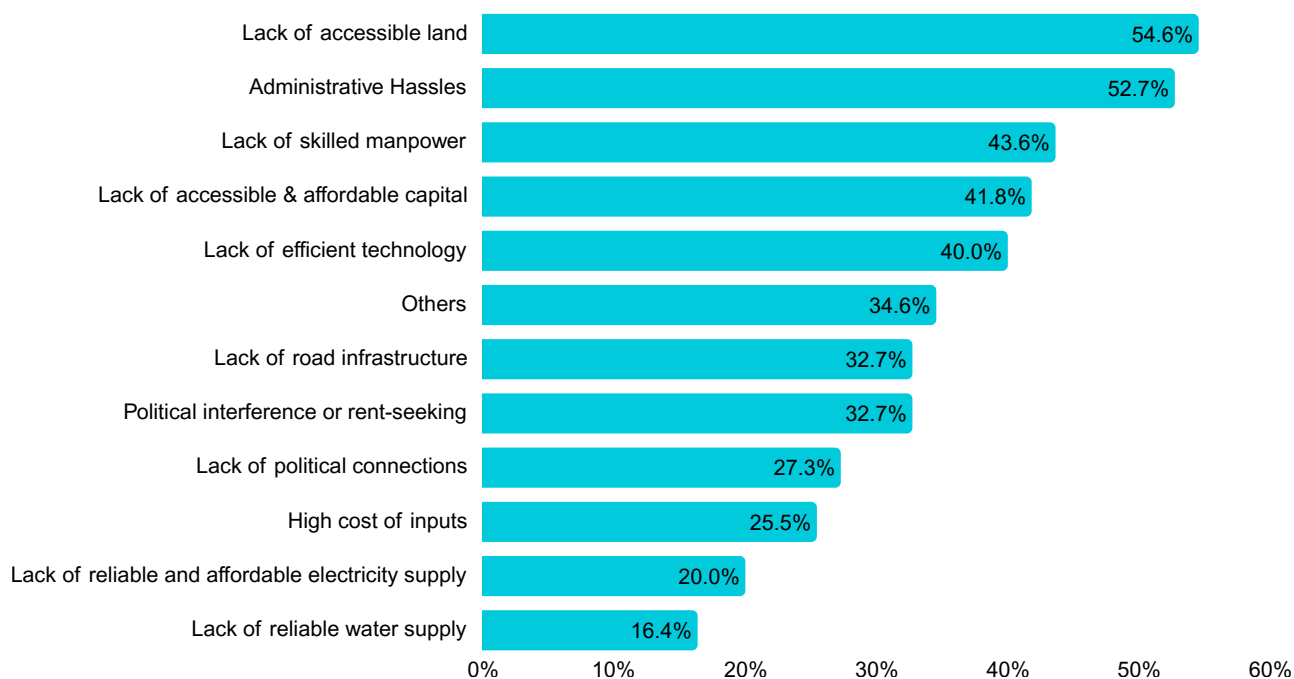


Figure 10: Barriers to business

In the waste management sector, the most cited barrier was the lack of accessible land, reported by 54.6 percent (30 firms), followed by administrative hassles at 52.7 percent (29 firms). Additional barriers included a lack of skilled manpower, cited by 43.6 percent (24 firms); a lack of efficient technology, mentioned by 40 percent (22 firms); a lack of accessible and affordable capital, indicated by 41.8 percent (23 firms); and insufficient road infrastructure, reported by 32.7 percent (18 firms). Other significant barriers were political interference or rent-seeking at 32.7 percent (18 firms), lack of political connections at 27.3 percent (15 firms), high cost of inputs at 25.5 percent (14 firms), lack of reliable and affordable electricity supply at 20 percent (11 firms), lack of reliable water supply at 16.4 percent (9 firms), and other barriers at 34.6 percent (19 firms) (Fig 10).

Like with the tourism sector, we have divided our firms into satisficers and growth-seekers.

