# Recycling Infrastructures and Private Public Partnerships

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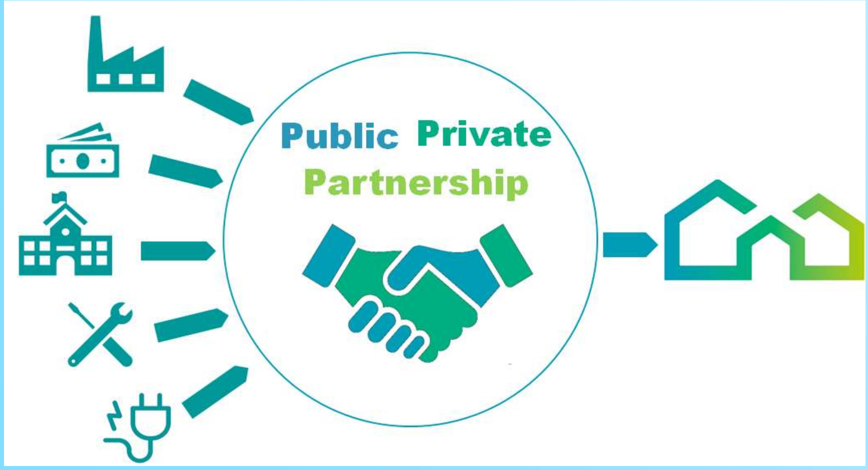
# Why should PPPs be envisaged for e-waste recycling?

PPPs are **contractual arrangements** between the public sector and a private sector party for the private **delivery of public infrastructure services** or other basic services

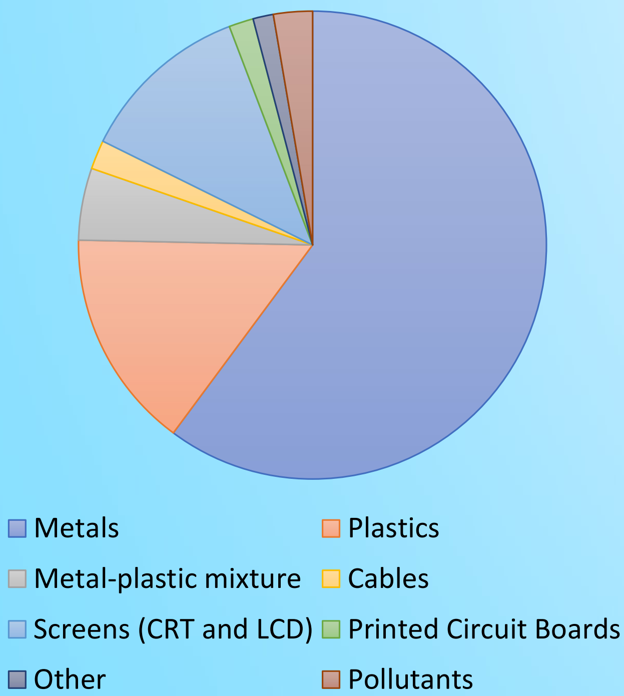



| Public Sector | Private Sector |
|---|---|
| + Implements waste management policies | + Access to new market |
| + Ensures coordination amongst stakeholders | + Improves operating efficiency |
| - May not sustain costs of investment and maintenance | + Provides technical and management skills |
| - May lacks knowledge and key competencies | - Dependent on policies issued by the government |

