The State of Solid Waste Management in Maputo, Mozambique

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Context

- Maputo, the capital of Mozambique has 1.1 million people and produces 1,100 tons/day of solid waste. Current collection is of 800-850 tons/day.

- Municipalities were created in 1997 and by 2002 SWM was already a big concern in Maputo. Municipal officials started to look for solutions in 2004, with support of a GTZ-funded project on SWM.

- World Bank support to SWM began in 2007, through the Municipal Development Program (ProMaputo) that seeks to strengthen the institutional and financial capacities of the city to improve infrastructure and service delivery.
The Past: From emergency response to strategic planning

• Service was provided on an ad hoc/emergency basis and as reaction to public criticism, with very limited coverage

• In 2004 SWM began to take a strategic planning approach (costs and revenues)

• In 2005 the preparation of the Solid Waste Master Plan began, with the vision of creating “a clean and healthy city”

• The Solid Waste Master Plan (2008): Objectives
  o Phased extension of services to all citizens in an economically feasible way
  o Cost recovery through earmarked revenues (Waste Fee) by 2017
  o Modernisation of professionalization of the public administration
  o Private sector participation
  o Building awareness for an active contribution of the citizens
The financing dilemma: the chicken or the egg

- Service delivery is poor due to lack of revenues, but revenues cannot be improved because poor services...

- Introduction of SWM Fee: Polluter pay principle. Earmarked since 2005 and high compliance because legal provision to cut off energy. However, there was still a financing gap, then...

- The World Bank came in to close the gap through declining subsidies to the private contracts, on the basis of two main commitments:
  
  - Adherence to a financial sustainability plan with a ten year horizon (including a revised fee structure and commitment to subsequent increases—until cost recovery).
  
  - Commitment to institutional change, organizational development, privatization of services, and long term planning.

Fiscal Sustainability Plan
SWM Revenues by source

- Waste Fee domestic (EDM) 72%
- Waste Fee non-domestic (EDM) 13%
- Special collection service 7% (weight)
- Disposal cost private operators 8% (license + contract)

**SWM Fee**

- Capacity to pay: Benchmark 1-1.5% disposable income
- Based on consumption of energy (broadest utility coverage EDM) and collected through the electricity bill
- Domestic ($1-$15), Non-domestic ($140)
- EDM commission: 25% initially, 5% at present
Present: Basic characteristics of the service

- Two main modalities of provision for residential waste, on the basis of private contracts

  (1) Inner/ high density City
  - Coverage 100%, 150 ton/day
  - Problems with the renewal of the contract

  (2) One contract for the suburban and periurban areas (primary + secondary collection)
    - Primary collection:
      - Coverage 100%, 43 neighborhoods (37 SMEs)
      - 600 jobs
      - 100% of financing through SWM fee
    - Secondary collection:
      - 140 containers per day
      - Contract successfully renewed in 2012

Present: Assumptions and commitments

- Internal restructuring (more qualified staff, planning and monitoring procedures)

- Private sector participation (city to look after contracting and monitoring rather than operation)

- SW Fee: Planned increases until cost recovery.

- ProMaputo finances 65% of the suburban contract and will continue with the declining subsidies

- Continuous expansions of coverage
Lessons learned

• Initial help is needed to make the first substantial step towards an efficient SWM system.

• Full political commitment is needed at all times, but politicians change...

• Market imperfections in the supply of services from the private sector.

• Various local and international effects on cost structure (new landfill and oil prices).

• Fees cannot be increased until service improvements are noticeable.

• Pressure to continue the expansion of services—due to SW fee collection mechanism (higher costs or lower quality at a given coverage)

Additional recent challenges

• Change of leadership: day-to-day vs. strategic vision

• Problems with the financing of a new Sanitary Landfill

• Problems with the renewal of High Density contract

• Negotiation of primary-collection contracts (potential interference)

• Coordination between primary and secondary collection

• Municipal weaknesses in contract management

• Update of Master Plan and Financial Sustainability Plan—with the support of JICA

• No clarity about political commitment to increases (and restructure) the SWM fee
Innovative Aspects

• Tailor made approach: locally tried and adjusted technical solutions

• Bridge the gap approach of service coverage/quality vs. revenues with long term financial strategy (SW fee) and World Bank financial support
  o World Bank acceptance to finance operation costs
  o Broader and socially just waste fee

• Focus on previously disadvantaged suburban areas results in service equilibrium between "rich" and "poor" areas
  o Strategy does not aim at the best available service for few areas, but best affordable service for everybody

• Private service participation on different levels, both of large international companies and local micro enterprises

• Success factor Nº 1: constant commitment from all partners (CMM, WB, GIZ) and common understanding of objectives and tasks
Structure of Master Plan for Municipal Solid Waste

1. Institutional Development and organizational sector
2. Collection and transport of SW
3. Final Deposition
4. Reduction and Utilization
5. Education and awareness of the population
6. Economic Sustainability

SWM Costs and Revenues in Maputo (US$)

<table>
<thead>
<tr>
<th>Collection Area and System</th>
<th>2012</th>
<th>2013</th>
<th>2014</th>
<th>2015</th>
<th>2016</th>
<th>2017</th>
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</thead>
<tbody>
<tr>
<td>TOTAL COST</td>
<td>5,156,652</td>
<td>5,804,984</td>
<td>8,431,400</td>
<td>8,576,470</td>
<td>8,696,339</td>
<td>8,773,266</td>
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<td>Specific cost per ton</td>
<td>15.2</td>
<td>14.7</td>
<td>20.6</td>
<td>20.0</td>
<td>20.0</td>
<td>20.0</td>
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<tr>
<td>TOTAL REVENUE</td>
<td>4,902,934</td>
<td>5,247,022</td>
<td>5,945,732</td>
<td>7,455,662</td>
<td>8,455,811</td>
<td>8,905,590</td>
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<td>Waste for domestic (EDM)</td>
<td>3,960,812</td>
<td>4,219,661</td>
<td>4,472,840</td>
<td>5,689,453</td>
<td>6,030,820</td>
<td>6,390,660</td>
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<tr>
<td>Waste for non-domestic (EDM)</td>
<td>723,089</td>
<td>766,475</td>
<td>812,463</td>
<td>1,033,453</td>
<td>1,095,460</td>
<td>1,161,188</td>
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<tr>
<td>Special collection services</td>
<td>133,648</td>
<td>160,768</td>
<td>255,810</td>
<td>256,439</td>
<td>642,681</td>
<td>644,278</td>
</tr>
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<td>Disposal costs for private operators</td>
<td>65,385</td>
<td>101,019</td>
<td>404,639</td>
<td>476,318</td>
<td>686,850</td>
<td>707,455</td>
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<tr>
<td>Cost recovery (including investment costs)</td>
<td>95%</td>
<td>90%</td>
<td>71%</td>
<td>87%</td>
<td>97%</td>
<td>102%</td>
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