



Informal-formal Recycling linkages: Experiences in India

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Indian E-Waste Context



- World's fifth largest generator of E-waste (manufacturing/imports) ~ 1.64 Mt/year (UNU 2014)
- Collection and recycling dominated by very diversified informal sector
- **Price gap:** Consumers expect payment for e-waste, informal sector is able to pay more competitive prices
- Estimated **annual formal processing capacity of less than 1/3** of the amount of e-waste generated every year (CPCB 2016)
- However, processing plants are often not running at full capacity because **95% of generated e-waste is managed by informal actors** (MAIT-GTZ 2007)



Extended Producer Responsibility (EPR) in India

-E-waste (Management and Handling) Rules, 2011, 2016

- Difficulties in getting producers on board, enforcement
- 95% of e-waste remains in the informal sector

-E-Waste Management and Handling Rules, 2016

- Producers are **financially or physically responsible** for collection, professional treatment and sound disposal of e-waste
- Collection Targets for industry 30% of electronics put on market by mass in first two years, rising to 70% in year seven
- Mandate collection via Producer Responsibility Organisation (PRO)
- Producers to submit EPR Plans to Central Pollution Control Board (CPCB) for meeting targets
- Role of informal sector as collection agency not mentioned – open to interpretation?

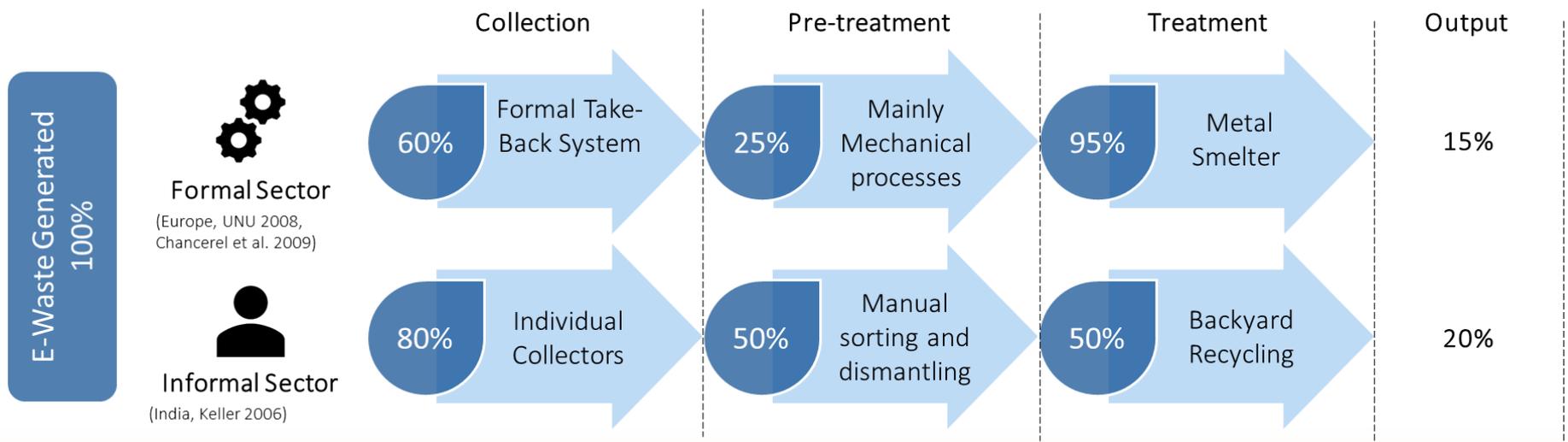




Why informal-formal partnerships?

- Established informal networks with superior collection efficiencies
- Necessary to gain access to e-waste for formal recycling
- Ensure livelihoods are sustained, with better working conditions/income

Efficiencies of steps along the treatment chain:



