

**Knowledge-Sharing Seminar
on Waste Management
And
Preparatory Meeting for Establishing
“African Clean Cities Platform”**

Financial Sustainability of SWM

Abril 25, 2017



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Municipal Directorate of Solid Waste Management and
Cemeteries



OUTLINE OF THE PRESENTATION



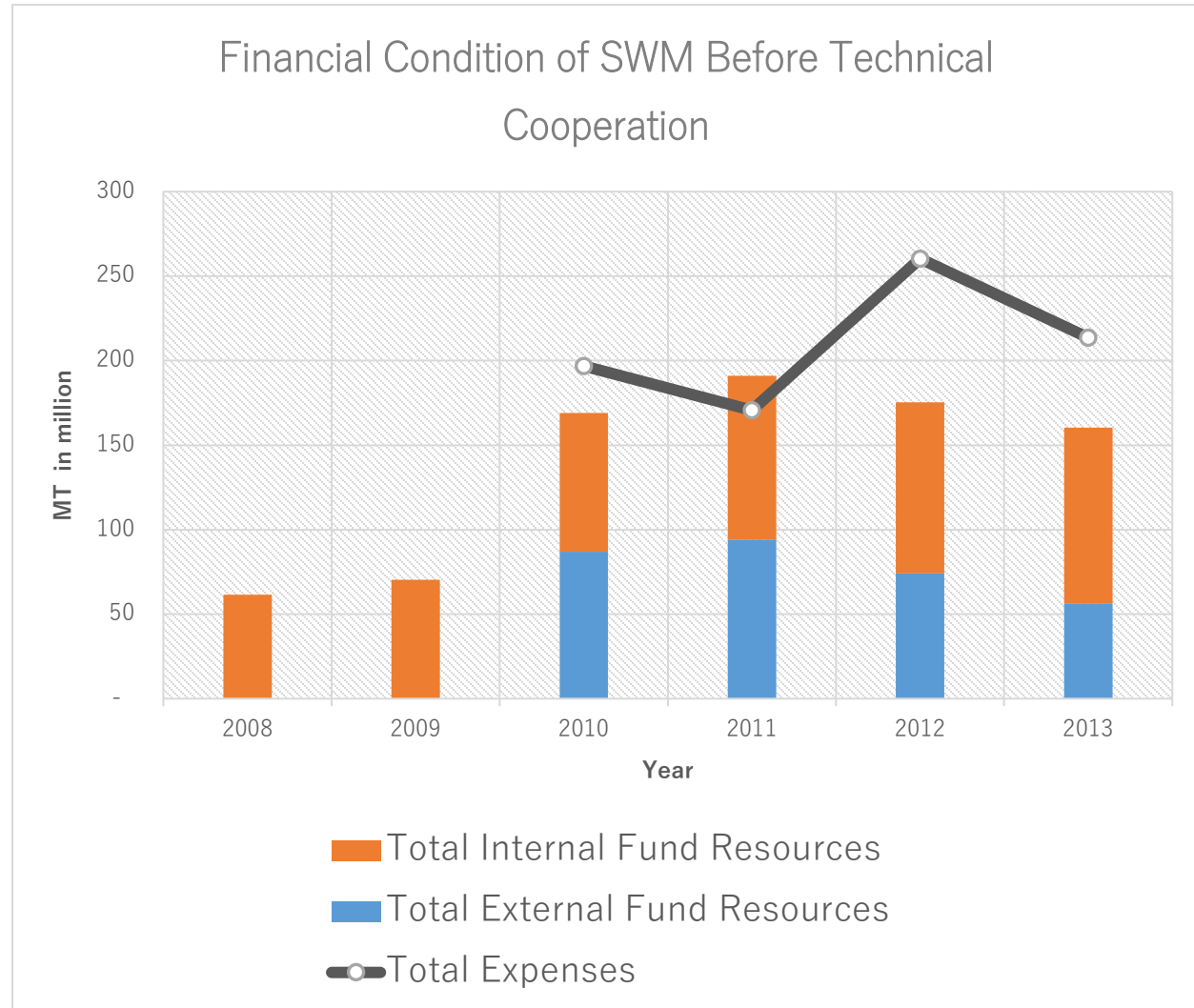
- To share knowledge on Financial Management more effectively, this presentation will take an innovative structure as shown in the matrix.

Before Technical Cooperation	During Technical Cooperation	Beyond Technical Cooperation: The M/P
<ol style="list-style-type: none">1. Financial Condition of the Sector2. External Support	<ol style="list-style-type: none">1. Objectives of Technical Cooperation for Financial Management2. Activities3. Assessments and Findings4. Significant Events/Changes in the Sector5. Financial Performance	<ol style="list-style-type: none">1. Principles of Financial Management2. Future Cost of SWM3. Proposed Improvement in Cleaning Fee Collection4. Revenue Coverage of Future Costs5. Essential Institutional Changes in Financial Management6. Lessons Learned from the 4-Year Technical Cooperation



BEFORE TECHNICAL COOPERATION: Financial Condition of the Sector

- Difficult to obtain historical financial data
- Financial records were not uniform
- Major services (contracts) were classified under Capital Investments
- External funding and subsidy supported sector by an average 45%, annually
- Dumping fee collected merely covered 5% of Hulene Dumpsite operating costs





BEFORE TECHNICAL COOPERATION: Financial Condition of the Sector

- Sector was highly dependent on revenue from cleaning fee by 53%
- Cleaning fees were fixed and structured by echelon, depending on electricity consumption and waste generation for Non-Domestic waste generators, and electricity consumption only for Domestic waste generators

Categories of Non-Domestic Waste Generators	Monthly Energy Consumption	Monthly Cleaning Fee
Low consumption	Up to 200 kWh	MT 50
Average consumption	201 - 500 kWh	MT 100
High consumption	> 500 kWh	MT 150

Categories Domestic Waste Generators	Monthly Energy Consumption	Monthly Cleaning Fee
Social tariff	Up to 100 kWh	MT 10
Low consumption	Up to 200 kWh	MT 30
Average consumption	201 - 500 kWh	MT 45
High consumption	> 500 kWh	MT 65

Categories of Non-Domestic Waste Generators	Monthly tax
Daily production of the 700 superior RSU kg or superior the 2000 liters	MT 4000
Daily production of the 350 superior RSU kg or superior the 1000 liters	MT 2000
Daily production of the 200 superior RSU kg or superior the 500 liters	MT 1000
Daily production of the 100 superior RSU kg or superior the 250 liters	MT 500
Daily production of the 25 superior RSU kg or superior the 50 liters	MT 250
Hospitals and public sanitary units	Exempt

