

Synergizing Resource Efficiency with Informal Sector towards Sustainable Waste Management

CSD19 Learning Centre Course



Informal Sector in Partnerships for Expanding Waste Management Services



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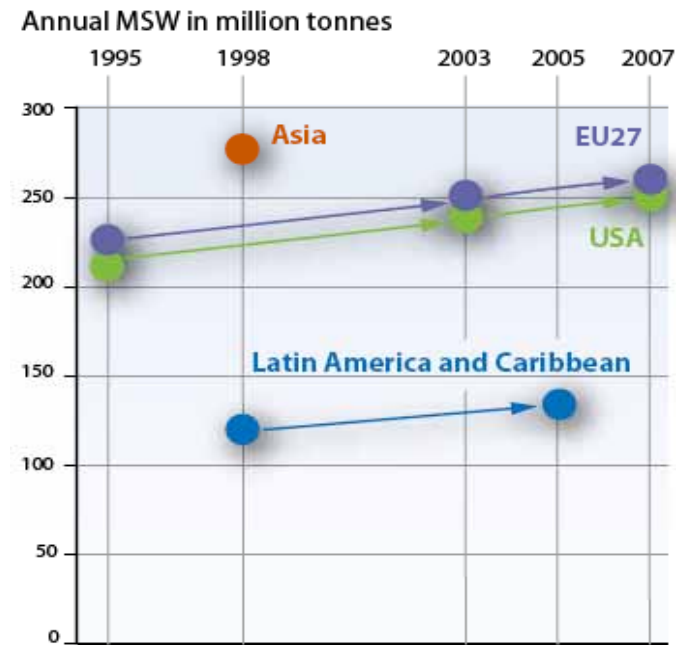
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Structure of Presentation

- 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

Photo Courtesy: GYSD 2009, Basel Action Network 2001

- 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

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.