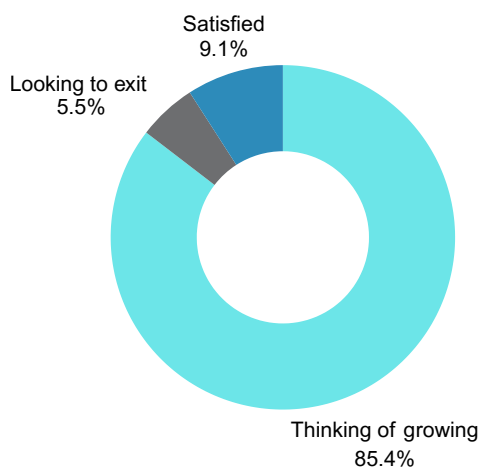


Figure 11: Satisfaction with current operation

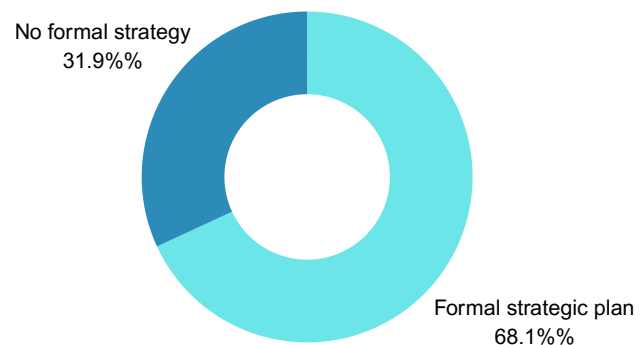


Figure 12: Strategic plan for growth

Among the 55 firms, approximately 85.4 percent (47 firms) are considering growth or expansion, with 32 firms having formal strategic growth plans. About 9.1 percent (5 firms) reported satisfaction with their current operations, and approximately 5.5 percent (3 firms) expressed a desire to exit the market. These latter two can be defined as satisficers in the sample.

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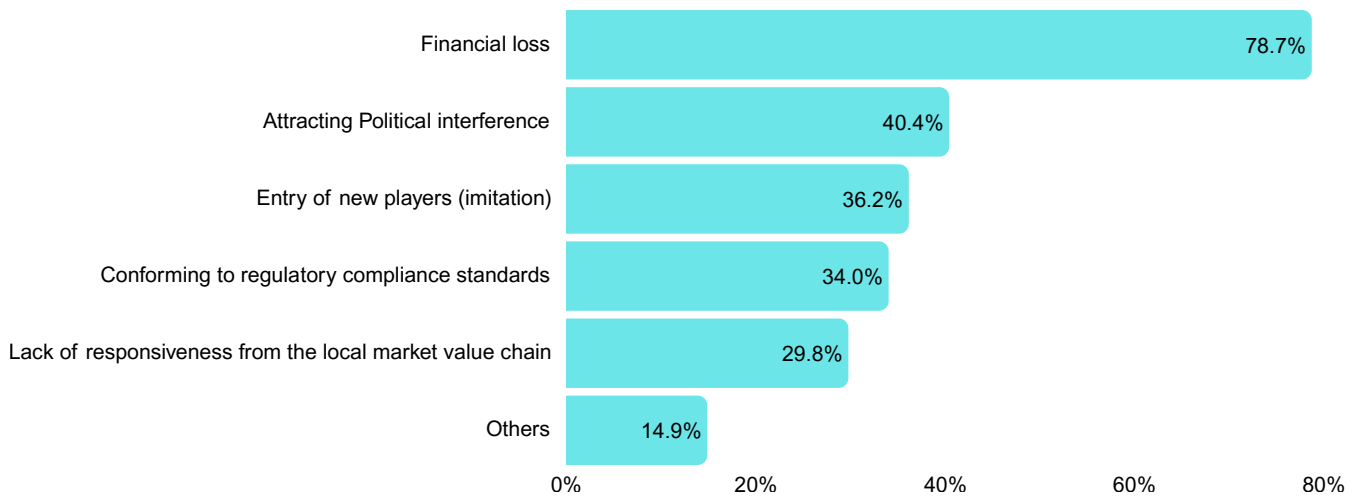


Figure 13: Risk of growing business

The primary concern for firms (totalling 47) seeking growth was financial loss, reported by 37 firms (78.7 percent). This was followed by fears of attracting political interference, cited by 19 firms (40.43 percent). The entry of new players (imitation) was a concern for 17 firms (36.2 percent), while issues with meeting more stringent regulatory compliance standards were reported by 16 firms (34 percent). Additionally, 14 firms (29.8 percent) mentioned a lack of responsiveness from the local market value chain, and 7 firms (14.9 percent) reported other concerns.