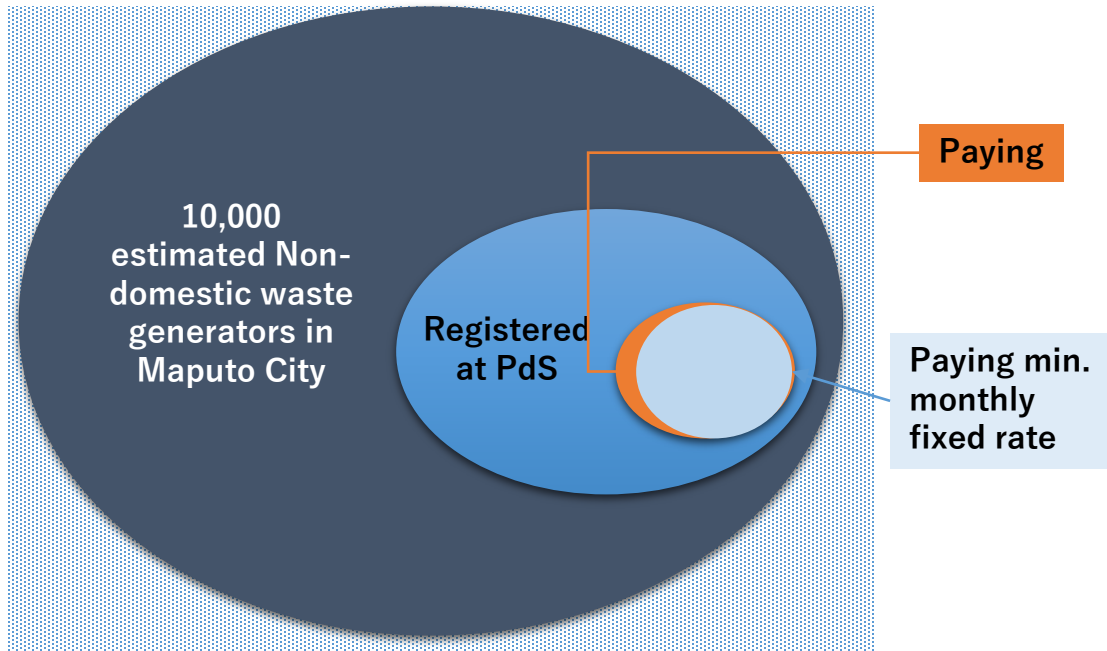


BEFORE TECHNICAL COOPERATION: Financial Condition of the Sector

- Cleaning fee that was pegged on electricity consumption was collected through the electricity bill for both domestic and non-domestic waste generators
- EDM, the electricity company, collects 97% of revenue from cleaning fee
- EDM retained 15% of collections as service fee, monthly
- Average MT92 million was remitted to DMSC, annually from 2010-2013
- Difficult to obtain detailed information from EDM, despite persistent request from DMSC, such as: number of consumers per group (non-domestic, domestic, others), and collected revenue per consumer group, etc., and according to echelons of cleaning fee

BEFORE TECHNICAL COOPERATION: Financial Condition of the Sector

- Portion of the cleaning fee imposed on Non-Domestic waste generators was collected by Prova de Servico of DMSC
- PdS is only able to collect 3% of the cleaning fee from Non-Domestic waste generators
- Of the estimated 10,000 Non-Domestic waste generators in the City, only **2,260** or **23%** was registered in PdS; of this, only **531** or **23%** were paying the cleaning fee and almost all (**92%**) were paying the lowest fee of fixed **MT25** per month



- Revenue collection by PdS was very low
- Many Non-Domestic waste generators refused to pay the cleaning fee even if they were consistently sent invoices and notices by the Supervisors of DMSC
- Database was practically completely erroneous



BEFORE TECHNICAL COOPERATION: External Support

- GTZ – Assistance in Solid Waste Management in the Greater Maputo Area (AGRESU)
 - Supported in the development of the current Master Plan
 - Through technical and financial support
- WORLD BANK (IDA) – Pro-Maputo Project
 - The Municipal Program for the Development of Maputo
 - Was aimed at introducing a model for financial sustainability in order to make the municipalities more independent, e.g:
 - The positive experience of primary collection of solid waste involving micro enterprises and community associations
- CMM annual subsidy to the sector
 - To ensure continued operations of the SWM in the City, the CMM provides funding support that is sometimes beyond original budget, or approves budget reallocation/rectification when needed
 - CMM subsidy means it takes away funding from other competing sectors (education, health, etc.) to support SWM

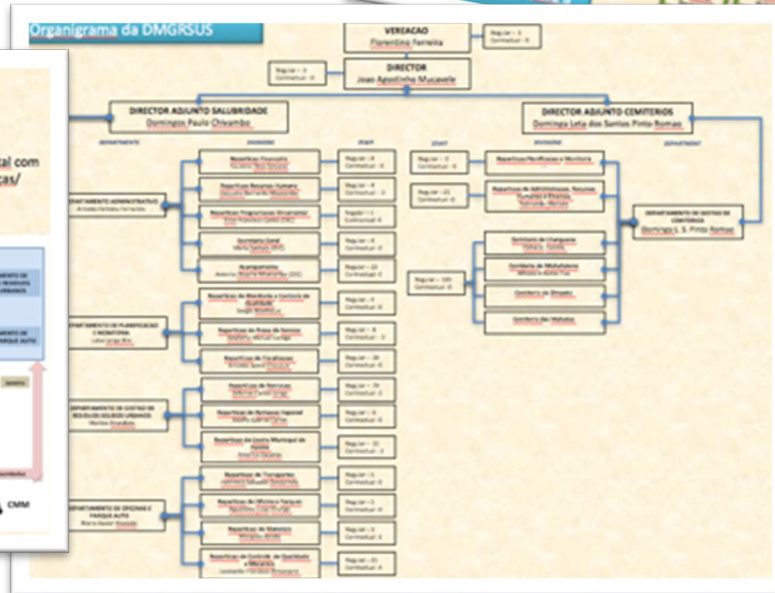
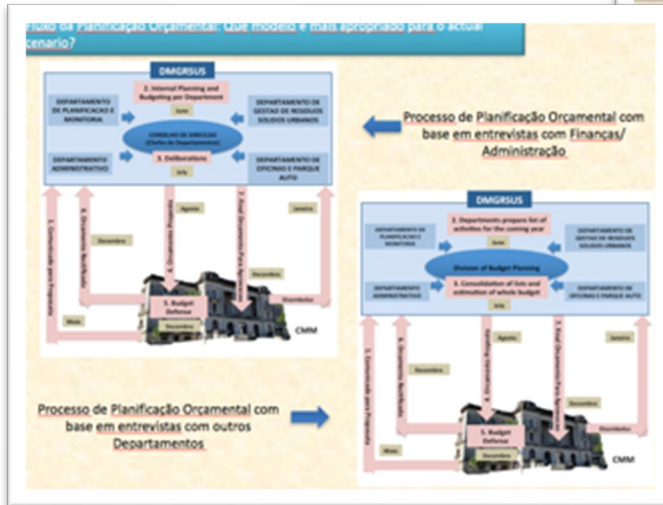
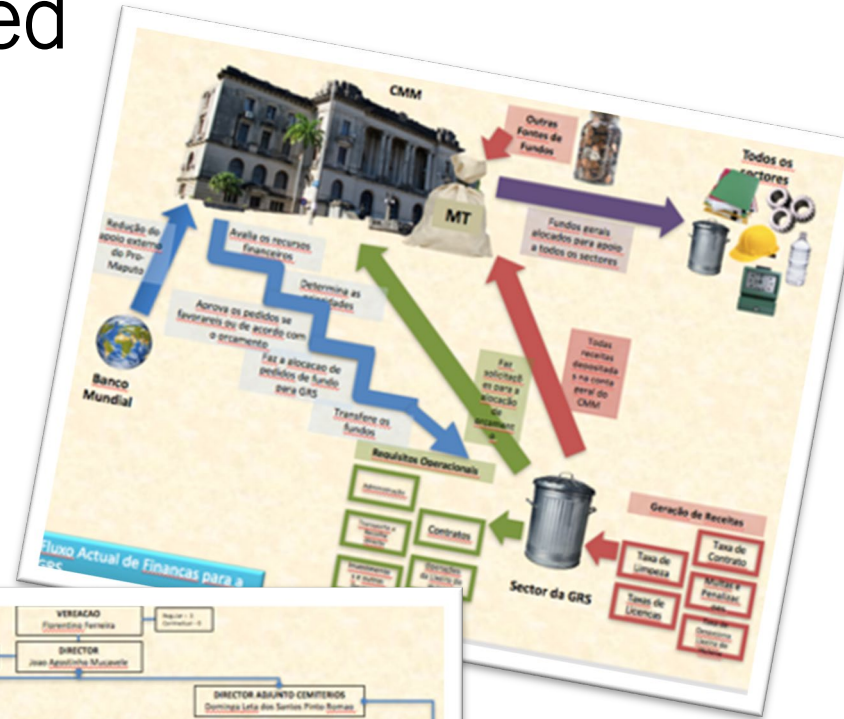