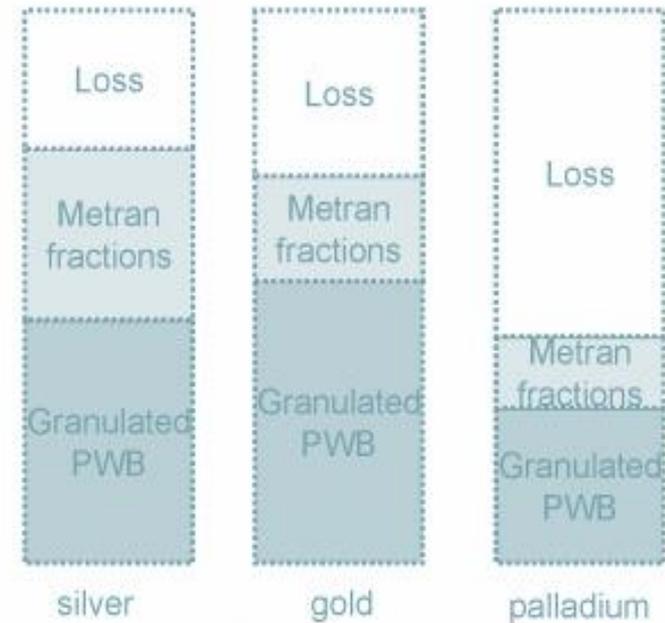
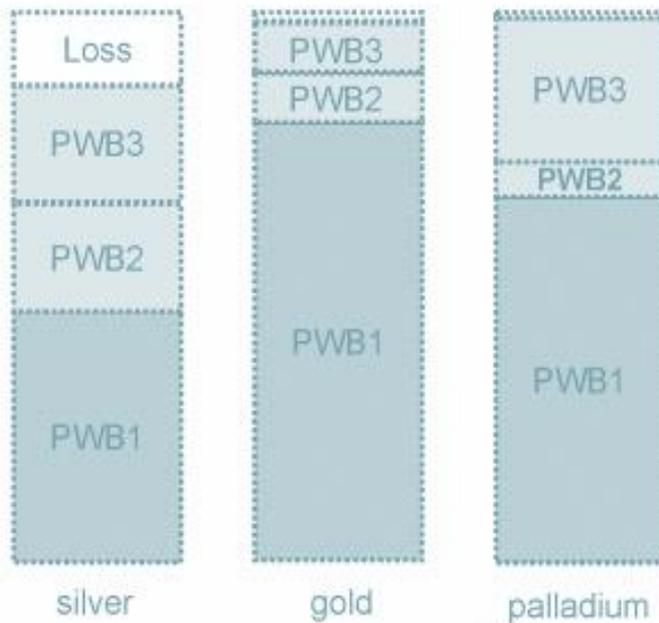


Identifying the Role of Informal in E-Waste Treatment

Different output yields

**Manual dismantling +
integrated smelter**

**Shredding + integrated
smelter**



Source: UNEP

Collection and Sourcing, Dismantling Operations by the formalized informal sector



e.g. WEEE Recycle (EU Switch Asia), Other GIZ initiatives - Lessons Learned

- Capacity gaps at various levels led to challenges in formalizing the informal sector – **Policymakers Course on Implementation of E-waste Rules**
- Enhanced awareness amongst consumers led to handing over e-waste to informal sector, free of costs – **Partnerships with Nokia (Microsoft) to demonstrate ewaste models with informal sector**
- Failure to engage with the informal sector results in leakages and challenges in the implementation of EPR – **City wide varied models for partnerships with informal sector demonstrated**
- Various PRO Set up models explored with Manufacturers Association of Information Technology (MAIT) – **Karo Sambhav**
- Recommendations on the Economic & Policy Instruments across life cycle stages – **DRS proposed in the E-waste 2016 Rules**



Way forward for EPR in India and informal partnerships



- Advise producers on minimum requirements of formal-informal partnerships and provide recommendations (GIZ workshop with MAIT in Dec 2017)
- Awareness Gaps – Awareness Scheme launched by MeitY, GoI for enhancing awareness of producers, consumers (individual and bulk)
- Regulators and policy makers to ensure the enforcement of E-waste Rules and encouraging formal-informal partnerships via locally embedded NGOs
- Leakages from formal to informal sector necessitate the establishment of a transparency mechanism
- Expand domestic recycling capacities to ensure that waste collected through formal-informal partnerships can be recycled responsibly



Way forward for EPR in India and informal partnerships



- Analyse the Extended Producer Responsibility (EPR) principle be operationalised in the management of waste from packaging and electronic goods such that it contributes to increased resource efficiency.
- Outline past, current and future material flows for both types of waste streams, map the value chain of the e-waste management
- Analyse role of EcoParks in e-waste management, examine potential mass flows they could handle and potential business models for operators
- Prospectively, EcoParks could function as socio-technological hubs by purchasing e-waste from informal collectors to ensure that recycling is carried out under environmentally sound conditions
- EU-REI project on resource efficiency will explore the role of the informal sector in EcoParks – to what extent can RE be increased if the informals are incentivised to channel e-waste to such facilities?



Thanks
Questions/ comments

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