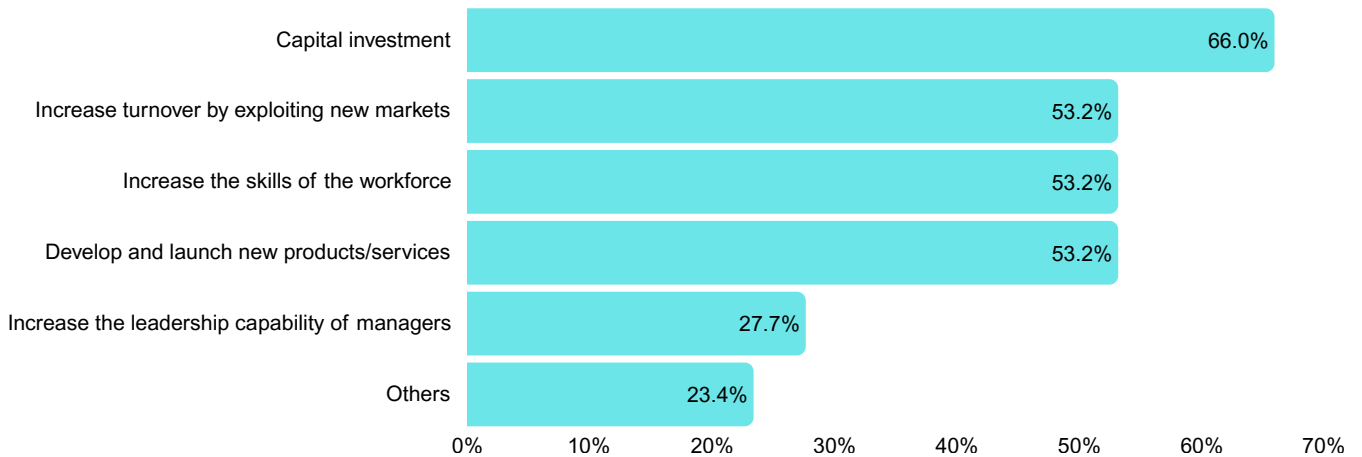
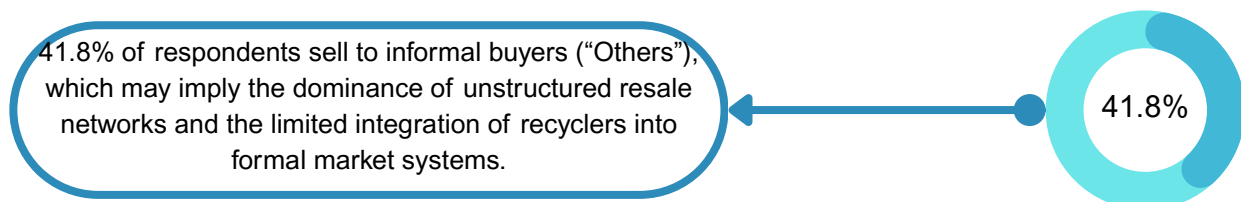
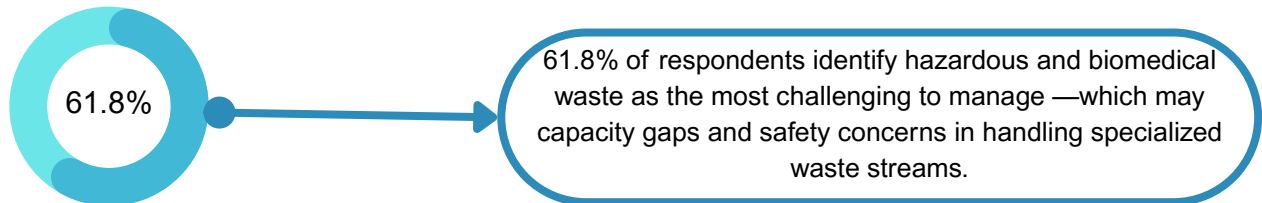
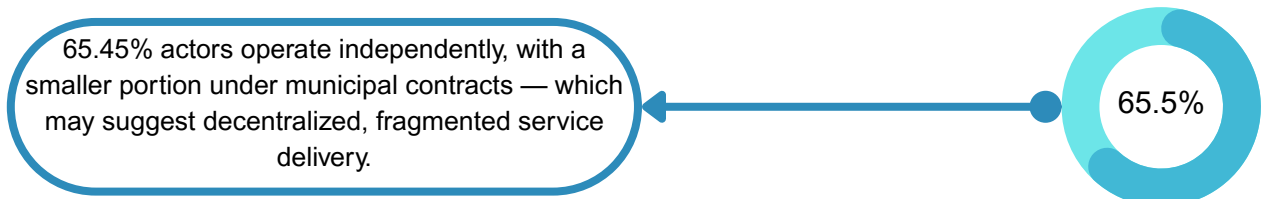


