Informal sector and recycling – global experiences
Key steps towards effective inclusion in 21st century SWM systems

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Diverse approaches to separate collection for recycling

Kerbside sort in Rotterdam

Bring bins in Varna, Bulgaria

Exchanging recyclables for onions Siddhipur, Nepal

Photo credits: © City of Rotterdam; Kossara Bozhilova-Kisheva; Bhushan Tuladhar
Key themes

• **Informal recycling: a reality in (environmentally) developing countries**
• Western-world recycling modes: an evolving selection of options
• Evidence on key aspects of informal recycling (financial - mainly, environmental, societal)
• IR phenomenon as a systems cross-section: material flows for production, waste management and poverty alleviation
• **Possibilities for win-win solutions by inclusion / integration?**
• Key challenges to be addressed
• Need for systemic view and high-level evaluation and interpretation of accumulating evidence on interventions
• **ISWA GWM TF Workshop**
Some examples of diversity in service provision

Door-to-door informal collector, India
Bicycle cart delivering to small transfer station in Kunming
Curepipe, Mauritius
CBO collection in Bamako, Mali
Adelaide, Australia

Does modernisation necessarily mean motorisation and compaction?
How many professional waste workers in the community / informal sector?

<table>
<thead>
<tr>
<th>City</th>
<th>% of total population</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bengaluru</td>
<td>0.5</td>
</tr>
<tr>
<td>Belo Horizonte</td>
<td>&lt;0.05</td>
</tr>
<tr>
<td>Canete</td>
<td>0.4</td>
</tr>
<tr>
<td>Delhi</td>
<td>1.3</td>
</tr>
<tr>
<td>Dhaka</td>
<td>1.7</td>
</tr>
<tr>
<td>Ghorahi</td>
<td>0.1</td>
</tr>
<tr>
<td>Lusaka</td>
<td>&lt;0.05</td>
</tr>
<tr>
<td>Managua</td>
<td>0.3</td>
</tr>
<tr>
<td>Quezon City</td>
<td>0.5</td>
</tr>
<tr>
<td>Sousse</td>
<td>0.1</td>
</tr>
<tr>
<td><strong>Average</strong></td>
<td><strong>0.5</strong></td>
</tr>
<tr>
<td><strong>Total workers in 10 cities</strong></td>
<td><strong>350,000</strong></td>
</tr>
</tbody>
</table>

Global estimate: ~ 15 million

Source: 2010 World Congress of Waste Pickers

## Recycling rates: formal vs. informal

<table>
<thead>
<tr>
<th>Income Level</th>
<th>Average %</th>
<th>Formal %</th>
<th>Informal %</th>
</tr>
</thead>
<tbody>
<tr>
<td>High</td>
<td>54</td>
<td>54</td>
<td>0</td>
</tr>
<tr>
<td>Upper-middle</td>
<td>15</td>
<td>1</td>
<td>15</td>
</tr>
<tr>
<td>Lower-middle</td>
<td>27</td>
<td>11</td>
<td>16</td>
</tr>
<tr>
<td>Low</td>
<td>27</td>
<td>1</td>
<td>26</td>
</tr>
</tbody>
</table>

## Financial sustainability - affordability

<table>
<thead>
<tr>
<th>Income Level</th>
<th>City SW budget per capita</th>
<th>City SW budget per capita as % of GDP per capita</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Range</td>
<td>Average</td>
</tr>
<tr>
<td>High</td>
<td>$75</td>
<td>0.03 - 0.40%</td>
</tr>
<tr>
<td>Upper-middle</td>
<td>$33</td>
<td>0.14 - 1.19%</td>
</tr>
<tr>
<td>Lower-middle</td>
<td>$10</td>
<td>0.40 - 1.22%</td>
</tr>
<tr>
<td>Low*</td>
<td>$1.4</td>
<td>0.14 – 0.52%</td>
</tr>
</tbody>
</table>

