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Solid Waste Management in Morocco

Institutional & Policy Issues

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Morocco

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SW Sector in Morocco

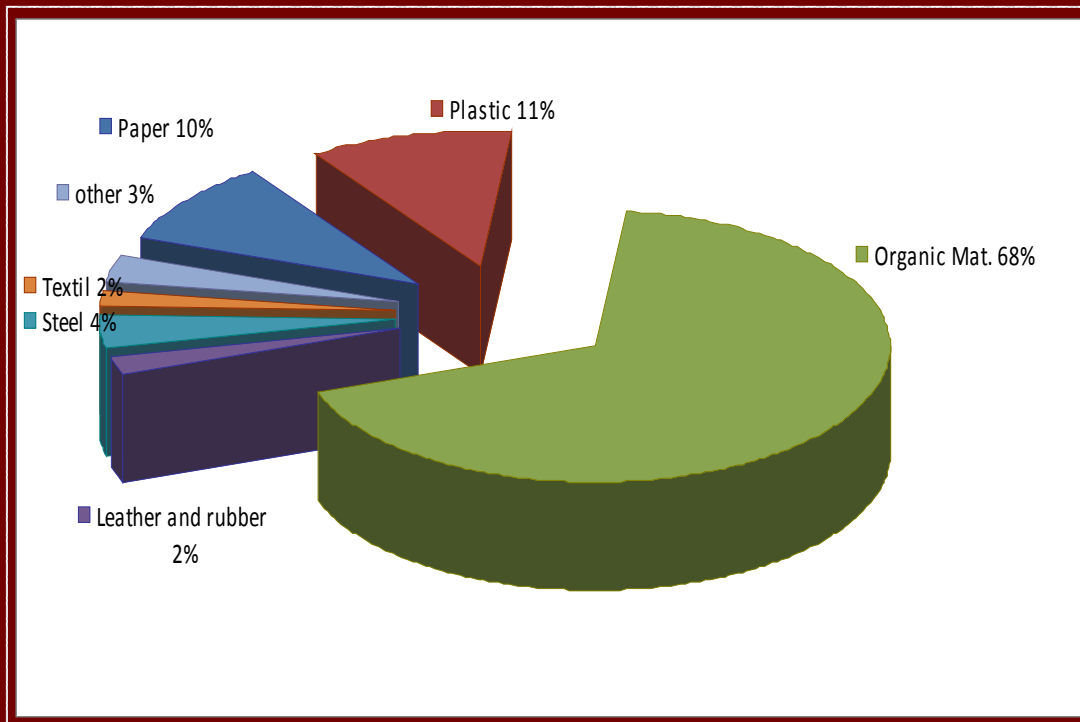
Facts & Figures

- ✓ 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



Ref. Ministry in charge of Environment

Characteristics

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

| SW Sector in Morocco

| Industrial Solid Waste

- Production: 1,6 mT/Y

16 % of Industrial
Solid Waste are
Hazardous

- Disposal Methods:

- ✓ Recycling : 23 %
- ✓ Landfilling: 73 %
- ✓ Cement Kilns: 4 %

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

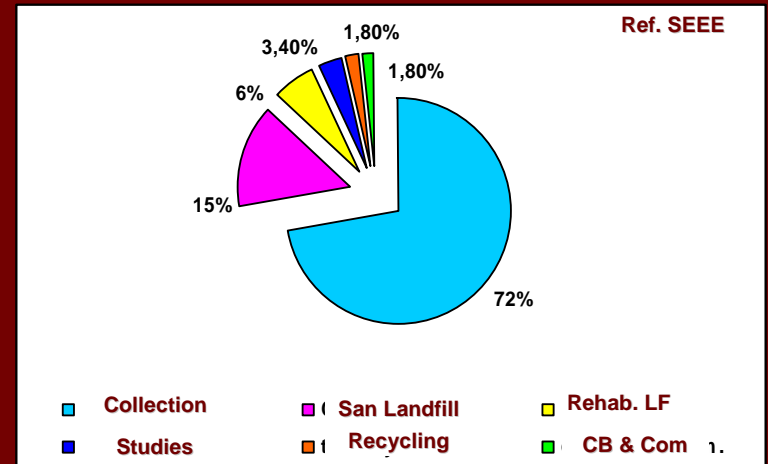
15-Year Program 2007-2021

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,...