Table 1. Data retrieved from ADB

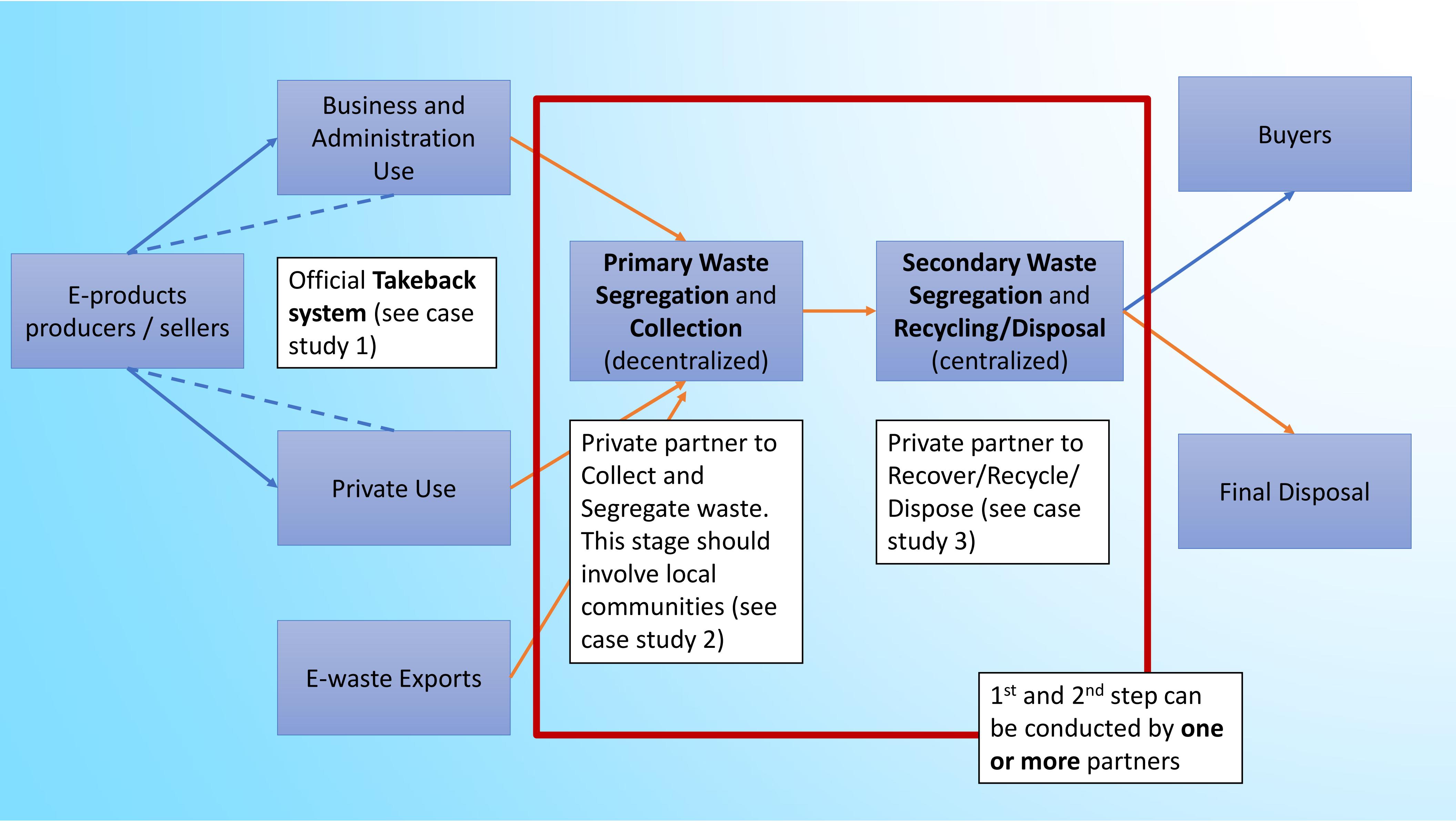
# Specificities of e-waste PPPs

Average Composition of Materials found in E-waste




| Decentralized | Centralized |
|---|---|
| + Greater integration of informal workers<br>+ Lower operational expenditure | + Economies of scale<br>+ Greater extraction of value through technological solutions |

1. Composition of waste -> **hazardous**, difficult to recycle
2. **International** buyers' market
3. **High-cost** technologies


Business and Administration Use
E-products producers / sellers
Official **Takeback system** (see case study 1)
Private Use
E-waste Exports
**Primary Waste Segregation** and **Collection** (decentralized)
Private partner to Collect and Segregate waste. This stage should involve local communities (see case study 2)
**Secondary Waste Segregation** and **Recycling/Disposal** (centralized)
Private partner to Recover/Recycle/ Dispose (see case study 3)
Buyers
Final Disposal
1st and 2nd step can be conducted by **one or more** partners

