

# The State of Solid Waste Management in Maputo, Mozambique

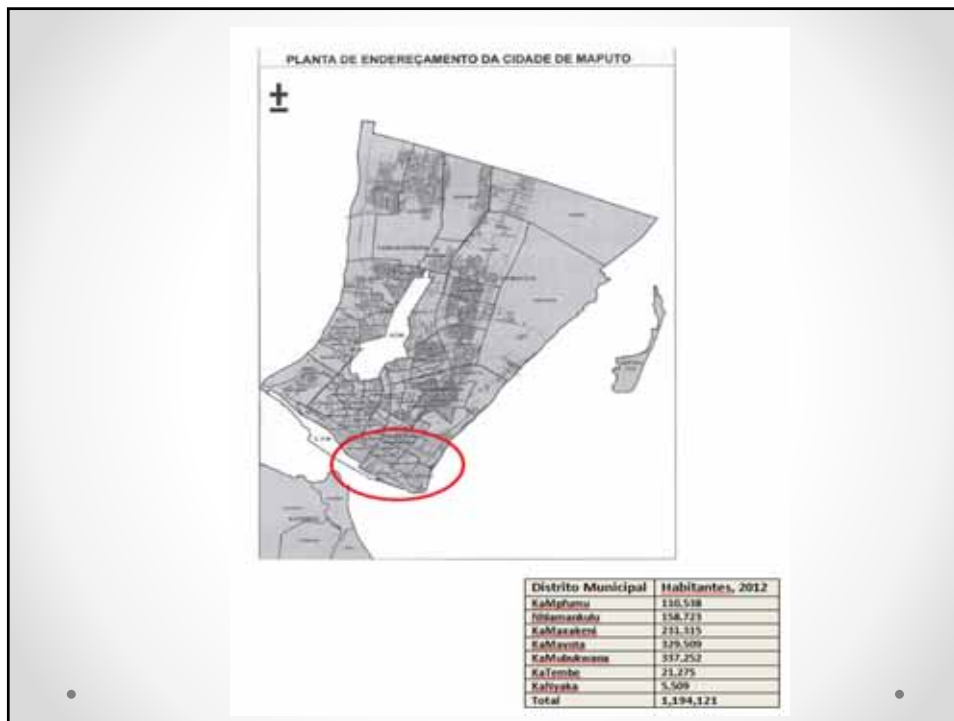
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Maputo, Mozambique

## 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

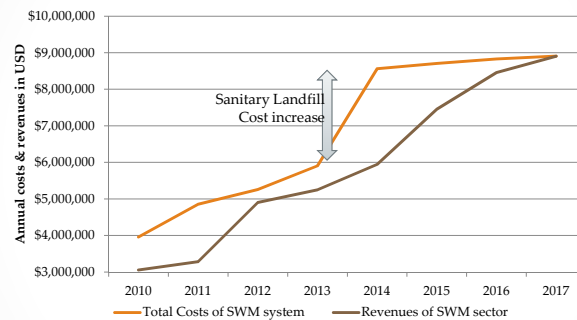
- Service was provided on an ad hoc/emergency basis and as reaction to public criticism, with very limited coverage
- In 2004 SWM began to take a strategic planning approach (costs and revenues)
- In 2005 the preparation of the Solid Waste Master Plan began, with the vision of creating "a clean and healthy city"
- The Solid Waste Master Plan (2008): Objectives
  - Phased extension of services to all citizens in an economically feasible way
  - Cost recovery through earmarked revenues (Waste Fee) by 2017
  - Modernisation of professionalization of the public administration
  - Private sector participation
  - 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**
- Fee increases (20%): 2010, 2013, 2015.
- 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

**ELETROBRÁS DE MOCAMBA S.A.**  
 Avenida Apuleia, Mont. Nº 70  
 C. P.: 2447  
 MARUFO  
 N.I.T. Nº 80000093  
 Multiserviços Saneamento

