

# CSD-19 Learning Centre

“Synergizing Resource Efficiency with Informal Sector towards Sustainable Waste Management”

Co-organized by UNCRD & UN HABITAT



## Informal Sector in Partnerships for Expanding Waste Management Services

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emc

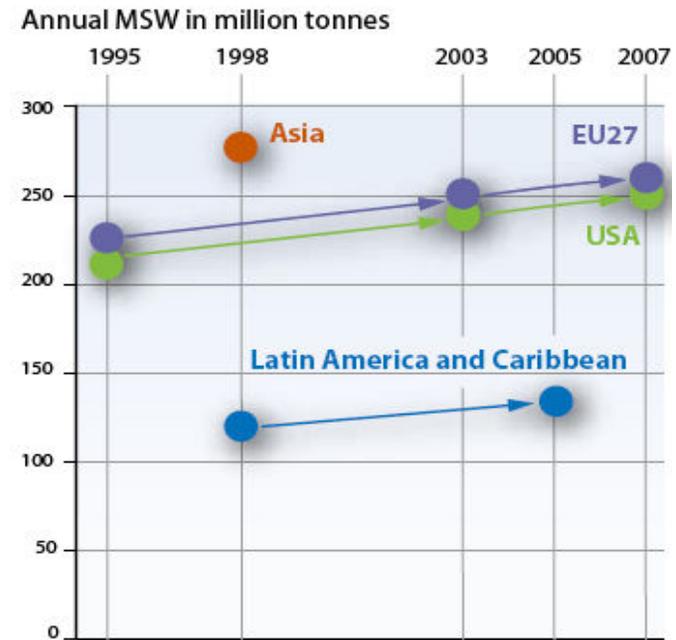
9 May 2011

# Structure of Presentation

- Global Issues in Waste Management
- Formal and Informal Sector
- Waste Market
- Informal Sector in Waste Industry
- Health and Safety Issues
- Economics Driving Informal Industry
- Models for Synergy – Case Studies
- Way Ahead

# Global Issues in Waste Management

- Increasing waste volumes and complexity
- Differing composition and characteristics in different regions of the world
- More of an urban-centric problem
- Economic value of waste not fully understood
- Adverse Impacts on human health and ecosystem
- Capacity constraints at Local Authorities (LAs)



Source: UNEP 2011

# Global Issues in Waste Management



Children picking waste in India



Women sorting wires in China

- Poor segregation and collection
- Clandestine dumping, open burning & informal recycling
- Deficient waste management infrastructure
- Poor understanding of innovative institutional models and financing mechanisms
- Inadequate enforcement
- Less stakeholder involvement
- Economic value of waste not fully understood as a resource

Photo Courtesy: GYSD 2009, Basel Action Network 2001

# Newer Waste Streams

## E-waste

- Routinely exported by developed countries to developing ones
- Total e-waste generated worldwide has increased from 6 million metric tonnes in 1998 to 20 to 50 million metric tonnes in 2005



## C&D waste

- 10-15% of total waste in developed countries
- High volume waste with relatively low impact as compared to other types of waste.



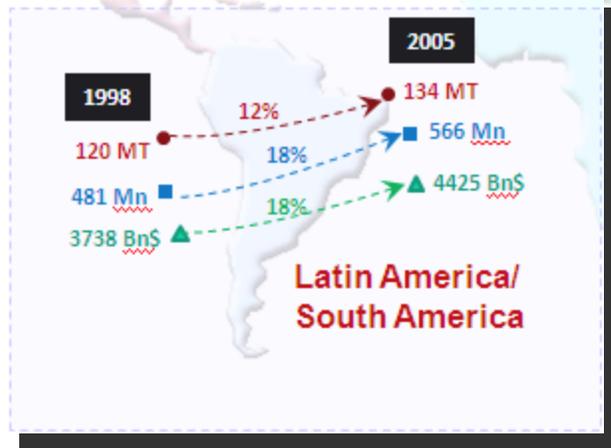
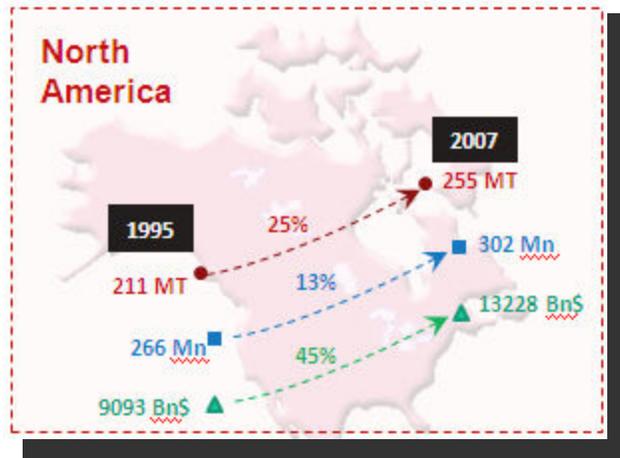
## EoLV waste

