Solid Waste Management in Morocco
Institutional & Policy Issues

Samir Bensaid
International Institute for Water & Sanitation
IEA

Morocco
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SW Sector in Morocco

Facts & Figures

- Population: 33 Million
  18 M in Urban Areas / Pop. (2.85% per Year)

- SW Production: 5 M tons/y (0.8 Kg/cap./day)

- Collection: 70% in urban areas

- Only 2% Recycled or
  Disposed in Sanitary Landfills

- Disposal
  - Lack of Sanitary Landfills
  - 300 open dumps

- Main Actors:
  - L. Authorities, Municipalities / Ministries: Interior, Environment, Finance...

- 15% of municipal expenses allocated to the SWM
SW Sector in Morocco
Component of the Domestic SW

Characteristics

- Organic Materials 70%
- High Humidity 70%
- Weak calorific value 1000 kcal/kg
- Recyclable Waste 1 mT/year

Ref. Ministry in charge of Environment
SW Sector in Morocco
Industrial Solid Waste

- Production: 1,6 mT/Y

- Disposal Methods:
  - Recycling: 23 %
  - Landfilling: 73 %
  - Cement Kilns: 4 %

16 % of Industrial Solid Waste are Hazardous
SW Sector in Morocco

Negative Impacts

- Water Pollution (Leachate)
- Landscape Degradation
- Air Pollution

Resulting Negative Impacts on:

- Public Health
- Environment
- Social & Economic development

Cost of Environmental Degradation

0.5% of GDP
SWM Reform in Morocco

Two Key and Significant Actions:

- **2006**
  - The 1st SWM Law (Law 28-00)
  - as well as laws on Environmental Protection & EIA

- **2007-2008**
  - The National SWM Program (PNDM)
  - 15 Years / USD 5 Billion
SWM Reform in Morocco
Solid Waste Management Law

**Two Key Objectives:**

i. To establish integrated & affordable SWM

ii. To mitigate impacts on public Health & Environment

**Laying the foundation for:**

- Institutional framework for SWM;
- Master Plans: National, Regional & Local
- Cost recovery principles
- Sanitary landfills
- Regulations for hazardous waste;
- Monitoring the Compliance with Law;
- Introduction of Environmental dimension
SWM Reform in Morocco
National SWM Program

PNDM
15-Year Program 2007-2021
Cost USD 5 Billion
- 1% for capacity building & Com
- 3% for promoting “3R”

Main objectives:
- 90% of Collection by 2021
- 100% Cities with Sanitary Landfills by 2021
- Closure & Rehab. of 300 existing open dump
- Promoting SW Sorting, Recycling & Valorization

Sorting 20 % of Recyclable Materials
SWM Reform in Morocco
Priority Areas

Focusing over the few next years on 3 areas:

✓ Improving Governance of the Sector
   by additional legal, regulatory & institutional measures

✓ Promoting the Sustainability of SW Services
   by financial mechanisms & incentives for municipalities

✓ Mainstreaming Social & Environmental dimensions
   into planning & operating SW services & investments
SWM Reform in Morocco

1 Improving Governance

- Legislation & Regulation
  Enforcement of the 2006 SWM Law

- Policy Planning & coordination
  National Commission for Coordination SWM

- Improving Contracting Procedures
  PSP

- Transparency & Equity Principles
  in eligibility criteria for government subsidies
to support municipal WS Programs.

- Public Awareness

Approved Decrees:
- SW Classification & Hazardous SW List.
- Medical & Pharma. Wastes
- Procedures & Technical Standards for Landfills

Pending Decrees:
- SW Transport
- Regional Domestic WS Master Plan,…
Financial Sustainability

- Improving municipal financial capacity:
  Government Subsidies,
  Reform of Local Taxation & New Revenues:
  SW Fees, Funds through the carbon market, Eco-Tax...

- Improving the cost effectiveness of services:
  Promoting Inter-Municipal Cooperation
  Regionalization of WS Disposal Facilities
  Improving contracting documents & procedures for PSP

Capacity Building

- Multi-Year CB Program for Municipalities
- Managerial, Technical, Financial & EIA Issues

Government Subsidies to Municipalities

- 2008: USD 35 M
- 2009: USD 45 M

PNDM
(15-Year Program)

CB & Com Budget
USD 80 M
SWM Reform in Morocco

3 Social & Environment Dimensions

- Improving social & working conditions of WS Pickers who are affected by closure of existing dumps
- Enhancing EIA System & procedures
- Enforcing the international agenda on CC
  Promoting projects to reduce GHG emissions in SW sector
- The SW Law lays the foundation for encouraging “3R” Approach through:
  - Hierarchy Principles
  - “Polluter Pays” Principle
  - Giving waste Producers the sense of responsibility

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In general the routes in Material Recycling are very similar to those of Asian Developing countries.
SWM Reform in Morocco

Toward “3R” - Clean Development Mechanism (CDM)

Energy Recovery

The FEC has been appointed by the Government as the coordinating agency responsible for developing a programmatic CDM project.

Morocco, as a developing country is eligible the Clean Development Mechanism (CDM) under the Kyoto Protocol. SW disposed in landfills generates gases composed of 50 pc methane (a GHG), which can be used to produce electricity.

Emission reductions (ERs) can be sold to developed countries entities to generate revenue for the improvement of SWM.
SWM Reform in Morocco

Achievements

✓ 10 Sanitary Landfills constructed

✓ PSP
50% of Municipal SW collect & transport operated through PSP contracts

✓ 1 Municipality decide to construct a “Déchetterie” (*Sorting Waste Center*)

✓ Government Subsidies to Municipalities
US$ 40M in 2008 / US$ 50M in 2009
SWM Reform in Morocco
Weaknesses to overcome

✓ Poor solid waste technical and managerial capacity at regional & local levels

✓ Lack of inter-municipal cooperation, leading to inefficiencies & foregone economies.

✓ Insufficient the arrangements for financing municipal SW services

✓ social inclusion activities should be developed (Waste-Pickers)

✓ Insufficient appropriate communications & public awareness programs

✓ shortcomings of the current EIA system (absence of criteria, guidelines, incomplete standard ToRs for EIA reports for SWM…)

✓ Lack of R&D for innovative, adapted & appropriate solutions

✓ 3R Options poorly explored and do not receive yet due attention
Thank you for your attention

Contact

sbensaid@iea.ma