SWM Reform in Morocco

2 Promoting Sustainability

✓ 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

Government Subsidies
to Municipalities

2008: USD 35 M

2009: USD 45 M

✓ Capacity Building

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

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

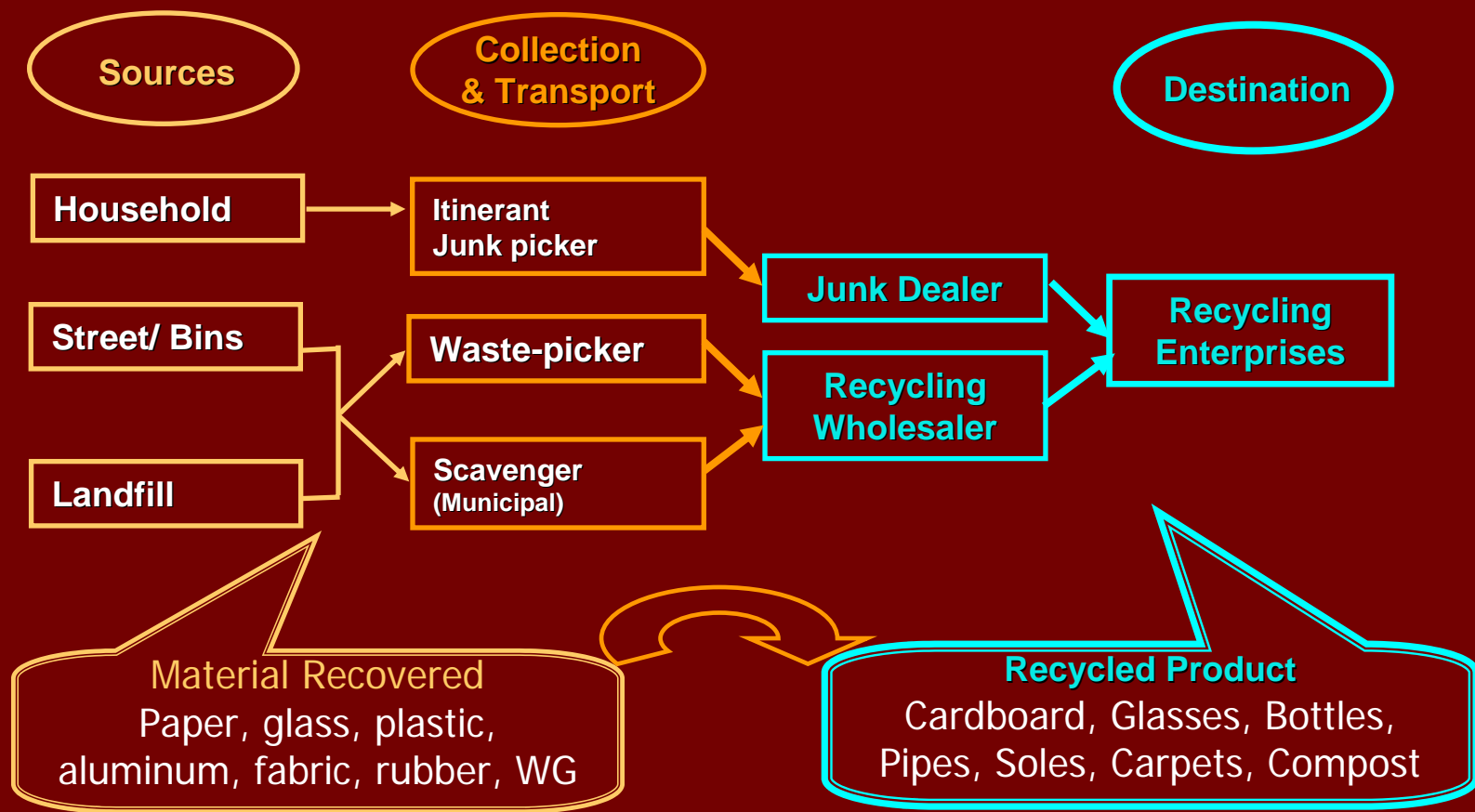
Moroccan
SW Law2006

Theoretical principles	Legislation	Specifications
Hierarchy principle	Chapter 1	Avoidance and reduction at production stage, priority not specified
Polluter pays principle	Article 23	Fixation of waste fees by the municipalities
Public awareness	Chapter 1	Public awareness of waste management
Monitory system	Chapter 1	Elaboration of monitoring system and definition of sanctions and fines.

SWM Reform in Morocco

Toward "3R" - Informal routes of Recycling

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

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