- Affordability is a key issue in the lower income countries
- Fees < 1-2% of household income
- * Data only available for 3 of the 6 low-income cities (for 16 out of 20 cities in total)

Example of financial contribution - Mumbai

<table>
<thead>
<tr>
<th>Year</th>
<th>Budget (US$ million)</th>
</tr>
</thead>
<tbody>
<tr>
<td>2009/10</td>
<td>228</td>
</tr>
<tr>
<td>2010/11</td>
<td>334 (estimate)</td>
</tr>
</tbody>
</table>

Source: Perinaz Bhada-Tata, Waste Management World, September – October 2010

**Cross-subsidy - from poor to rich**

- This budget deals with ~75-80% of the waste generated
- ~20-25% of the waste is collected & recycled by informal sector
- Informal sector is saving city ~US$100 million/year in avoided collection & disposal costs

A detailed study which documents the financial contribution of the informal sector to SWM in 6 cities is available:


Contribution of community / informal sector

• Systems entirely private sector – financed only from sale of recyclates
• Modern recycling systems have been rebuilt by municipalities as ‘sinks’ – cost them money but cheaper than landfill or waste-to-energy
• Reduce public sector costs – by millions of $/year in a large city
• Professional waste workers in the community / informal sector are just one partner group, but they are often not recognised as such by the municipality

Port Harcourt, 2006 (Photo: Kaine Chinwah, IC)

Istanbul, 1993 (Photo: DCW)
Both formal and informal actors are parts of 2 key entangled systems:

1. Waste management
2. Secondary raw materials production and use

Diagram credit: Velis C and Wang H, 2010
Major opportunity for win-win solutions through partnership

- Build recycling rates
- Save the city money
- Availability of secondary raw materials for industry
- Move towards zero waste
- Improve livelihoods
- Sustain employment
- Improve working conditions

Itinerant waste buyer in Brazil

Sorting recycled plastics in Delhi

Photo credits: © Jeroen Ijgosse, Enrico Fabian
Integrating the community / informal sector into sustainable WM

- Secure livelihoods
  - Find new niches, e.g. in separate collection and recycling
  - Assure access at transfer stations (and/or landfill sites?)
  - Increase market leverage – e.g. co-operatives, diversification
- Open channels of communication with the city
- Address social and health & safety issues

Photos: Bhushan Tuladhar, Martin Medina

Itinerant waste buyer in Nepal

Recycling co-operative in Colombia
Does it ever really work?

Case 1: Quezon City, Philippines: NGO-led ‘Linis Ganda’
- Sharp increase in recycling
- Linkages across supply chain
- Recognition & respectability, uniforms, ID, access
- Politically connected, Organised in co-operatives
- Facilitate affordable credit

<table>
<thead>
<tr>
<th>Year</th>
<th>Total</th>
<th>IWBs</th>
</tr>
</thead>
<tbody>
<tr>
<td>1997</td>
<td>6%</td>
<td>4%</td>
</tr>
<tr>
<td>2006</td>
<td>25%</td>
<td>16%</td>
</tr>
<tr>
<td>2009</td>
<td>37%</td>
<td>24%</td>
</tr>
</tbody>
</table>

Case 2: Belo Horizonte, Brazil

Brazil: Profession recognition
Recycling facility of one of the waste picker cooperatives in Belo Horizonte

Unsold food from shops which would otherwise be discarded as waste, being sorted prior to distribution to some 15,000 people registered with the social inclusion food bank in Belo Horizonte
The way forward - loads of challenges, for many stakeholders