- 8-9 million tonnes of waste in EU
- 0.7 million tonnes from Japan



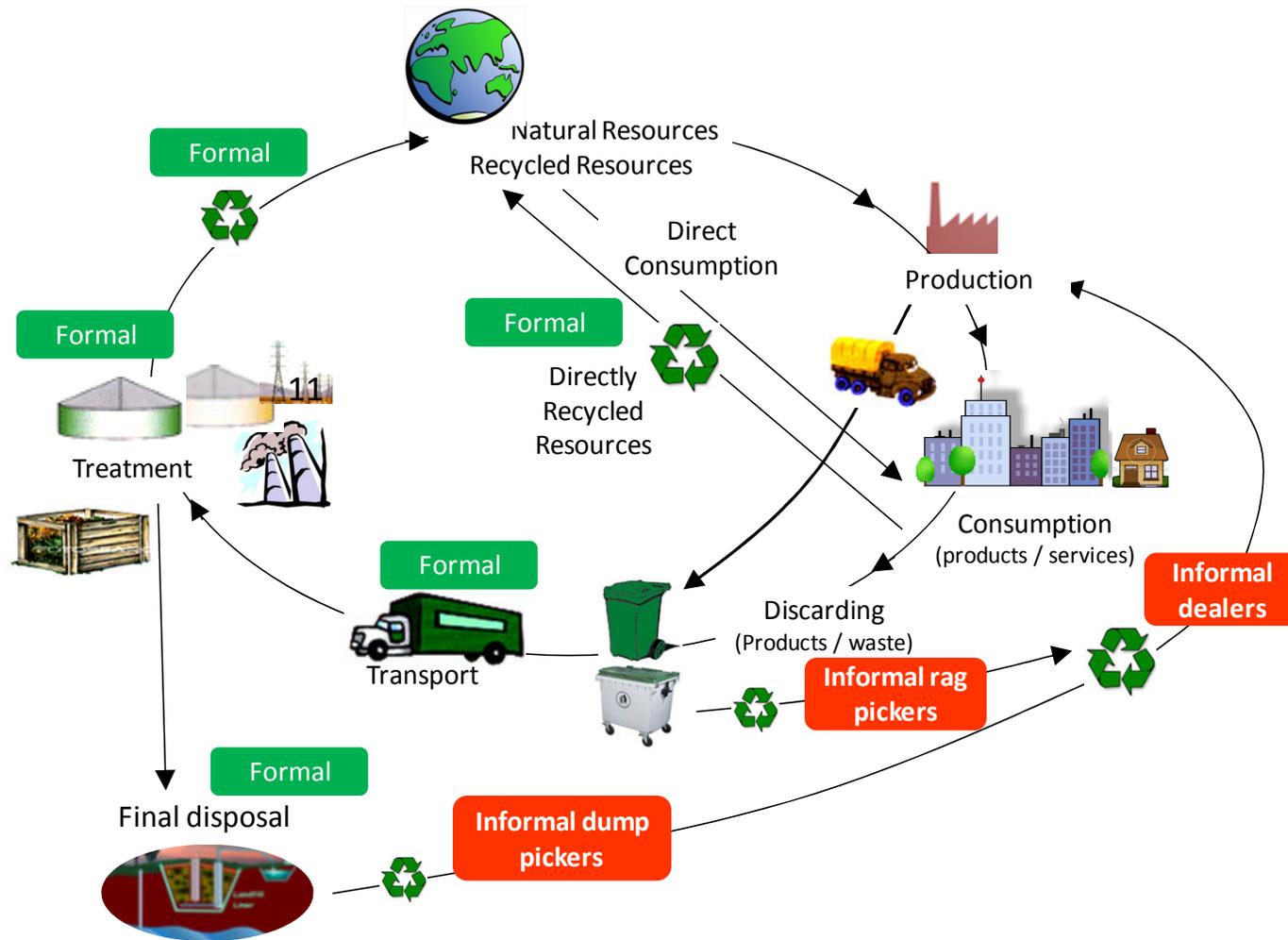
Photo courtesy: Toxics Link 2007

# World Trends – Waste, Population, Economy



- - - ● - - - MSW Generation
- - - ■ - - - Population
- - - ▲ - - - GDP

# Formal and Informal Sector



# The Waste Market

- 410 billion USD (UNEP 2008)\*
- Formal side includes multinationals and smaller industries
- Informal Waste Collectors (door-to-door), rag pickers who collect waste from streets, scavengers who pick waste from dumpsites and informal middlemen such as recycling dealers, brokers, wholesalers

\*Value of informal market not estimated



# Size of the informal industry

- Typically 1% of the urban population in developing countries involved in informal scavenging
- Up to 15 million people, with an economic Impact of 100s of millions

Country	No. of informal waste collectors
China	10 million
India	Over 1 million
Brazil	Half a million

# Economics driving the informal industry

- Cost of recycling is cheaper via informal sector – especially in developing countries
- Minimal or no cost spent on health, safety and environmental safeguards
- Informal refuse collectors in Mexico city earn 7 times the minimum wage!
- In Beijing, some scavengers earn more than college professors!

# Barriers and Concerns

- Poor health and safety standards
- Lack of education, training and professional skills
- No access to technology
- Often belong to poorer sections of the society
- Marginalized groups - outcasts, immigrants, minority communities
- Not supported by the government
- Little access to financing
- Susceptible to volatility of the waste market

# Health and Safety Issues

Mexican dump scavengers have a life expectancy of 39 years, while that of the general population is 67 years!



- Informal workers often malnourished
- Suffer from general weakness, back aches, coughs, injuries, eye problems, diarrhea, skin diseases
- Respiratory and dermatological problems, eye infections and low life expectancy are common