# Case study 1. HP Takeback Programme

- Improve **recyclability**, reduce use of toxic materials

- **Recovery** of scrap materials

- Share responsibility between stakeholders through **Extended Producer Responsibility (EPR)** principle

HP PLANET PARTNERS

- Hewlett-Packard partners with 76 countries to collect used products

- 2019: Samoa’s Ministry of Natural Resources and Environment (MNRE) partners with HP to reduce e-waste in the country

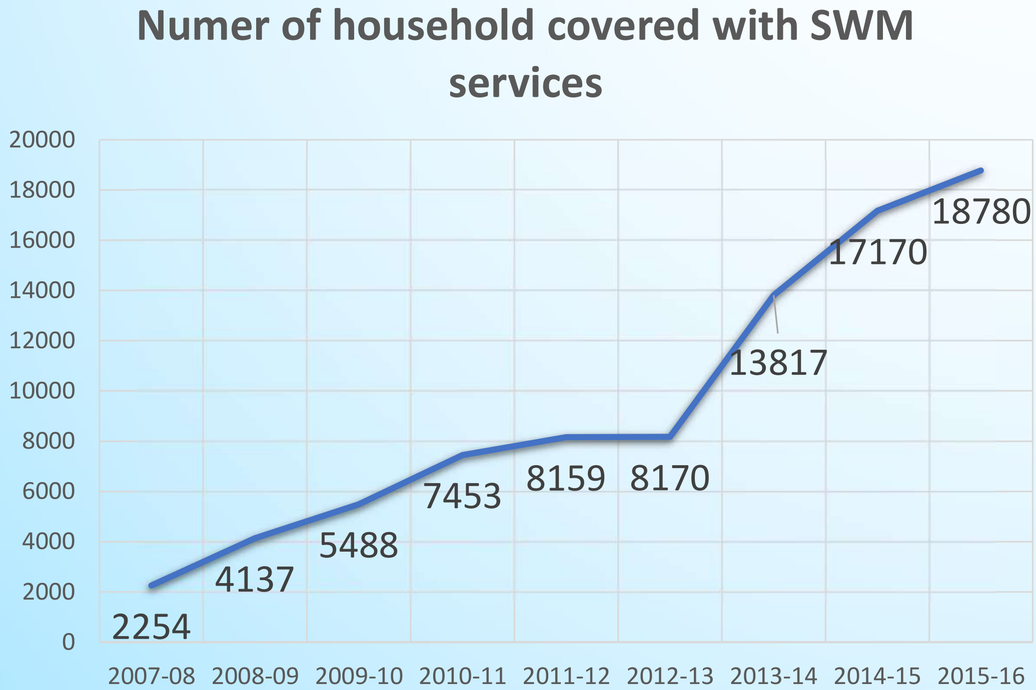
| Legislation and Regulations | Availability of a National Recycling System | Supervision and Compliance |
| --- | --- | --- |
| + **E-Waste (Management) Rules of 2016** in India:<br>- Introduces EPR principle<br>- Introduces recycling targets<br><br>– **Lack of guidelines** and financial resources | – **95%** of recycling handled by the informal sector: not included on the 2016 Law<br><br>– **No incentives** for the informal sector to formalize or sell formal sector<br><br>– **Not economically viable** for small or medium sized companies to establish individual or collective recycling units | – **No supervision** of system operations such as collection fees<br><br>– **No enforcement** of treatment standards and sale bans on non-complying manufacturers |