- Often appalling working conditions (child labour occupational H&S risks, sorting at home, sorting WEEE, burning waste, sorting on dumpsites, etc.)
- Public health risks (e.g. re-use of syringes)
- Unsightly – aesthetically incompatible with 21st century SWM
- Black market: non-taxed activities – financial exploitation by material dealers(?)
- Political repression, neglectance, collusion, lack of role and job recognition
- Social exclusion (?) – poverty (e.g. slums on dumpsites) – access to services
- Criminality (gangs formation and fighting over access to material)
- Littering / dumping / obstructing formal sector activities (e.g. landfill working front)
- Collection focus depends upon volatile secondary raw material market prices
- Lack of co-operation with authorities, lack of organisation that could allow accountability, legal and environmental control
- Intervention / inclusion / absorption supportive attempts failing due to lack of system understanding (primarily a waste/material flow issue not a means to social engineering)
- Interventions financially unsustainable and lacking in capacity building
- Financial externalities (material flows, greenhouse gas emissions, H&S)
‘Working conditions are unacceptable’ - ‘risk to public health’

- Yes, but why are their working conditions so dirty?
- Most sorting is in mixed waste
- (Hand sorting with suitable PPE is not uncommon in high income countries)
- **Key**: access to materials under controlled safe hygienic conditions
- **Key**: separate organics from dry recyclables at source
- **At a stroke, improve working conditions for the recyclers AND provide the foundation for ‘zero waste’ to landfill**
- Separation at source already takes place – itinerant waste buyers (IWBs)
Financial and organisational sustainability

• People are **willing to pay** – when they can see the **benefits** (e.g., for primary collection, to improve the living conditions of their children)
• Funds for investment
• **Potential partners to municipalities**
  » National government
  » Development grants
  » International agency loans
  » Private investment
• Most partners only provide capital costs
• Municipality still needs to be able to afford the **operating costs**
• **Novel funding mechanisms**
  • CDM - **Kyoto Clean Development Mechanism**
  • EPR - **Extended Producer Responsibility**
Good governance & partnerships: key to success

Partnerships underpin all the UN-Habitat (SWM in world’s cities) governance factors

Municipalities cannot solve the SWM problem alone
‘If you don’t measure it, you can’t manage it’

E.g. always weigh waste

Kunming – weighbridge at incinerator

GIZ project in Mozambique

Analyse waste composition

Need robust evidence base for decision-making

Need **reliable and timely data**
Globalisation and Waste Management (GWM) ISWA Task Force

1st deliverable out of 5 is on informal recycling sector
Consolidate evidence from existing inclusion/integration interventions
MSc thesis - Imperial College London (Ms Ondina Rocca)
International Expert Workshop (Buenos Aires 22-23 June 2011)

- Terminology: alternatives to “informal sector”
- Vision: Inclusion / integration / absorption
- Important and/or typical case studies on ‘integration’ attempts
- Intervention / self-organisation typology
- Success / failure – constraints and facilitating factors
- Template for typical intervention case studies presentation
- Decision making framework – good practice guide: useful existing approaches - propose new ways to frame the choices
A w/p case: how should we refer to the ‘informal’ sector?

• Recognising that language forms perceptions and reflects stances
• Development agencies do not like the ‘informal sector’ – synonymous with the ‘black economy’ – tax revenues are necessary for good governance
• The ‘informal’ sector in WM need not be outside the formal economy – e.g. Brazil
• But they do not want to be ‘formalised’ in the sense of being ‘absorbed’ – separate stakeholder group
• I have used here: ‘community/ informal sector’
• What term should we be using? Would another term make recognition and integration easier?
The community sector (CBOs) in SWM in high income countries

- Surprisingly large and active
- Often focus on reuse
- ...but also recycling and community composting
- Complain that they are not recognised as equal partners by LAs and the formal private sector

Photos: Matthew Thompson, LCRN
Modernisation does not necessarily mean motorisation
Motorisation does not mean compaction (London’s example!!)
Key modernisation feature: separate, effective at source collection
Success factors

One size does not fit all – large and small composting plants in Adelaide and Canete, Peru

• No one size fits all – every city needs to develop its own local and sustainable fit-for-purpose solution

• Technical ambitions may need to be modified to achieve affordability: e.g. a sanitary landfill is worth nothing if it the city can’t afford to run it

• Commitment does more than money: several poor cities with good systems

• Building on what you have works

• Including informal activities in formal reporting could improve a city's outlook
Thank you!

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