DURING TECHNICAL COOPERATION: Objective on Financial Management of DMSC

- **Primary Objectives, based on Project Design**
 - Review and analysis of current financial system
 - Collection of periodic data on revenue and expense of SWM
 - Calculation of annual budget and monthly expense
 - Develop annual financial report
 - Develop annual budget planning
 - Review of the solid waste fee
 - Develop an action plan for the development of financial management
- **Objectives, based on field experience**
 - Ensure basic concepts are understood
 - Transfer skills on: basic organization of financial data, analysis, conducting presentations, etc.
 - Encourage participation among C/Ps in financial planning, e.g. budgeting
 - Emphasize importance of financial analysis as management and decision-making tool in SWM
 - Understand different stakeholders' perspectives on SWM, especially on fees

DURING TECHNICAL COOPERATION: Major Activities Conducted

- To understand the financial operations of SWM, initiated the rendering of the organizational structure and operations (linkages) of DMSC into diagrams



DURING TECHNICAL COOPERATION: Major Activities Conducted

- Regular meetings and exchange of ideas among finance C/Ps with JET



DURING TECHNICAL COOPERATION: Major Activities Conducted

- Reviewed, analyzed, and improved the Proof of Service database of Non-Domestic large waste producers



Number of Records	Date of Data Validation (Proof of Service)	Date of Data Entry	Status	Region Code Number	Name	Age	Number of Records
1	Aug 13 2014	Aug 13 2014	Act	1000	...	...	...
1	Aug 13 2014	Aug 13 2014	Refact	1710	...	...	...
1	Aug - 2014	Aug 13 2014	Refact	1070	...	...	...
1	Aug 12 2014	Aug 14 2014	Refact	1710	Supermarkets	...	...
1	August 11 2014	Aug 14 2014	Refact	1001	...	...	...



DURING TECHNICAL COOPERATION: Major Activities Conducted

- Together with the Supervisors, conducted a survey on non-domestic large waste generators to understand viewpoints on SWM, present cleaning fee rates and collection method, and elicit support on: 1) increasing fees to support future SWM development and operations, and 2) improve the fee collection system



DURING TECHNICAL COOPERATION: Major Activities Conducted

- Conducted inclusive activity and budget planning using models that encouraged participants to understand sectoral and departmental objectives and set realistic targets



Planificação das Actividades e Orçamento para 2016

Projecto para a Promoção de Actividades Sustentáveis de 3R em Maputo
DMGRSUS#JET

Planos de Actividades e Orçamento Consolidados

Realizações do Programa/ projecto de 3R em 2015 (Jan - Dez)	Estimativa do Orçamento Necessário (MT)	Tipo de Custo					
		Bens		Servicos		Investimento	
		%	MT	%	MT	%	MT
Operações do Departamento	-	#DIV/0!	-	#DIV/0!	-	#DIV/0!	-
1 Transportes	-	#DIV/0!	-	#DIV/0!	-	#DIV/0!	-
2 Oficina e Parques	-	#DIV/0!	-	#DIV/0!	-	#DIV/0!	-
3 Materiais	-	#DIV/0!	-	#DIV/0!	-	#DIV/0!	-
4 Controle de Qualidade e Mecanica	-	#DIV/0!	-	#DIV/0!	-	#DIV/0!	-
5	0	#DIV/0!	-	#DIV/0!	-	#DIV/0!	-
6	0	#DIV/0!	-	#DIV/0!	-	#DIV/0!	-
7	0	#DIV/0!	-	#DIV/0!	-	#DIV/0!	-
8	0	#DIV/0!	-	#DIV/0!	-	#DIV/0!	-
9	0	#DIV/0!	-	#DIV/0!	-	#DIV/0!	-
10	0	#DIV/0!	-	#DIV/0!	-	#DIV/0!	-
TOTAL	-	#DIV/0!	-	#DIV/0!	-	#DIV/0!	-

Por favor não modifique estas células

Tecto Orcamental	-	-	-	-
Requisitos Orcamentais	-	-	-	-



DURING TECHNICAL COOPERATION: Major Activities Conducted

- Developed models and used them to organize financial data and facilitate regular costs and revenue information collection, data analysis and assessment of financial performance

CONSELHO MUNICIPAL DE MAPUTO
DIRECCAO MUNICIPAL DE SALUBRIDADE E CEMITERIOS
Reparticao de Administracao e Financas

ACTUALIZADOR DE RECEITAS
Balancete de Receita Arrecadada No Mes

Rubrica	Provincia	DOTACAO (MT)
1 2 3	Receitas nao Fiscais	
1 2 3 2	Colmas e Multas	641,92
1 2 3 2 4	Cobranca de Multas DMSC (30%)	641,92
1 3	Receitas Consignadas	143,547,23
1 3 0 5	A Recolha e Tratamento de Lixo	143,547,23
1 3 0 5 1	EDM - CMM (95%)	133,535,23
1 3 0 5 2	Prova de Servico, Taxa de Limpeza	3,800,00
1 3 0 5 3	Taxa de Lixeira Municipal de Hulene	2,700,00
1 3 0 5 4	Contratos de recolha de residuos solidos	3,000,00
1 3 0 5 6	Licencas de proviao de servicos de recolha	300,00
1 3 0 5 7	Remocao especial	200,00
1 3 0 5 7	Inceneracao	12,000,00
1 3 0 16	EDM - Prestacao de Servicos (5%)	7,028,170,11
2 2	Outras Receitas de Capital	804,000,00
2 2 2 2	Bens Imoveis, incluindo rendas e aforos sobre terra	1,505,884,80
2 2 2 2 4	DMGRSU	804,000,00
TOTAL DE RECEITAS		144,993,155,00

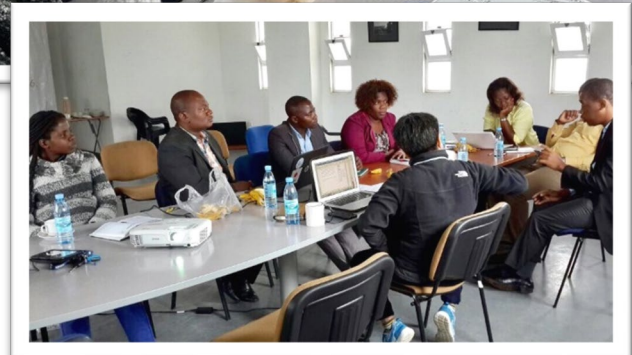
ORÇAMENTO MUNICIPAL DMGRSUS		Fontes (Source)	2010	2011	2012	2013	2014	2015
1 DESPESAS DE CORRENTES								
1.1 Despesas com o Pessoal			26,470,000	29,130,000	27,229,001	24,124,486	25,155,607	25,155,607
				10%	-7%	-11%	4%	0%
1.1.1 Salarios e Remuneracoes		CMM	25,914,326	28,559,883	21,175,001	23,486,886	23,973,407	23,996,823
1.1.1.001 Vencimento Base do Pessoal do Quadro		CMM	15,319,572	22,176,920	13,329,003	15,290,397	14,134,200	13,102,516
1.1.1.002 Vencimento Base de Pessoal Fora do Quadro		CMM	6,280,326	1,453,402	2,358,086	1,960,116	2,284,252	2,700,000