# Case study 2. Municipal Solid Waste in Saharanpur, India

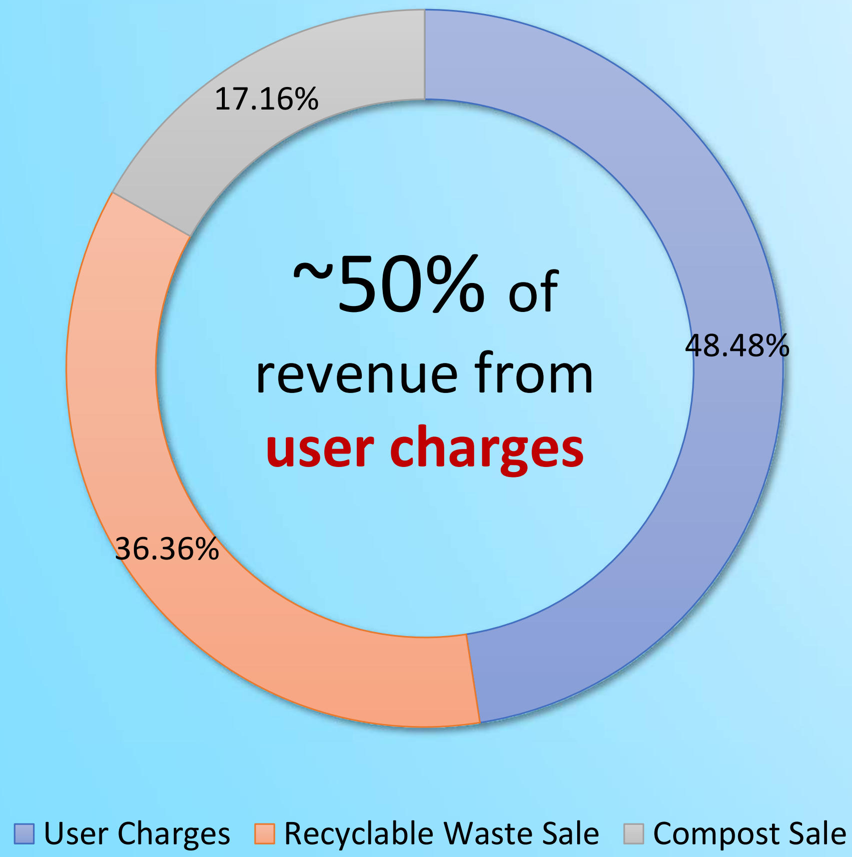
- Door-to-door **collection** and **primary segregation**
- **Secondary segregation** at the WM site employing 100 rag pickers

*Primary segregation at Saharanpur*

- **90%** recovery of waste



# Different Segments of Revenue




Need **for financial incentives**:

- **Tipping fee**: charged for unloading waste at a treatment facility for treatment

- **Concession agreements**

- **Low-cost debts** and **Taxation incentives**

- **Viability Gap Funding**: supports a %age of a PPP-based project's capital expenditure. Can be disbursed based on actual performance.

# Case study 3. Municipal Solid Waste in Tirupur, India

Tirupur Municipal Corporation

- Provision of **land on lease**
- Provision of **waste**
- Payment of Rs. 5.20 per tonne of waste in case of default

- Payment of Rs> 3.5 per tonne of waste supplied

Buyers of Compost

Payments

Compost

IVR Infrastructures & Projects Ltd.

Monitoring

Peace Committee

## Risk-sharing

+ Collection and Transportation concessionaire (here the Municipality) bears the **demand risk**

– 2000: implementation of **new MSW Rules**. Need to review the concession agreement after construction of the plant:

- legislation needs to be stable and consider Private partners

## Local Community Involvement

– Villagers strike led to:

+ Creation on the **“Peace Committee”**

+ **Hiring and training local** ‘rag-pickers’:
  - Creates stable employment
  - Improves compliance with primary sorting

## Multiple concessionaires

– Tipping fee to the ‘collection and transportation’ concessionaire based on the **quantity of waste**

– Revenue for the ‘processing and disposal’ concessionaire based on the **content of waste**

# Conclusion

- PPP projects can be a solution for developing recycling infrastructure in e-waste, however it needs to be designed carefully in regards to:

- Legislations and Regulations
- Financial and Organizational Risks
- Local Community Involvement
- Financial Incentives

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# Thank you

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