Source: Wilson 2006, Medina 2000 and Eerd 1996

# Steps to Formalize

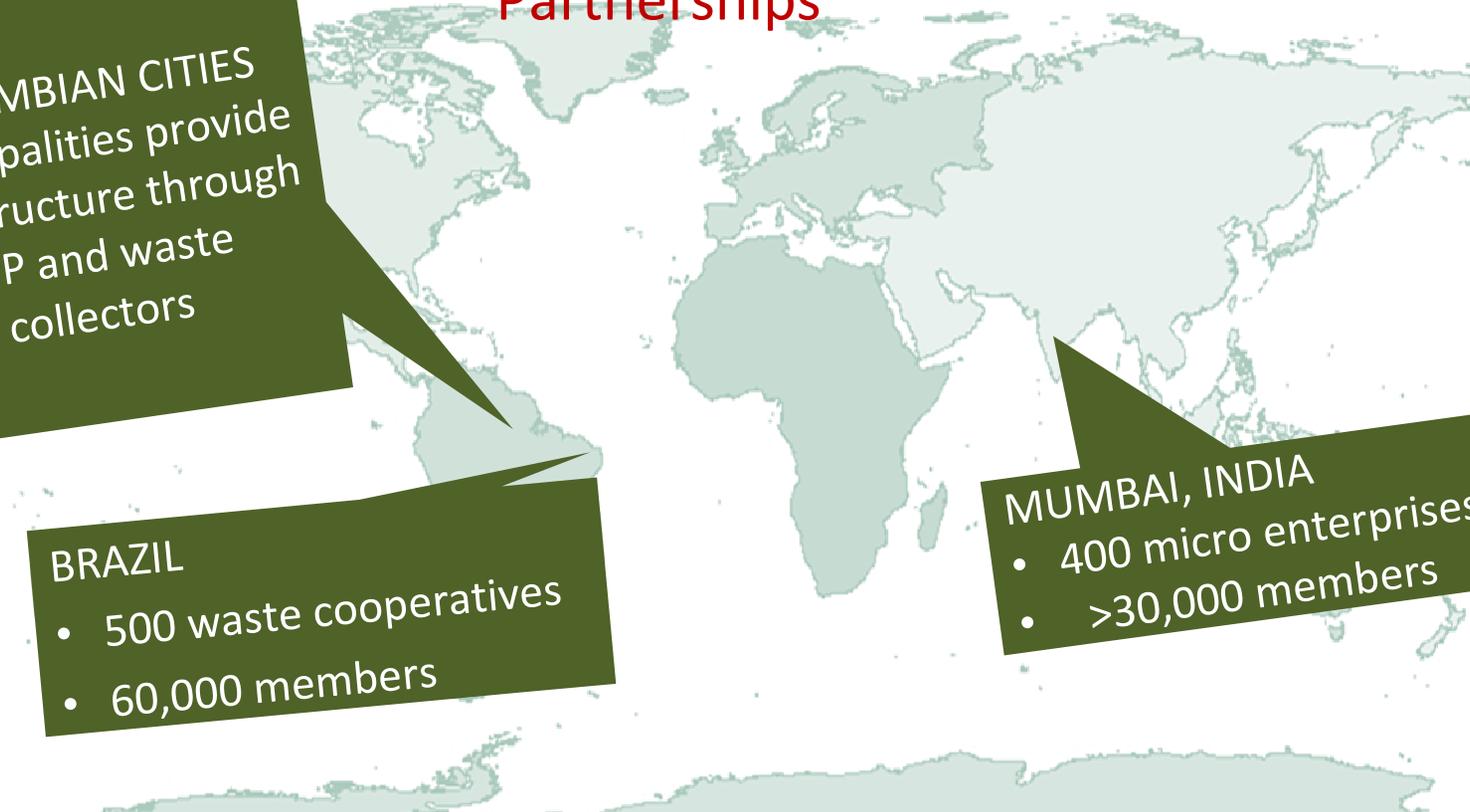
- Provision for legislations related to manual labor to be applicable for the recycling industry, including regulations related to
  - o Industrial relations, Wages
  - o Equality and Empowerment of Women
  - o Social Security
  - o Labor Welfare
  - o Accidents , Injuries and Insurance
- Mandatory registration and authorization of small-time and large scale scrap dealers and traders

# Supporting Mechanisms

- Ensure benefit sharing between formalized waste pickers and other stakeholders through policy/ institutional measures
- Encourage technological innovation for recycling
- Introducing financial mechanisms to motivate the growth of organized recycling industry. This can include,
  - o Soft financing such as providing loans at low interest rates and other concessions
  - o Fiscal Incentives, subsidies and depreciation incentives
  - o Efficiency dependant taxation
- Encourage communities and industries to recycle waste only through registered formal recyclers

# Models for Formalizing

- Cooperatives
- Microenterprises
- Through Public-Public and Public-Private Partnerships



COLUMBIAN CITIES  
Municipalities provide  
infrastructure through  
PPP and waste  
collectors

BRAZIL

- 500 waste cooperatives
- 60,000 members

MUMBAI, INDIA

- 400 micro enterprises
- >30,000 members

# Zabbaleen Environment and Development Program - Cairo, Egypt

- Zabbaleen, minority community in Cairo
- Informal waste picking from 1930s
- Zabbaleen Environment and Development Program in 1981
- Support from Ford Foundation, the World Bank, Oxfam and others
- Franchise system - paying a license fee to Cairo and Giza Cleansing and Beautification Authorities from 1990s
- Collecting US\$ 0.3 to 0.6 fees directly from households
- Primary school, paper recycling project, weaving school, health centre , small industries project established



Two Zabbaleens can collect waste from 350 homes using a horse cart & can earn 3 times the average income of a person