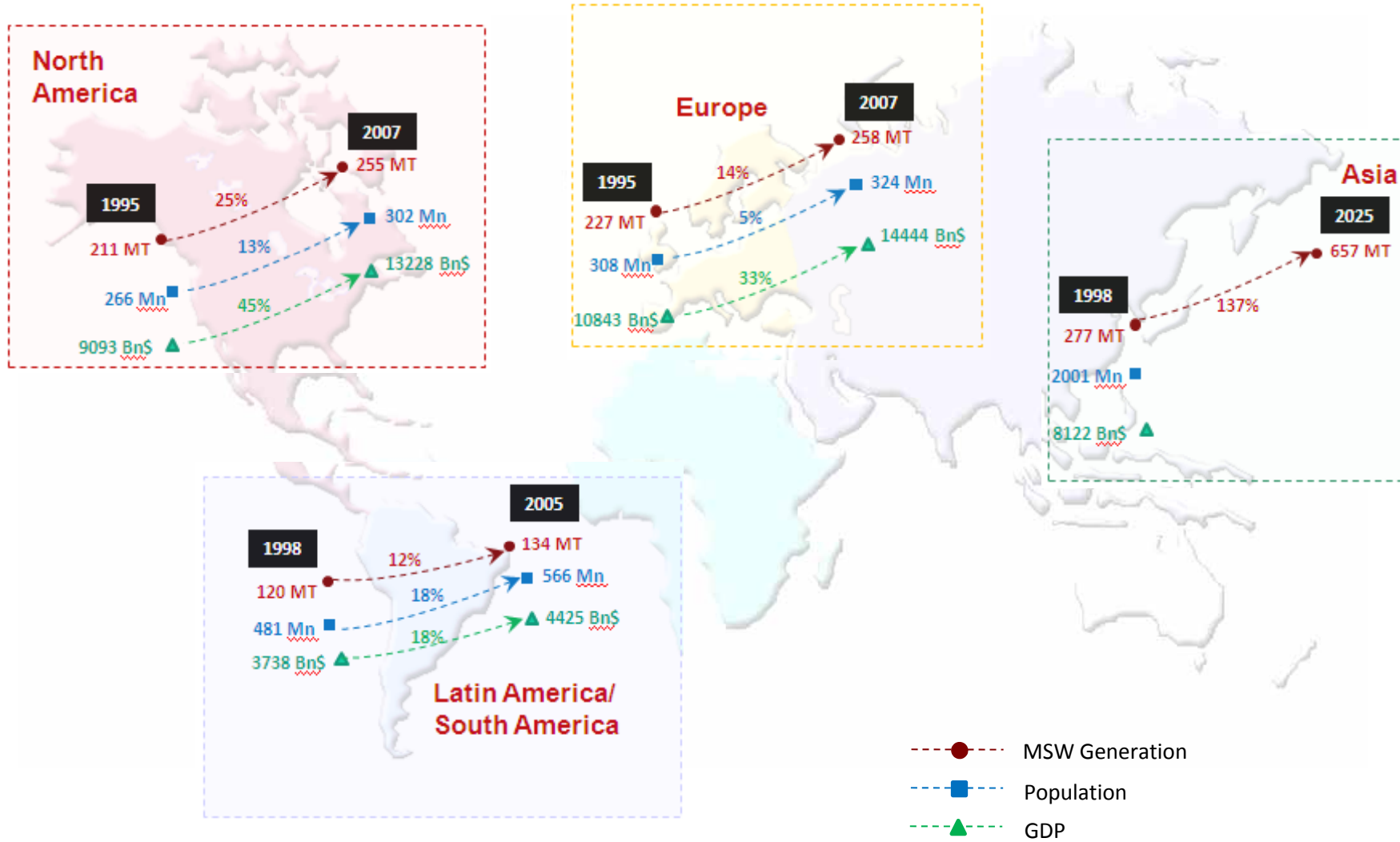
EoLV waste

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

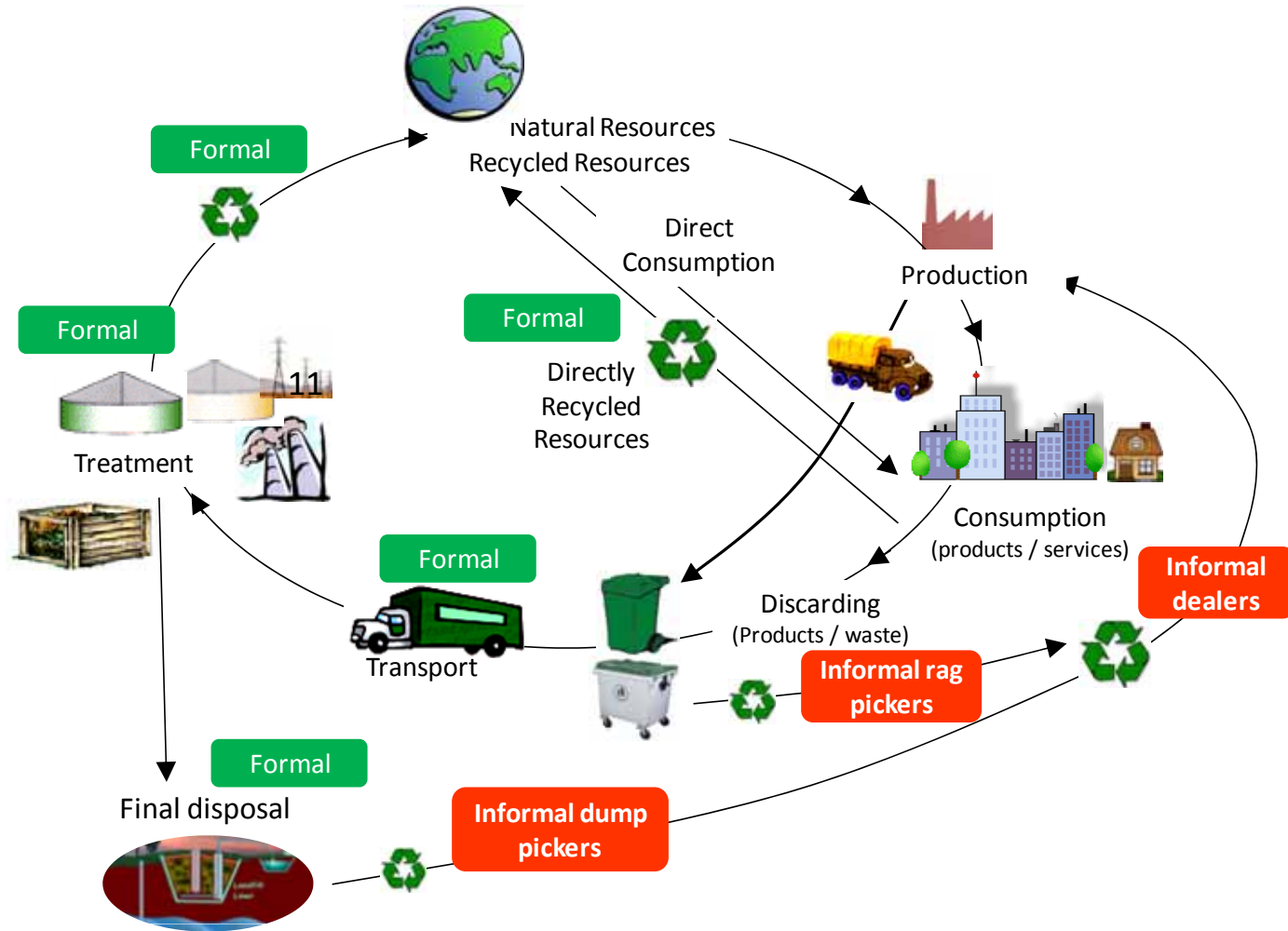


Photo courtesy: Toxics Link 2007

World Trends – Waste, Population, Economy



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

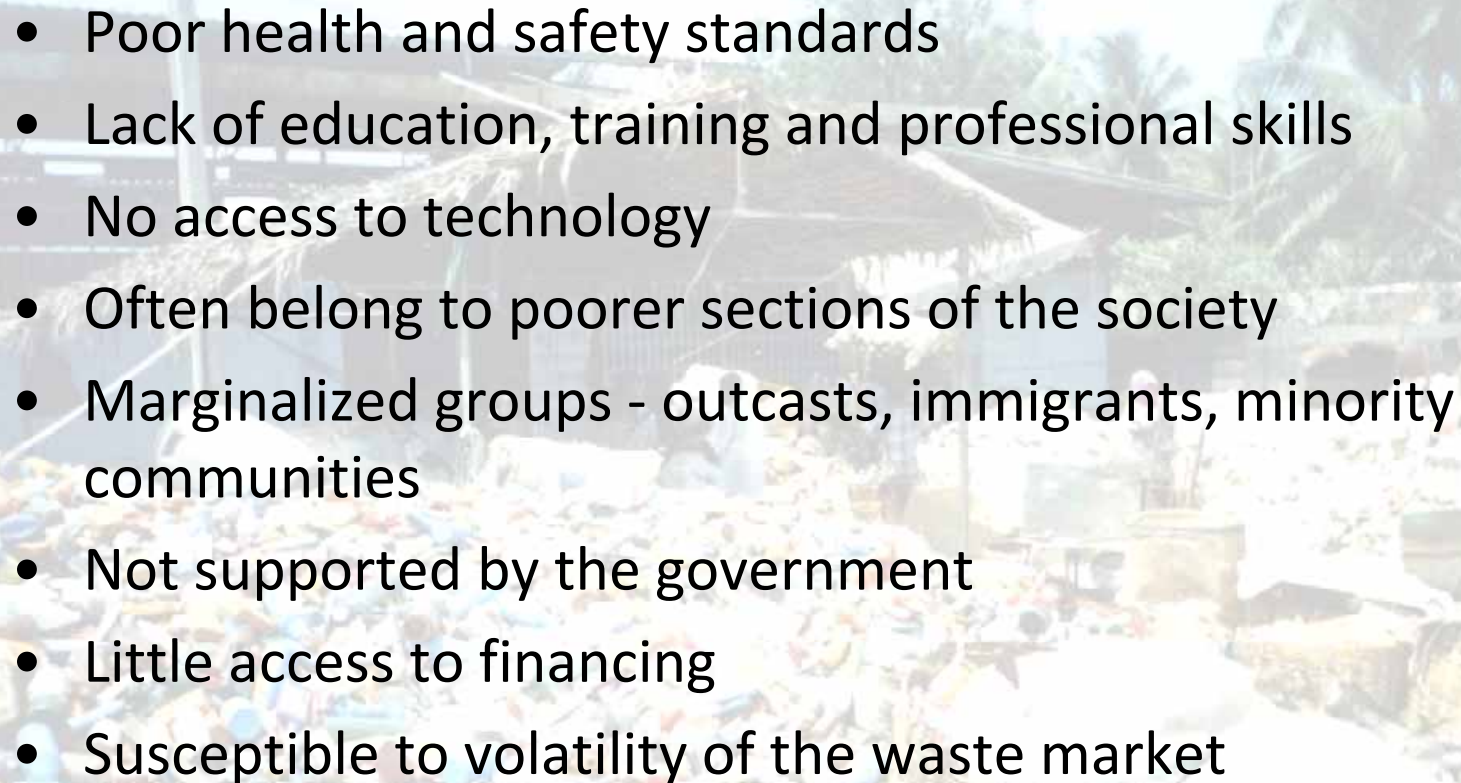
- Typically 1% of the urban population in developing countries involved in informal scavenging
- Up to 15 million people, with an economic impact of 100s of millions

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 2/3rd of waste daily
- School for children making toys from waste
- Recycling coordinated by workers who were ex-alcoholists and poor



