



Waste statistics

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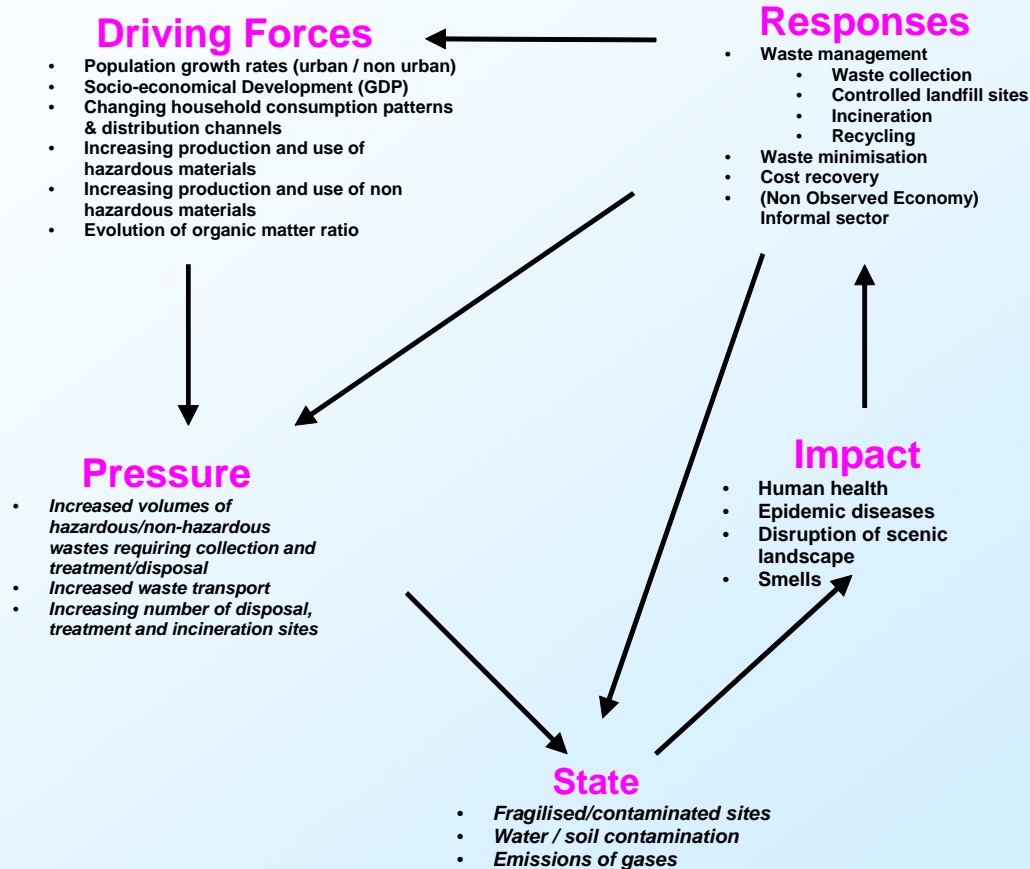


Waste statistics

1. Environmental impact of Waste
2. Regional Waste Indicators
3. Waste definitions
4. Municipal waste
5. Hazardous waste
6. Waste treatment and disposal



1. Environmental impact of Waste





Driving Forces

- Population growth rates (especially urban)
- Socio-economical Development (GDP)
- Changing household consumption patterns & distribution channels
- Increasing production and use of hazardous materials
- Increasing production and use of non hazardous materials
- Evolution of organic matter ratio



Pressure / State

- Increased volumes of hazardous/non-hazardous wastes requiring collection and treatment/disposal
- Increased waste transport
- Increasing number of disposal, treatment and incineration sites
- Fragilised/contaminated sites
- Water / soil contamination
- Emissions of gases



Impacts

- Human health
- Epidemic diseases
- Disruption of scenic landscape
- Smells



Responses

- Waste management
 - Waste collection
 - Controlled landfill sites
 - Incineration
 - Recycling
- Waste minimisation
- Cost recovery
- (Non Observed Economy) Informal sector



2. Regional waste indicators

(Lead indicators from the NEPAD/AEO-2 Themes-Issues-Indicator-Data Matrix, Oct. 2004)

- Solid waste collection per type (industrial, domestic, medical, agricultural)
- Percentage of population with access to waste service
- Municipal waste production per capita
- Industrial waste generated per US \$
- Hazardous waste production per US \$



2. Regional waste indicators (cont.)

- Waste management fractions
- Exposure to Heavy Metals, toxic chemicals
- Share of recycled waste



3. Waste definitions

- Waste refers to materials that are not prime products (i.e. products produced for the market) for which the generator has no further use for his own purpose of production, transformation or consumption, and which he discards, or intends or is required to discard.
- It excludes residuals directly recycled or reused at the place of generation (i.e. establishment) and waste materials that are directly discharged into ambient water or air.