# Kagad Kach Patra Kashtakari Panchayat (KKPKP) - India

- Association of waste pickers founded in 1993 in Pune, India
- Secretariat of the National Alliance of Waste pickers in India
- Turnover of US\$ 35000
- Works in partnership with municipality to extend services for door to door collection and recycling of segregated MSW
- 6266 members as of February 2007 - 80 % women from socially backward communities.
- Annual membership fee – US\$ 0.44, small monthly fee paid by households and businesses and the revenue from recycling meet the staff salary.
- Group insurance policies to cover accidental and natural deaths and disabilities, social security covers at an annual premium of US\$ 1.55 per member and medical insurance

# Recycling Centre in Western Africa

- Recycling Centre in **Ouagadougou in Burkina Faso**
- Managed by 30 women, 2 technicians
- 2000 employees – come from poorest of Ouagadougou communities
- Earning US\$69 per month



Special plastic mill provided by the Italian NGO LVIA to granulate plastic waste

Prasad Modak, Environmental Management Centre



Women working in the Recycling Centre



Recycled Materials

# Green Exchange Program – South America

- In **Green Exchange Program**, food is given in exchange for recycled garbage
- Participation rate >70% of households
- 90% of residents recycle 2/3<sup>rd</sup> of waste daily
- School for children making toys from waste
- Recycling coordinated by workers who were ex-alcoholists and poor



# Policy Support

## WEEE

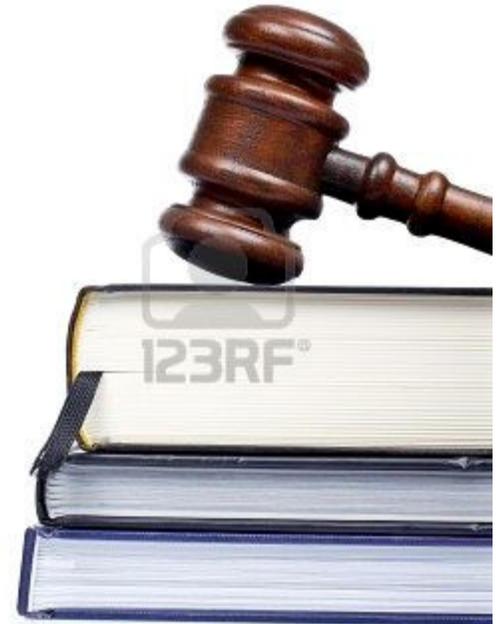
- Sets targets for recycling e-waste in EU, China, California (USA), Saskatchewan (Canada) and Ireland.

## Regulation for recycling batteries

- EU, USA, Japan, India, Taiwan, Thailand, Turkey

## Voluntary criteria

- Standard for recycled paper products in Australia, Germany (RAL-UZ 14), Hong Kong Green Label Scheme (GL-001-004), Ecomark in India



# Regulatory and Market Instruments

- Take Back Programs
- Deposit Refund Systems

British Columbia  
Recycling Regulation  
2004 -

- Left over paint returned at 100 depots operated by Product Care.
- Eco-fees or eco-taxes collected



- South Korea – Food containers, tires, batteries, lubricants, pesticide containers, and plastics
- Bottle bills in U.S



# Way Ahead

- Case studies – More analytical work needed on Waste-Resource Economics and the Drivers
- Pilots that demonstrate Joint Models between Formal and Informal Waste Sectors
- Setting of Recycled Product Standards
- More work needed on CDM – especially on methodologies and Benefit Sharing