Policy Support

WEEE

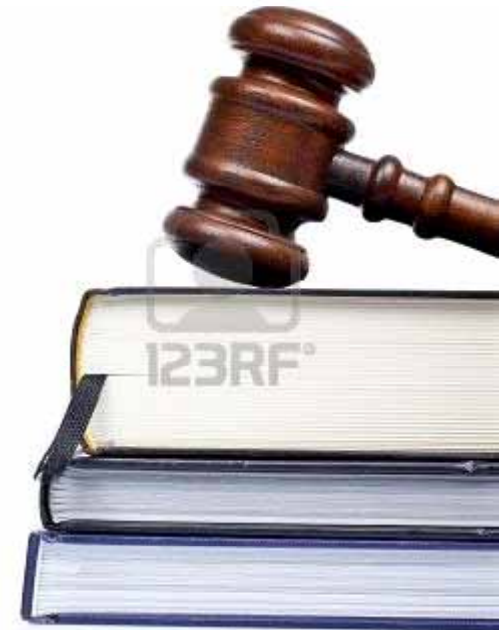
- Sets targets for recycling e-waste in EU, China, California (USA), Saskatchewan (Canada) and Ireland.

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

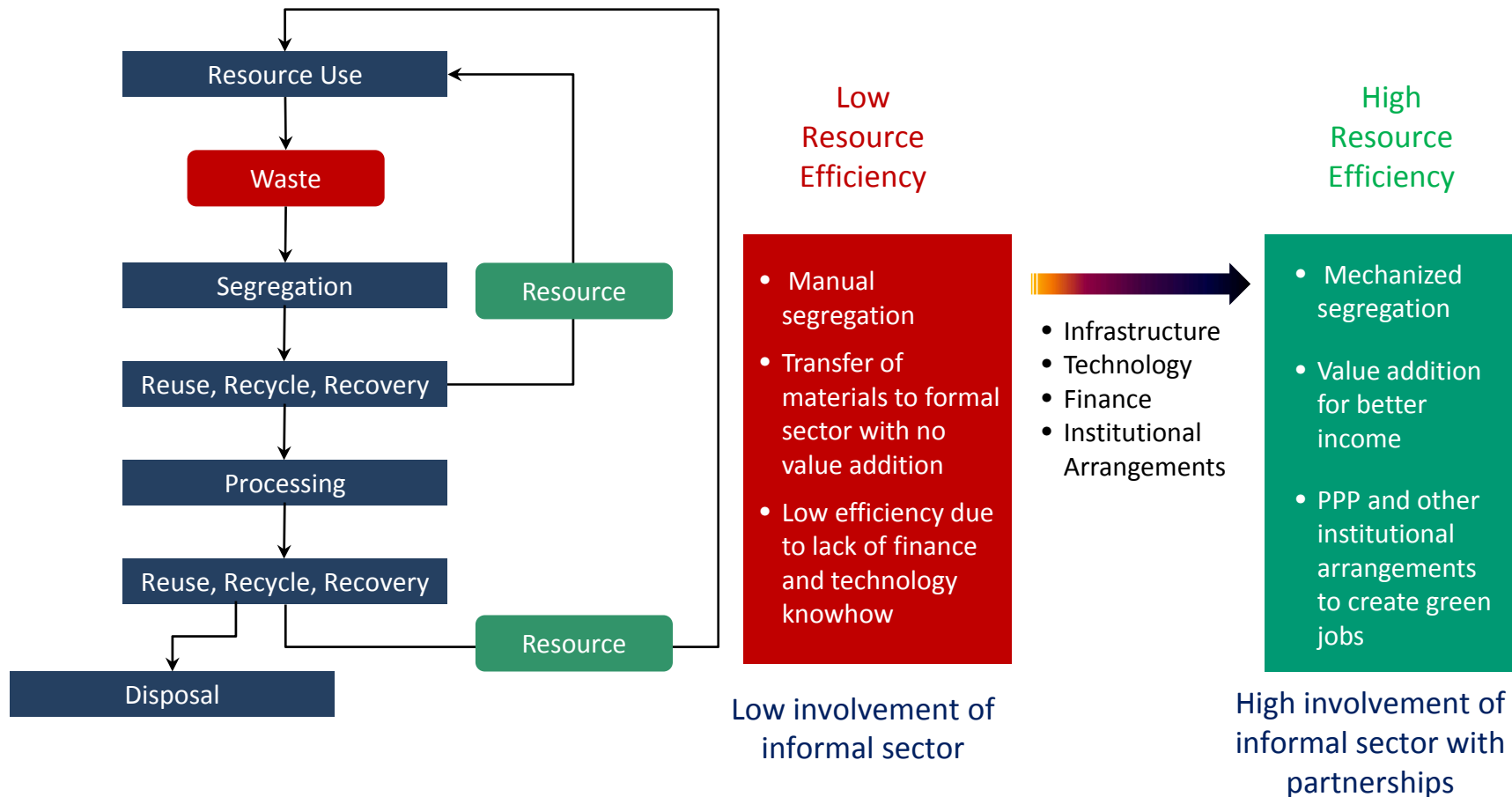


Revenue mechanisms such as CDM

- 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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