BUDGET AND EXPENSE TRACKER
ORÇAMENTO MUNICIPAL DMGRSUS

Fontes (Source)	TOTAL BUDGET (MT)	CUMULATIVE EXPENSE (MT)	%	BALANCE MT	JANUARY MT
DESPESAS CORRENTES	222,435,577.00	89,289,262.64	18%	133,146,314.36	32,209,742.26
PESSOAL	25,122,981.00	9,006,271.79	36%	16,116,709.21	3,822,132.88
SALARIOS E REMUNERACOES	25,122,981.00	9,006,271.79	36%	16,116,709.21	3,822,132.88
PESSOAL CIVIL	23,946,013.00	8,675,754.62	36%	15,270,258.38	3,689,457.23
1.1.1.001 Vencimento Base do Pessoal do Quadro	12,712,206.00	3,799,446.82	30%	8,912,759.18	926,988.41
1.1.1.002 Vencimento Base de Pessoal Civil Fora do Quadro	1,600,876.00	866,156.22	54%	734,719.78	216,936.61
1.1.1.003 Remuneracoes do Pessoal Civil Estrangeiro	-	-	0%	-	-
1.1.1.004 Pessoal aguardando aposentacao	310,932.00	279,285.86	90%	31,646.14	76,070.89
1.1.1.005 Gratificacao de Chefe	74,630.96	74,630.96	100%	-	-
1.1.1.006 Outras Remuneracoes Certas	221,988.00	74,630.96	34%	147,357.04	18,612.74
1.1.1.007 Remuneracoes Extraordinarias	623,000.00	366,157.23	59%	256,842.77	51,410.62
1.1.1.008 Subsidio de exclusividade para pessoal civil	-	-	0%	-	-
1.1.1.009 Subsidio de localizacao para pessoal civil	-	-	0%	-	-
1.1.1.010 Bonus especial para pessoal civil	8,720.00	2,832.80	32%	5,887.20	708.20
1.1.1.011 Bonus especial para pessoal civil	3,690,108.00	1,069,104.46	29%	2,621,003.54	256,375.74
1.1.1.012 Retroactivos salariais do exercicio corrente para pessoal civil	-	-	0%	-	-
1.1.1.013 Abono 13th para pessoal civil activo	1,310,557.00	1,310,557.26	100%	42,043.74	1,310,513.26
1.1.1.014 Remuneracoes de pessoal civil contratado por tempo determinado	-	-	0%	-	-
1.1.1.015 Remuneracoes extraordinarias da 2a turma-educacao	-	-	0%	-	-
1.1.1.016 Remuneracoes extraordinarias para pessoal docente	-	-	0%	-	-
1.1.1.017 Subsidio de adaptacao	-	-	0%	-	-
1.1.1.018 Subsidio de localizacao para pessoal civil	-	-	0%	-	-
1.1.1.019 Bonus de rendimento para pessoal civil	3,446,303.00	949,406.63	28%	2,496,896.37	254,488.76
1.1.1.020 Pessoal Militar	-	-	0%	-	-
DEMAS DESPESAS COM PESSOAL	1,176,968.00	380,516.11	32%	796,451.89	332,675.60
1.1.2.01 Ajudas de custo dentro do pais	127,500.00	18,250.00	14%	109,250.00	31,110.00
1.1.2.02 Ajudas de custo fora do pais para pessoal civil	706,840.00	254,979.45	36%	451,860.55	189,065.00
1.1.2.03 Auxilio ao pessoal civil estrangeiro	-	-	0%	-	-
1.1.2.04 Representacao para pessoal civil	54,000.00	-	0%	54,000.00	-
1.1.2.05 Subsidio combustivel e manutencao de viaturas para pessoal civil	184,000.00	37,286.56	21%	146,713.44	8,500.00
1.1.2.06 Subsidio de salarios remuneracao para pessoal civil	9,600.00	-	0%	9,600.00	-
1.1.2.07 Subsidio de material escolar para pessoal civil	91,000.00	-	0%	91,000.00	-
1.1.2.08 Outras despesas com pessoal civil	30,000.00	-	0%	30,000.00	-
BENS E SERVICOS	186,181,141.00	30,382,790.81	16%	155,898,350.19	28,881,609.75
BENS	9,234,549.00	2,907,651.04	31%	6,326,897.96	906,469.88
1.2.1.1 Combustiveis e Lubrificantes	4,883,548.00	138,443.82	3%	4,745,104.18	77,246.00
1.2.1.2 Material para manutencao e reparacao de bens imoveis	45,545.00	40,997.83	90%	4,547.17	15,800.00
1.2.1.3 Material para manutencao e reparacao de bens moveis	627,381.00	529,784.71	84%	97,596.29	307,845.37
1.2.1.4 Financiamento do CMM	300,000.00	220,875.14	74%	79,124.86	132,828.20

DURING TECHNICAL COOPERATION: Major Activities Conducted

- Conducted a series of core group seminars and workshops to assess the cleaning fee, fee collection system and determine a sound collection system that would optimize revenue collection of the cleaning tax





DURING TECHNICAL COOPERATION: Other Activities Conducted

- Analyzed the dumping fee imposed at Hulene dumpsite
- Reviewed major service contracts for heavy equipment rentals, collection and transportation of garbage, and recommended improvement/changes in contract service agreements considering better use of financial resources
- Held various meetings with EDM, CMM Finance, foremost planners of proposed sanitary landfill: MITADER and FNDS, and others
- Conducted presentations called “Financial Matters” to share analyses, findings, and knowledge with DMSC



DURING TECHNICAL COOPERATION: Some Assessments and Findings

- Cost of SWM in Maputo City is MT694.54/ton or USD10.60/ton in 2015
 - Considering annual price escalations, this unit cost is comparable with other low income to low middle income countries, that use open-dumping as a disposal method based on a 2012 WB study:
 - Low Income: USD 2-USD 8
 - Low Middle Income: USD 3- USD 10
 - Upper Middle to High Income: N/A
- Source: What a Waste: A Global Review of Solid Waste Management. The World Bank. 2012*
- Compared with other sectors in the City, SWM takes up 17% share of the City's annual budget
 - SWM sector has high potentials to increase its own revenues and cover its own costs of operations

USD1 = MT65.5



DURING TECHNICAL COOPERATION: Some Assessments and Findings

- Financial information-sharing, within DMSC, and between DMSC and CMM was difficult, but improved over time
- The weighbridge at Hulene which was damaged most of the time made it difficult to rely on data regarding waste collected and transported to the dumpsites
- Verification of invoices from contracted major service providers were difficult due to unreliable timesheets and monitoring reports
- Many non-domestic large waste generators would actually refuse to pay the cleaning tax simply because there was no strong regulation to penalize non-payment of the fee
- Manual invoicing --- actual distribution of invoices by foot done by Supervisors were tedious and inefficient use of human resources



DURING TECHNICAL COOPERATION: Some Assessments and Findings

- ✓ The financial management situation was revised and analyzed'
- ✓ Around 5000 new large waste generators were registered;
- ✓ Budget planning involving all the departments of DMSC;
- ✓ Drafting of monthly and annual reports;
- ✓ Review of the cleaning tax;



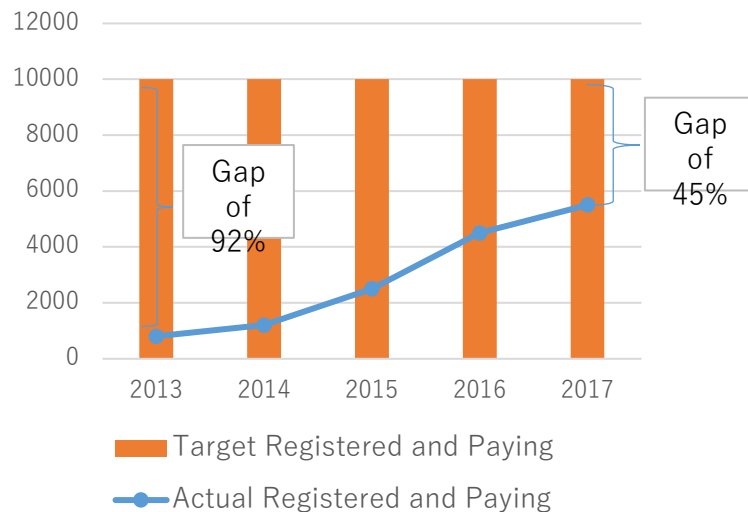
DURING TECHNICAL COOPERATION: Changes in the Sector