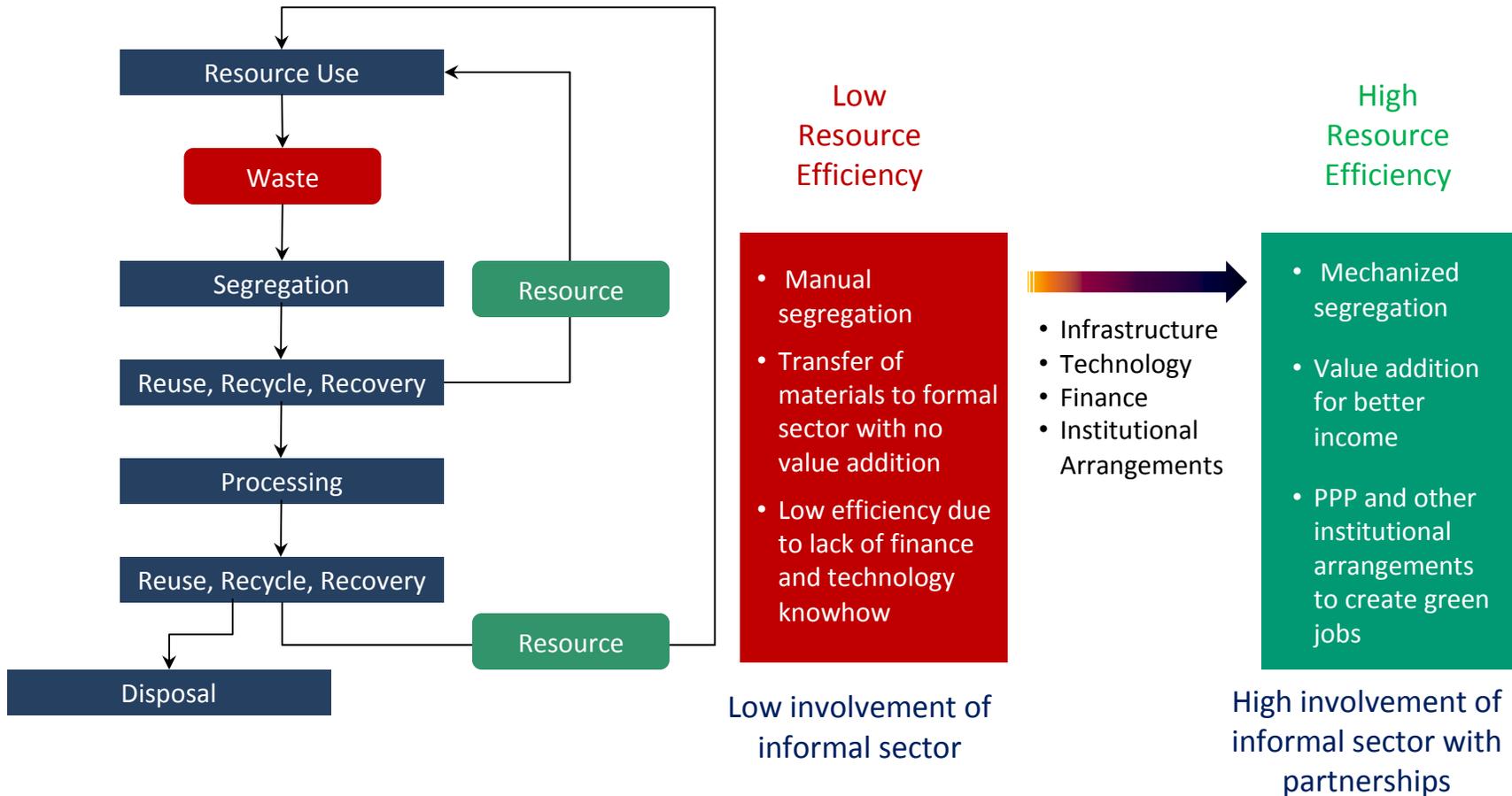


# Revenue mechanisms such as CDM

- Recently introduced CDM-EB methodology for plastic recycle industry
- AMS-III.AJ- 'Recovery and recycling of materials from solid wastes – Version 2.0
- Potential to share revenue from CDM with rag-pickers



# Resource Efficiency, Informal Sector and Importance of Partnership



# IPLA and its benefits



Enable networking between LAs and other supporting organizations on a global basis to

- Share experience
  - Connect to all key stakeholders (**including waste picker associations**)
  - Identify partners and appropriate financial mechanisms for appropriate waste management infrastructure
  - Create a practice oriented knowledge platform
  - Set benchmarks and good practices
  - Influence policy frameworks and support laws and regulations
- IPLA will greatly assist in the strengthening the informal sector for more efficient resource management**

# Thank you

Questions?

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