# Action Plan for SWM in Kerala

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## Waste Generation

- **Households**: 49%  
- **Institutions**: 36%  
- **Wayside & Public Places**: 15%

## Waste Generation by LSGs

<table>
<thead>
<tr>
<th>LSGs</th>
<th>No.</th>
<th>Waste Generation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Municipal Corporations</td>
<td>6</td>
<td>1415 tpd</td>
</tr>
<tr>
<td>Municipalities</td>
<td>87</td>
<td>4523 tpd</td>
</tr>
<tr>
<td>Gram Panchayats</td>
<td>941</td>
<td>4106 tpd</td>
</tr>
</tbody>
</table>
Key Takeaways from Korea Experience

SHIFT IN WASTE POLICY
VOLUME BASED WASTE FEE SYSTEM
SANITARY LANDFILL
CREATION OF A CITY OF CIRCULAR ECONOMY
IMPLEMENTATION OF EPR
WASTE TO ENERGY PLANTS
SOLID WASTE INFORMATION SYSTEM
Key Challenges

- Fragmented service delivery with multiple institutions - Lack of ownership by ULBs
- Lack of solid waste management planning
- Land availability constraint
- Specific regional constraints – high moisture, high rainfall, frequent floods and storm surges, long coastal belt, lowland/environmentally sensitive areas.
- NIMBY issues – social acceptability of SWM projects
- Inadequate financing for capital and operational expenditures
- Inadequate technology interventions for recycling, processing and disposal
Bridging the Challenges

- Establish Policies and Legislations
- Implement aegular awareness programme
- Adoption of modern technology
- Develop Sanitary landfill at regional level
- Promotion of local entrepreneurship
- Institutional strengthening/streamlining for SWM
- Mainstream planning
- Tie with industrial associations/recyclers for improving recycling
- Create Opportunities for private sector participation esp. in treatment & disposal
## Action Plan

<table>
<thead>
<tr>
<th>Capacity building and Awareness generation</th>
<th>Short term (0-2 years)</th>
<th>Medium Term (2-5 years)</th>
<th>Long Term (5-10 years)</th>
</tr>
</thead>
<tbody>
<tr>
<td>• Awareness programs – IEC</td>
<td>• Curriculum change for primary education</td>
<td>Encourage entrepreneurship/start-ups.</td>
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<tr>
<td>• Provide capacity building for all stakeholders</td>
<td>• Network with academic and research institutions</td>
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<table>
<thead>
<tr>
<th>Policies &amp; regulation</th>
<th>Short term (0-2 years)</th>
<th>Medium Term (2-5 years)</th>
<th>Long Term (5-10 years)</th>
</tr>
</thead>
<tbody>
<tr>
<td>• Strengthen existing/Frame new laws for SWM - for sanitary landfill management/other service delivery issues</td>
<td>• Framing laws for Extended Producer Responsibility;</td>
<td>• Monitoring</td>
<td></td>
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<tr>
<td>• Change existing laws for land acquisition/land use reclassification for SWM projects</td>
<td>• Penal provision to be strengthened and enforced</td>
<td>• Environmental Police</td>
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</table>

<table>
<thead>
<tr>
<th>Planning and implementation</th>
<th>Short term (0-2 years)</th>
<th>Medium Term (2-5 years)</th>
<th>Long Term (5-10 years)</th>
</tr>
</thead>
<tbody>
<tr>
<td>• Identification and acquisition of land/use of existing land used for dumpsites - for treatment and disposal facilities</td>
<td>• Complete the implementation of 1-2 regional landfills and plan for scale up.</td>
<td>• Implementation of scale up strategy</td>
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<tr>
<td>• Detailed technical assessment/feasibility studies for potential technologies as well as operational models.</td>
<td>• Operations and maintenance</td>
<td></td>
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<tr>
<td>• Initiate design and implementation of 1-2 regional landfills.</td>
<td>• Monitoring</td>
<td></td>
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<tr>
<td>• Strengthen HH level waste segregation systems</td>
<td>• Centralized waste management in major cities (6 MCs)</td>
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<tr>
<td>• Establish door to door collection for bio waste</td>
<td>• Strengthening of recycling systems</td>
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<tr>
<td>• Strengthen door to door collection for non-bio waste</td>
<td>• Existing dumpsite capping/land reclamation</td>
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<tr>
<td>• Household/community level bio-waste management</td>
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<tr>
<td>• Cleaning of public places with regular sweeping, cleaning and beautification</td>
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### Additional Notes
- **Monitoring** for all actions is crucial to ensure effective implementation and adherence to the plan.
Opportunities

• Rebuild Kerala Initiative – Build Back Better
• Existing HKS (neighborhood groups)/Kudumbashree (which needs to be formalized)
• Rich economy with high willingness to pay user charges for services.
• Existing household segregation system for wet and dry waste
• Proactive/educated people and hence high social ownership
• State Waste Management Authority being set up.
• Improvement in SWM will support the overall economy (since it’s majorly based on tourism), and reduce environmental externalities to water bodies and sea.
• Existence of Urban continuum and less inter-ULB distances.

Barriers

• Natural Disasters (floods, landslides, cyclones)
• Land constraint
• NIMBY/ social opposition owing to poor past experiences with SWM/sanitation projects.
• Existing multiple state level institutions (which need streamlining/absorption)
• Risk of low private sector participation in execution of SWM projects
• Risk of non cooperation of political parties to implement regional/innovative projects.
Technical support needed from WB/Korea

- Establish a knowledge partnership between Kerala, Korea and WB for SWM, focusing on three priority areas -
  - Recycling and EPR
  - Planning, implementation and O&M of treatment & disposal infrastructure
  - Institutional and policy frameworks for SWM
- TA support for identifying the right technologies for waste reduction, plastics management, waste recycling, treatment and disposal.
- Kerala and WB partnership through Kerala Urban Service Delivery Project.
Never doubt that a small group of thoughtful committed citizen can change the world; indeed it is the only thing that ever has !!!

Thank You !!!