- Proper classification of expense items were made: i.e., major services on transport and waste collection were correctly classified under Goods and Services, instead of under Capital Investments in 2015
- EDM continued to collect monthly cleaning fees anchored on fixed echelons of electricity consumption, but service charge was decreased from 15% to 5%
- DMSC continued to request for more detailed monthly report of its remittances from EDM



DURING TECHNICAL COOPERATION: Changes in the Sector

- Proof of Service IT system was upgraded, database was corrected, registration of Non-Domestic large waste generators continued to increase from only 800 towards end of 2013 to over 5,000 by beginning of 2017, lessening the gap between estimated total number of establishments in the City and those sharing with the City's cost burden for SWM



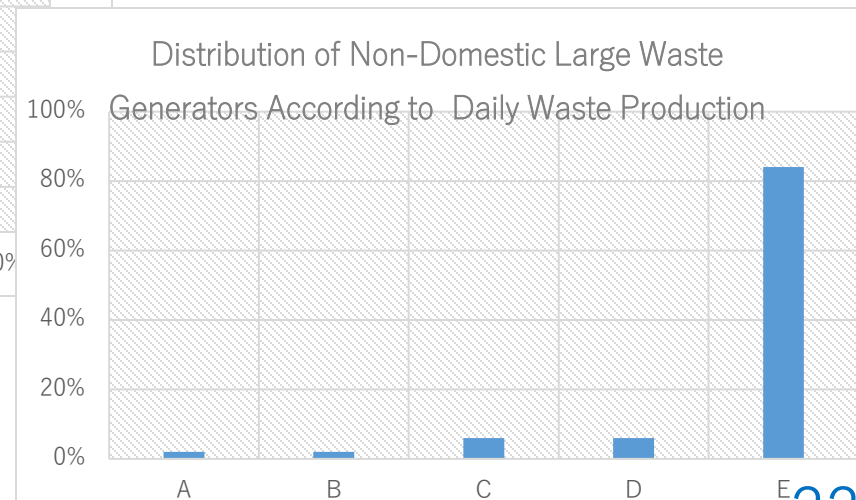
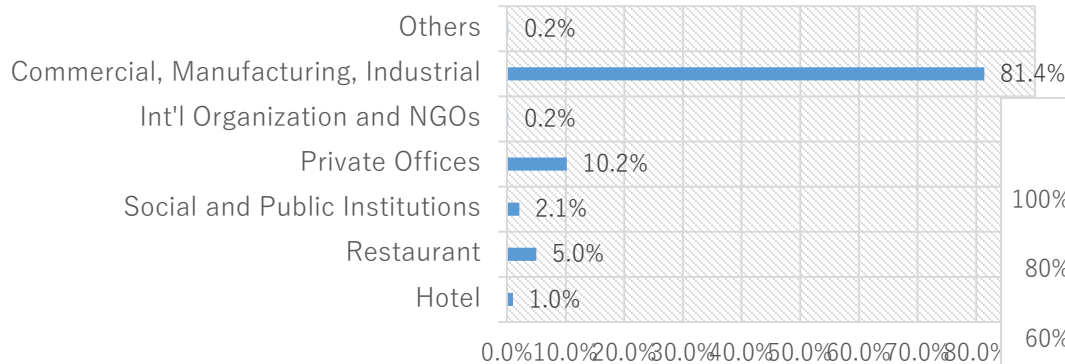
- Revenue from cleaning fee collected by Proof of Service improved from MT2.37 million in 2013 to MT6.37 in 2016, or an increase by almost 3 times.



DURING TECHNICAL COOPERATION: Changes in the Sector

- More technical classification of Non-Domestic large waste generators was adapted by Proof of Service based on estimated daily waste production according to activity type, and size of business, using results from waste quantity and quality survey conducted by the Project

Distribution of Non-Domestic Large Waste Producers by Economic Activity





DURING TECHNICAL COOPERATION: Changes in the Sector

- Cleaning fees were increased in 2014 to support increasing funding requirement of SWM especially after Pro-Maputo funding support was already finished, but structure remained the same

Category of Non-Domestic Waste Generator	Energy Consumption per month	Corresponding Monthly Cleaning Tax
Small Consumer	Up to 200 kWh	MT 80
Medium Consumer	201 – 500 kWh	MT 160
High Consumer	>500 kWh	MT 250

Category of Domestic Waste Generators	Electricity Consumption per month	Corresponding Monthly Cleaning Tax
Small Consumer	0 to 200 kWh	MT 45
Medium Consumer	201 to 500 kWh	MT 75
High Consumer	>500kWh	MT110

Category of Non-Domestic Waste Producers	Waste Generation per day	Corresponding Monthly Cleaning Tax
A	Up to 700 kg or 2000 liters	MT 5200
B	Up to 350 kg or 1000 liters	MT 2600
C	Up to 200 kg or 500 liters	MT 1300
D	Up to 100 kg or 250 liters	MT 650
E	Up to 25 kg or 50 liters	MT 325
F	Hospitals and public sanitary units	Exempted



DURING TECHNICAL COOPERATION: Financial Performance

- Variance between planned (approved) and executed budgets was still significant --- excesses in budget (surplus) show need for streamlined process for budget request and disbursement
- Leap in budget for 2016 was not as planned by DMSC but as modified by the CMM Finance in anticipation for the capital investment for the sanitary landfill in the amount of MT 870.62 million --- this was not expended

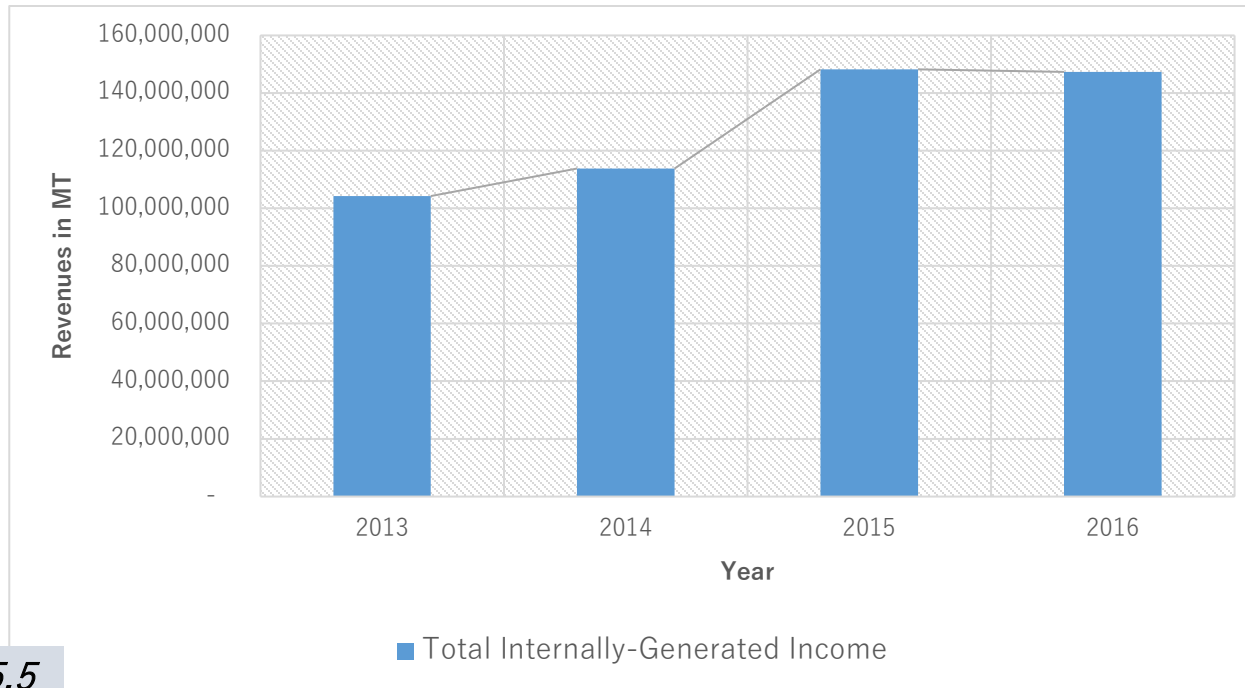
Budget	2013	2014	2015	2016
Planned (Approved) (MT)	182,542,249	224,780,888	466,921,120	1,100,494,195
Executed (MT)	213,640,222	144,795,945	301,901,165	226,732,959
Variance (MT)	(31,097,973)	79,984,943	165,019,955	873,761,235
Variance (%)	-17%	36%	35%	79%