**CLIENTE**  
 Nº Contrato: 079 8106381 01 99  
 Nº Medidor: 8108101001000 04051 01

**Endereço do Serviço:** 020 Tabela Tarifária de 21 a 241  
 Endereço do Cliente: 020 RUA DA GORRONGORA 145 1º  
 Cidade: Petrolina  
 Estado: RN  
 País: BR  
 Tipo: 9.9  
 Elemento: 14689338

**AGÊNCIA**  
 Agência São João Tarifa: 018  
 ENDEREÇO: PRAÇA Dr. Eduardo Mouton 1302  
 CEP: 55050-000  
 Telefone Comercial: 05100018  
 Telefone Fixo: 040013  
 Telefone Atendimento ao Cliente: 04001406  
 04001438

**Pagamento via banco**  
 Entidade: 205 03  
 Referência: 0007923 05 90  
 Montante: 2.546,99 MT  
 Pag. via ATM: 05/05/2013 a 20/05/2013

**PAGAMENTO VIA QR CODE**  
 PAMELA DOS SANTOS  
 RUA DA GORRONGORA 145 1º  
 Petrolina  
 MARUFO

	Letras	Letras	Quant	Unidade	Preço	Preço Total
Consumo	143,626	144,326	1,00	901	kWh	
de 0 a 300 kWh				300	kWh	881,00
de 301 a 600 kWh				300	kWh	840,00
Acima de 600 kWh				101	kWh	641,76
Taxa Fixa						77,21
<b>Total da Energia Faturada</b>						<b>2.039,97</b>
IVA 17 % de 63 %						218,02
* Letra normal						
<b>Valor Total sem</b>						<b>2.257,99</b>
Taxa de Produção						12,00
Taxa de Limpeza						80,00
<b>Valor Total da Fatura</b>						<b>2.349,99</b>

25/05/2013  
 A Realização desta fatura fora do prazo implicará uma multa no valor de 204,00 MT

## 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
  - World Bank acceptance to finance operation costs
  - Broader and socially just waste fee
- Focus on previously disadvantaged suburban areas results in service equilibrium between "rich" and "poor" areas
  - 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 N° 1: constant commitment from all partners (CMM, WB, GIZ) and common understanding of objectives and tasks

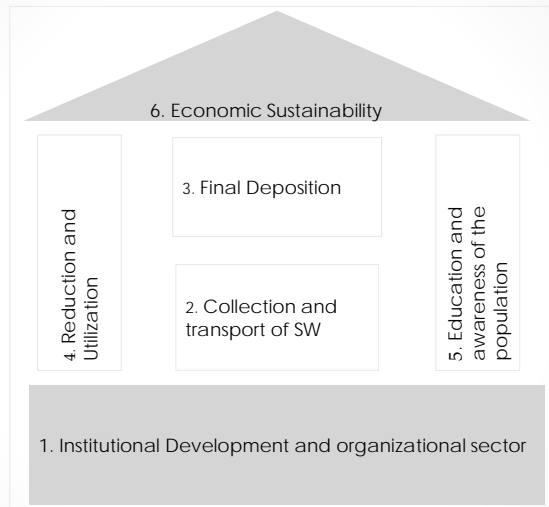
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## Structure of Master Plan for Municipal Solid Waste



## SWM Costs and Revenues in Maputo (US\$)

Collection Area and System	2012	2013	2014	2015	2016	2017
<b>TOTAL COST</b>	5,156,652	5,804,984	8,431,400	8,576,470	8,696,339	8,773,266
Specific cost per ton	15.2	14.7	20.6	20.0	20.0	20.0
<b>TOTAL REVENUE</b>	4,902,934	5,247,922	5,945,752	7,455,662	8,455,811	8,905,590
Waste fee domestic (EDM)	3,980,812	4,219,661	4,472,840	5,689,453	6,030,820	6,392,669
Waste fee non-domestic (EDM)	723,089	766,475	812,463	1,033,453	1,095,460	1,161,188
Special collection services	133,648	160,768	255,810	256,439	642,681	644,278
Disposal costs for private operators	65,385	101,019	404,639	476,318	686,850	707,455
<b>Cost recovery (including investment costs)</b>	95%	90%	71%	87%	97%	102%