INTEGRATED RESOURCES RECOVERY CENTERS AND SUSTAINABLE DEVELOPMENT IN SMALL CITIES IN ASIA PACIFIC JAMBI CITY PILOT PROJECT

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Outline

- Jambi City Facts and Figures
- Overview of solid waste management
- IRRC Progress
- Replication
I. Jambi City Facts and Figures

- Total area 175.53 KM² (0.38% of Jambi Province)
- Population 732,479 with growth rate of 3.08%

Jambi City is divided into 11 subdistricts: Kota Baru, South Jambi, Jelutung, Pasar Jambi, Telanaipura, Danau Teluk, Pelayangan, Alam Barajo, Paal Merah, Danau Sipin and East Jambi.

Jambi City consists of 62 villages
Open Dumping Before 1997

Semi Controlled Landfill

Sanitary Landfill 2018

Waste Composition

<table>
<thead>
<tr>
<th>COMPONENT</th>
<th>PERCENTAGE WASTE (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 Organic</td>
<td>55</td>
</tr>
<tr>
<td>2 Inorganic</td>
<td>45</td>
</tr>
<tr>
<td>Plastic</td>
<td>15</td>
</tr>
<tr>
<td>Glass</td>
<td>2</td>
</tr>
<tr>
<td>Steel</td>
<td>1</td>
</tr>
<tr>
<td>Paper</td>
<td>15</td>
</tr>
<tr>
<td>Textil</td>
<td>5</td>
</tr>
<tr>
<td>Rubber</td>
<td>2</td>
</tr>
<tr>
<td>Others</td>
<td>5</td>
</tr>
<tr>
<td>Total</td>
<td>100</td>
</tr>
</tbody>
</table>

* KfW

• Waste Production 1.874 M³/day
• Collected & transferred to Landfill 65.67 %
# Recycled Waste Potential

<table>
<thead>
<tr>
<th>Year</th>
<th>Paper/Carton Tons/Day</th>
<th>Plastic Tons/Day</th>
<th>Steel Tons/Day</th>
<th>Glass Tons/Day</th>
<th>Total Recycled Waste Tons/Day</th>
</tr>
</thead>
<tbody>
<tr>
<td>2010</td>
<td>38</td>
<td>24</td>
<td>1</td>
<td>4</td>
<td>66</td>
</tr>
<tr>
<td>2015</td>
<td>57</td>
<td>39</td>
<td>1</td>
<td>7</td>
<td>104</td>
</tr>
<tr>
<td>2020</td>
<td>72</td>
<td>49</td>
<td>2</td>
<td>8</td>
<td>131</td>
</tr>
<tr>
<td>2025</td>
<td>87</td>
<td>59</td>
<td>2</td>
<td>10</td>
<td>158</td>
</tr>
<tr>
<td>2030</td>
<td>102</td>
<td>69</td>
<td>2</td>
<td>12</td>
<td>186</td>
</tr>
</tbody>
</table>

*KfW estimation

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IRRC PROGRESS
BEFORE

IN PROGRESS

LAND CLEARING
GROUND BREAKING

LAYING DOWN THE BASE
IN PROGRESS, per Nov 30th 2017

IRRC in Jambi

- IRRC capacity of organic waste 2 ton/day, turn into biogas and composting
- IRRC reduce waste 2 ton/daily, reduce waste to landfill, reduce transportation to landfill,
- Transportation cost around $26.188 one IRRC reducing 2 ton of waste, save 10% of transportation cost.
- Replicated the IRRC in each subdistrict
  - Saving cost of truck maintenance
  - Creating job opportunities for local
  - Reduce amount of waste to landfill
  - Encouraging 3R at source
We continuously look for tangible, and future-proof solutions to our challenges for sustainable development of our city and its communities. This is a pilot project that we expect to succeed and can be replicated in other parts of our city.

Indirect co-benefits of Resource Recovery in Jambi

- Economic growth
  - Employment and income opportunities
- Social
  - Provide safer work environment for waste pickers with safer working conditions and improvements in public health and environmental protection
  - Solidify teamwork in the community
  - Cost savings (flood protection, healthcare, city cleaning, etc.)
  - Education: increased know-how and awareness of solid waste management, promotion of sustainable consumption patterns
Indirect co-benefits of Resource Recovery in Jambi

- **Environmental**
  - >50% percent of municipal solid waste is organic material. This waste is currently sent to landfills and dumps, where it contributes 70 to 100 million metric tons of greenhouse gas emissions every year.
  - Responsible for 10% reduction of landfill waste.
  - Reduces pollution to air, land and water.
  - Prolongs and saves landfill space as well as transport costs.