USD1 = MT65.5



DURING TECHNICAL COOPERATION: Financial Performance

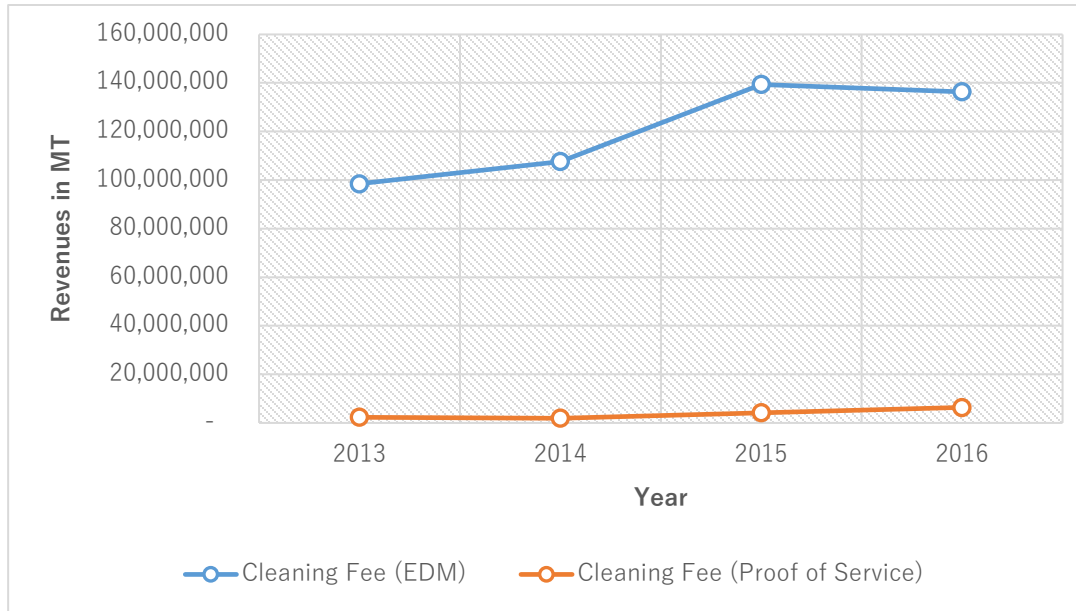
- Total Internally-Generated Income consistently grew from 2013 to 2015, then dipped by -1% in 2016 influenced by a slightly lower remittance of the cleaning fee collection from MT139 million to MT136 million



USD1 = MT65.5



DURING TECHNICAL COOPERATION: Financial Performance



- Given the significant changes in the Proof of Service, improved revenue targets must be set, to give way to a more robust inflow of financial resources to the sector

- EDM-collected revenue from cleaning fee hits an average of 85% annually, of its target
- Proof of Service-collected revenue from cleaning fee, was able to finally hit its target (100%) in 2014, and continued to grow, reaching 168% in 2016

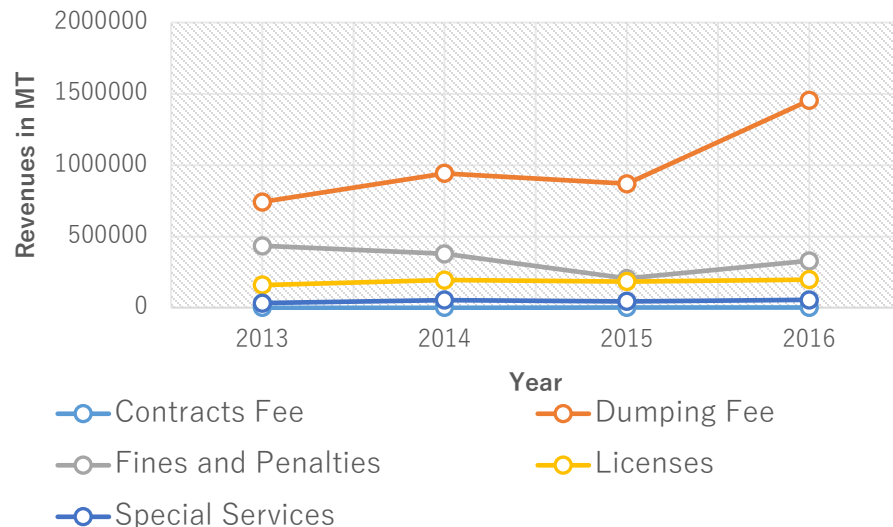
USD1 = MT65.5



DURING TECHNICAL COOPERATION: Financial Performance

Internally-Generated Income	2013	2014	2015	2016
Cleaning Fee (EDM)	98,433,535	107,589,529	139,338,613	136,314,900
Cleaning Fee (Proof of Service)	2,370,479	1,932,069	4,203,304	6,372,371
Contracts Fee	2,002,513	2,645,655	1,835,582	1,822,174
Dumping Fee	742,473	943,334	869,378	1,454,208
Fines and Penalties	434,692	377,882	205,923	329,227
Licenses	159,837	194,271	183,538	197,139
Special Services	32,765	53,480	45,077	55,270
Other Revenues			1,505,885	788,473
Total Internally-Generated Income	104,176,294	113,736,220	148,187,300	147,333,762