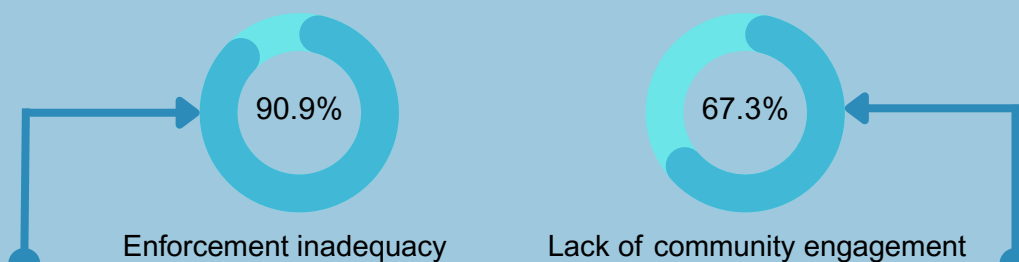
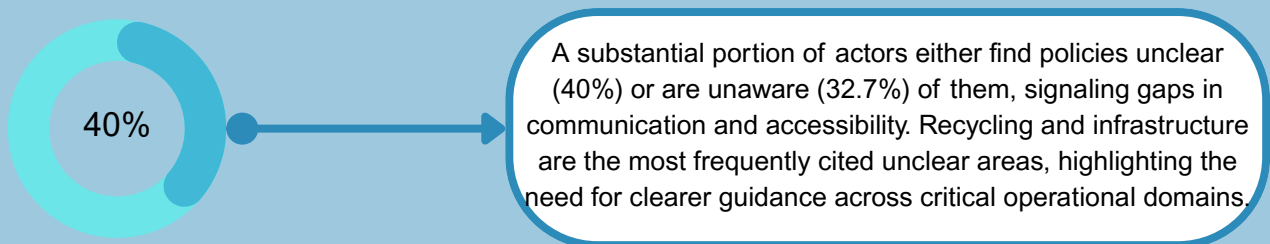
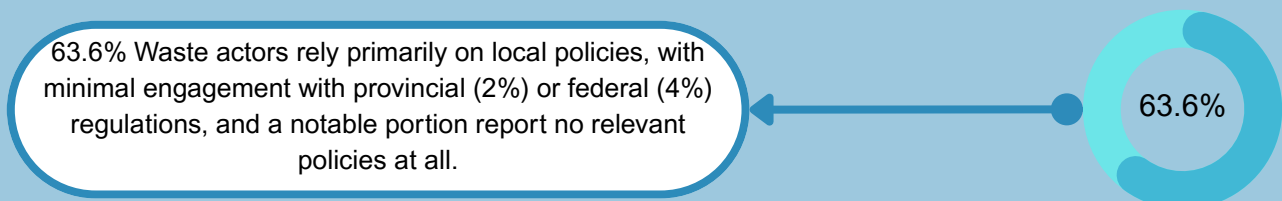
Figure 14: Growth strategies for firms wishing to grow

Regarding growth strategies, capital investment (in premises, machinery, etc.) was the most frequently mentioned, cited by 31 firms (66 percent). Increasing turnover by exploiting new markets, enhancing workforce skills, and developing/launching new products/services were each cited by 25 firms (53.2 percent). Thirteen firms (27.7 percent) mentioned increasing the leadership capability of managers, while other strategies were mentioned by 11 firms (23.4 percent) out of the total 47 respondents.