Waste management

- Collection
- Transport
- Recovery or disposal
- Management of disposal sites



ISIC

- International Standard Industrial Classification of all Economic Activities
- Allows to link ecological change to economic activities



ISIC - Examples

- A (01-02) - Agriculture, hunting and forestry
- C (10-14) - Mining and quarrying
- D (15-37) - Manufacturing
- E (40-41) - Electricity, gas and water supply
- F (45) - Construction
- O (90-94) - Other community, social and personal service activities



ISIC - Examples

D - Manufacturing

- ...
- 36 - Manufacture of furniture; manufacturing n.e.c.
- 37 - Recycling

E - Electricity, gas and water supply

- 40 - Electricity, gas, steam and hot water supply
- 41 - Collection, purification and distribution of water



ISIC

[http://unstats.un.org/unsd/cr/
registry/regcst.asp?Cl=17](http://unstats.un.org/unsd/cr/registry/regcst.asp?Cl=17)



4. Municipal Waste

Waste collected by or on behalf of municipalities

Includes:

- bulky waste (e.g. white goods, old furniture, mattresses)
- yard waste, leaves, grass clippings,
- street sweepings, the content of litter containers, and market cleaning waste



Municipal Waste

Includes waste originating from:

- households,
- commerce and trade, small businesses,
- office buildings and institutions (schools, hospitals, government buildings).
- waste from street cleaning services (street sweepings, the content of litter containers, market cleansing waste)



Municipal Waste

Excludes waste from

- municipal sewage network and treatment,
- municipal construction and demolition waste.



Table R2: Treatment and Disposal of Municipal Waste

- **Municipal waste collected**
- Municipal waste imported for treatment/disposal
- Municipal waste exported for treatment/disposal
- **Municipal waste managed in the country**
 - of which:* Recycled/composted
 - Incinerated
 - Landfilled
- Population served by municipal waste collection
- Urban population served by municipal waste collection



Data sources I

Waste volumes:

- **Municipalities:** Contracts and accounts with transport companies and landfills
- **Transport companies:** Volume of waste transported, number of trucks used,...
- **Landfills:** Volumes/weight of waste or number of trucks
- **Trade statistics for import/export**



Data sources II

Population served:

- Municipalities: coverage of waste collection, population, ...
- National statistics: rural and urban population



Table R3: Composition of Municipal Waste

- Paper, paperboard
- Textiles
- Plastics
- Glass
- Metals
- Organic material
 - *of which:* food and garden waste
- Other inorganic materia



Data sources:

- Analyse a small number of representative samples from landfills



Table R6: Selected Waste Variables at City Level

- Share of city population served by municipal waste collection
- **Total amount of municipal waste generated**
- Municipal waste collected from households
- Municipal waste collected from other origins
- **Total amount of municipal waste collected**
of which: Recycled/ composted
Incinerated
Landfilled



5. Hazardous Waste

- Wastes that, owing to their toxic, infectious radioactive or flammable properties pose a substantial actual or potential hazard to the health of humans and other living organisms and the environment.



Basel Convention

- Basel Convention on the control of transboundary movements of hazardous wastes and their disposal
- Adopted in Basel in March 1989
- Entered in force May 5th, 1992
- Today 157 parties



Basel convention - objectives

- control and reduction of transboundary movements of hazardous wastes
- prevention and minimization of their generation,
- environmentally sound management of such wastes and
- active promotion of the transfer and use of cleaner technologies.



Basel convention

- <http://www.basel.int/text/con-a.htm>
(Arabic)
- <http://www.basel.int/text/con-e.pdf>
(English)



Table R4: Treatment and Disposal of Hazardous Waste

- **Hazardous waste generated**
- Hazardous waste imported
- Hazardous waste exported
- **Hazardous waste managed in the country**
of which: Recycled/ composted
Incinerated
Landfilled



Data sources

- National inventory of hazardous waste producers
- Regular reporting by these producers
- National inventory of treatment facilities
- Regular reporting by these treatment facilities
- Reporting on import/export of hazardous waste



6. Waste treatment and disposal

- Waste disposal: Landfill, incineration, dumping at sea
- Waste treatment: Physical, thermal, chemical, or biological processing of waste, that change the characteristics of the waste in order to reduce its volume, or hazardous nature, facilitate its handling, or enhance recycling.



Table R5: Waste Treatment and Disposal Facilities

- Landfill sites (controlled/uncontrolled)
- Incineration plants
- Treatment plants
- Other



Data sources

- Municipal, regional or national inventory of waste treatment and disposal sites
- If necessary, additional information directly from the most important sites



Thank you
for your attention

Merci
de votre attention