- Sector has high potential for income growth



USD1 = MT65.5



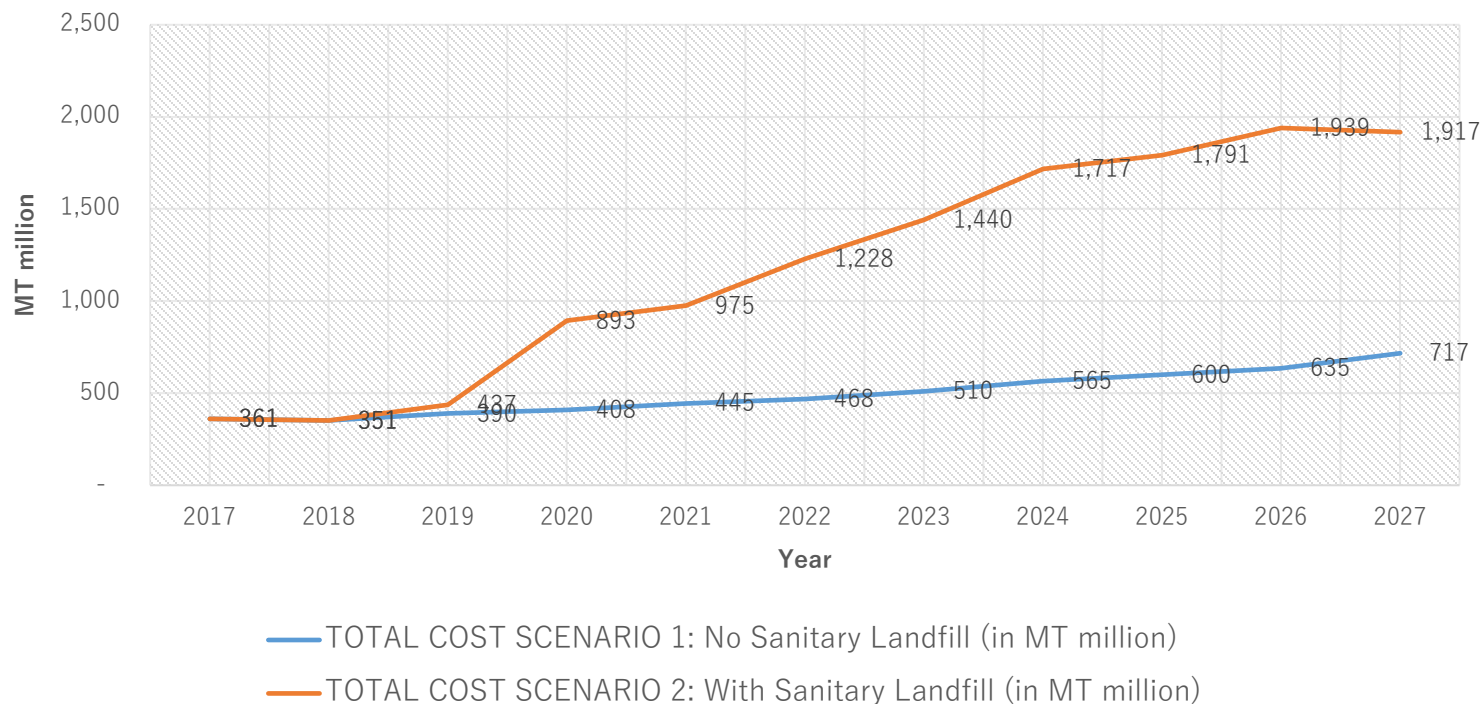
BEYOND TECHNICAL COOPERATION: Principles of Financial Management

- It is hoped that, foremost of all, the principles of financial management learned over the 4-year Project be upheld and practiced:
 - Transparency
 - Accountability
 - Acknowledgement of shared responsibility
 - Good relations and mutual respect
 - Efficiency



BEYOND TECHNICAL COOPERATION: Future Cost of SWM

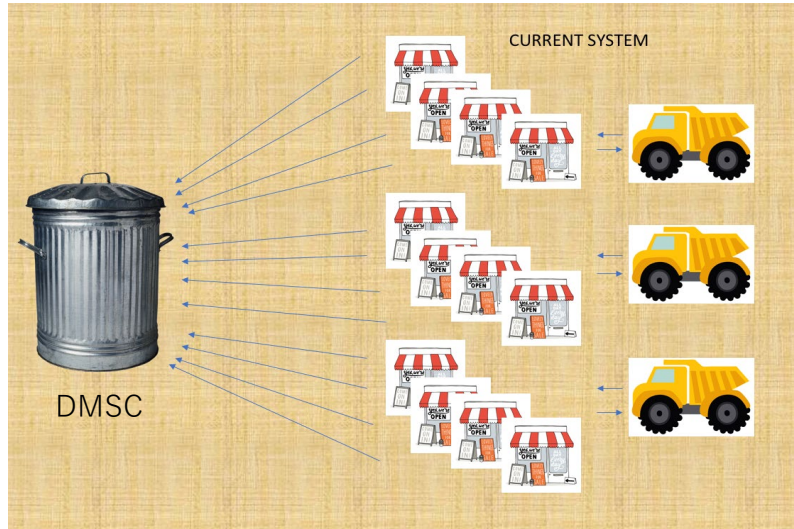
MUSW Fund Requirement



- Very high future costs of SWM, especially with sanitary landfill --- aggressive improvement in revenue collection will be necessary.

USD1 = MT65.5

BEYOND TECHNICAL COOPERATION: Proposed Improvement on Cleaning Fee Collection



Current System of Imposing Cleaning Fee from Large Waste Generators by the Proof of Service of DMSC

Proposed System of Imposing Cleaning Fee from Large Waste Generators by the Revenue Office of DMSC: Online, Market-Driven Method





BEYOND TECHNICAL COOPERATION: Proposed Improvement on Cleaning Fee

- The unit costs of SWM for both domestic and non-domestic were derived for the following reasons:
 - The fixed rates were not equitable across electricity consumer levels
 - The fixed rates do not relate electricity consumption with waste generation
 - The echelons are difficult to rationalize: there was no solid basis
 - Current cleaning fees do not optimize revenue potential to cover cost
 - Unit price per kWh that relates economic activity with waste generation is the rationale cleaning fee to be imposed on domestic and non-domestic waste producers, collected by the electricity company, EDM
 - Unit price per kWh will ensure transparency and easier monitoring between EDM and CMM with respect to monthly remittance of revenues from cleaning fee
 - Unit price will remove tariff echelons and cleaning fee to be paid monthly will vary depending on electricity consumption, and therefore economic activities and waste generation



BEYOND TECHNICAL COOPERATION: Proposed Improvement on Cleaning Fee

- Assumptions used in calculating the unit cost of SWM anchored on electricity consumption:
 - Waste generation in Maputo City: 1,190 tons/day (JET estimate), 67% domestic, 37% non-domestic or 434,35 million kg in a year
 - Electricity consumption: EDM's latest report of a total electricity consumption of 489.95 million kWh in 2012
 - Total cost of SWM in the City: MT 301.672 million (2015)
 - Derived unit cost of SWM based on electricity consumption are as follows:
 - Domestic: **MT0.49/kWh**
 - Non-Domestic: **MT1.28/kWh**