Operational Landscape of Waste Management

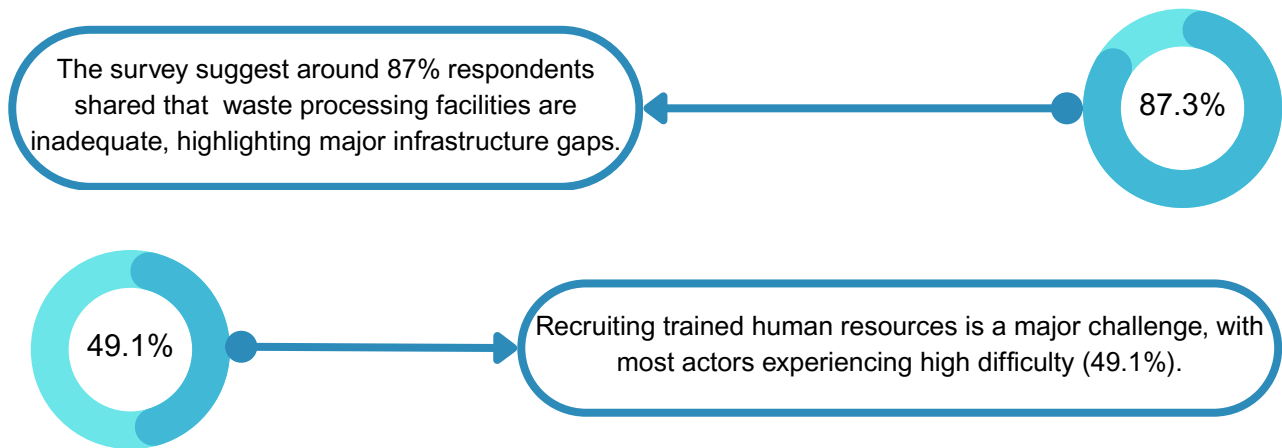


Policy and Regulation of Waste Management

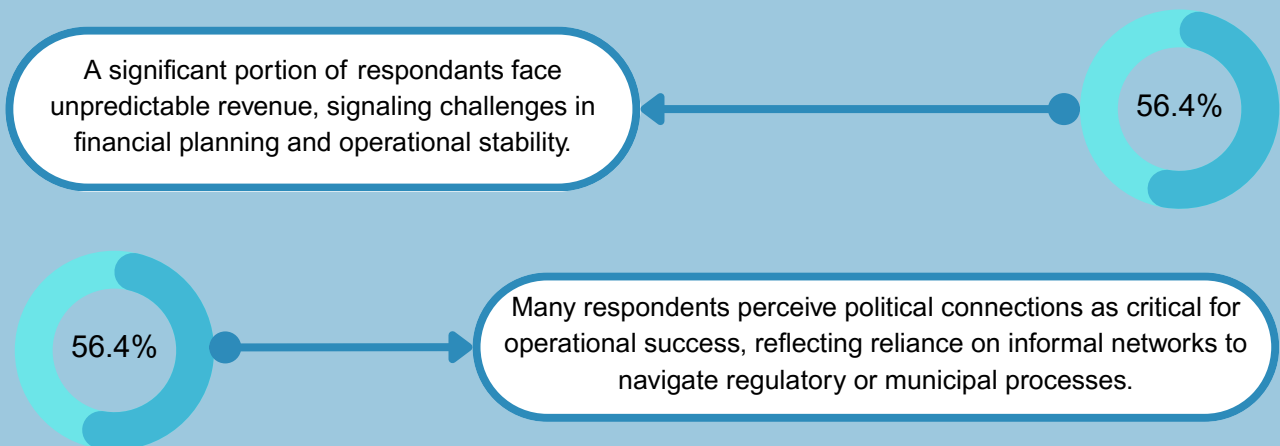


The survey suggested that both policy enforcement and community engagement are low, highlighting governance gaps and limited participatory processes in waste regulation.

Infrastructure & Internal Capacity



Financial Viability and Dependency



Local-level Awareness on Waste Management