USD1 = MT65.5

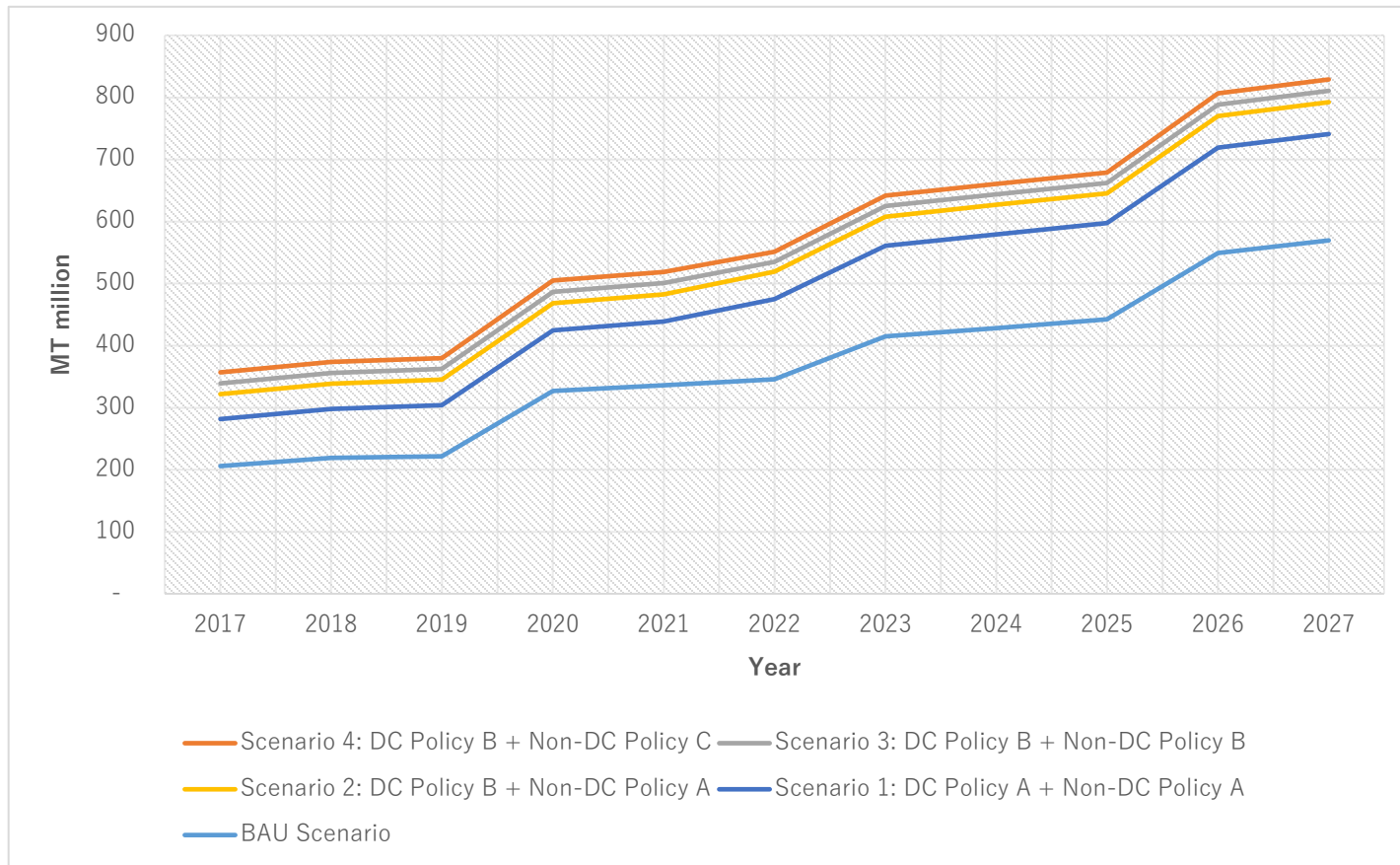


BEYOND TECHNICAL COOPERATION: Proposed Improvement on Cleaning Fee

- For Domestic waste producers, the estimated impact of the new cleaning fee based on the unit rate will potentially take up **3.4%** only of the monthly household income.
- For Non-Domestic large waste generators, the new cleaning fee could potentially consume about **41%** of the total monthly electricity bill.
- Various scenarios and policy mixes on raising fees were done to show impact of the proposed unit rate on consumers, total revenue collection, and ability of the sector to cover its cost
- Various scenarios and policy mixes on raising fees were done to aid DMSC-CMM in its decision-making with regards to raising fees, of increasing subsidy levels to the sector, especially in anticipation of the funding-intensive future sanitary landfill

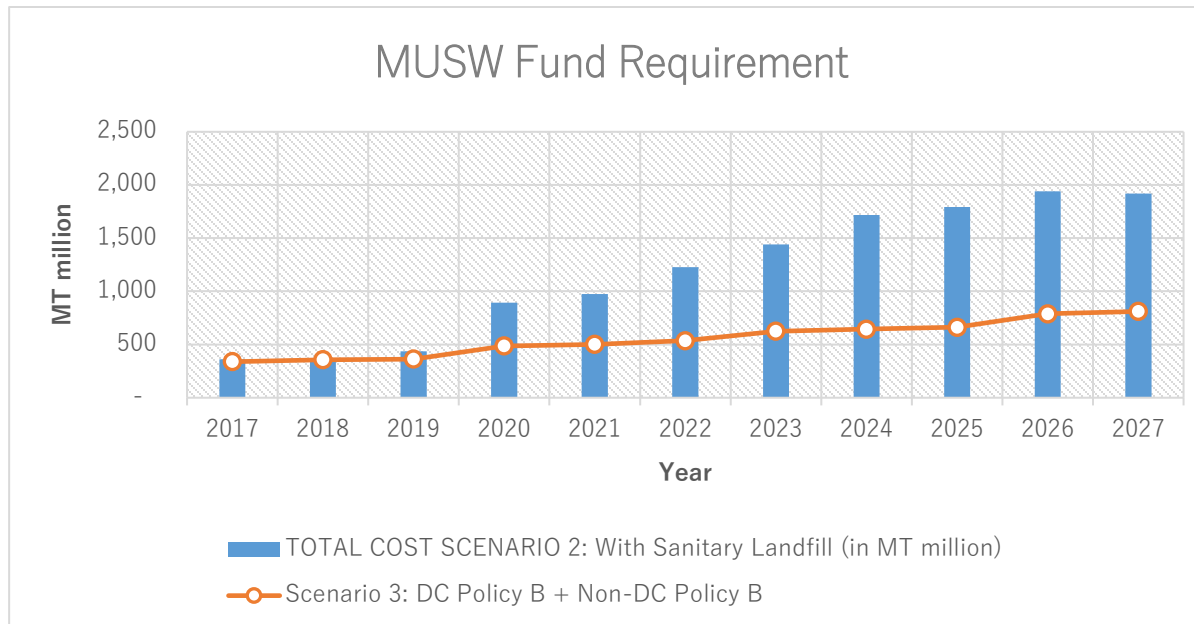


BEYOND TECHNICAL COOPERATION: Revenue Coverage of Cost of SWM



BEYOND TECHNICAL COOPERATION: Revenue Coverage of Cost of SWM

- Sample scenario with Sanitary landfill:
 - Domestic waste producer is charged 100% of unit cost of MT0.49/kWh
 - Non-Domestic waste producer is charged 80% of unit cost of MT1.28/kWh
 - Tipping fee is increased by 400% to partially cover cost of operations of sanitary landfill





BEYOND TECHNICAL COOPERATION: Essential Institutional Changes on Financial Management

- Creation of special SWM account to be managed by the Finance Section of the DMSC;
- Instituting reforms in the Finance Section organization, roles and responsibilities of subsections;
- Correction of functions and departmental linkages within DMSC;
- Imposition of the regulation on payment of correct tipping/dumping fees without exemption;
- Reformulating policies to include incentives for large waste generators that are compliant to cleaning fee payments;
- Reformulating policies to include stringent penalties for large waste generators that are non-compliant to cleaning fee payments, especially those with back payments of over one (1) year;



BEYOND TECHNICAL COOPERATION: Essential Institutional Changes on Financial Management

- Imposition of strict transparency rules on PSPs regarding inventory of clientele;
- Imposition of strict compliance on regulation pertaining to large waste generators having active contracts for waste transportation and collection with a PSP or the CMM, whichever is preferred;
- Imposition of full disclosure of monthly data by EDM to CMM with regards to cleaning tax collections;



BEYOND TECHNICAL COOPERATION: Key Challenges Ahead

- More detailed evaluation of bids, especially for large contracts, that would scrutinize financial proposals of bidders to determine the service provider that can deliver its service with the most cost efficient method, and which would be advantageous to CMM. This practice can potentially LOWER the cost of service provision for collecting and transporting waste in Maputo City, significantly;
- External funding support from international development partners will be very favorable to support the high costs of SWM of Maputo City, especially in anticipation of the construction and operation of the sanitary landfill;
- Strong political will to impose and support changes.



BEYOND TECHNICAL COOPERATION: Lessons Learned from the 4-Year Technical Cooperation

- Planning of financial activities;
- Understanding of financial activities;
- Capacity to influence senior manager in the decision making process related to financial activities;
- Importance of inter-departmental linkages;
- Drafting of financial reports;
- Implementation of the model for the execution of expenses and revenues;
- Policy change in order to achieve the financial sustainability, e.g: Financial independence, improvements in revenue collection, reduction of costs, support proof of service in improving its management.



THANK YOU VERY MUCH!