Foodwaste Minimization and Recycling (FMR) in Korea

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Why should we initiate the FMR?

**Difficult to secure additional landfill sites**
- Due to rapid urbanization and NIMBY syndrome
- Foodwaste share: 25% of non-industrial waste

**Second-hand pollution attributed to foodwaste landfilling**
- Land and groundwater pollution, malodor, infested with vermin

**Waste recyclable resources of foodwaste worthy of about USD 14.7 billion dollars**
- Import 70% of grains (except rice) and 96% of livestock feed
Establish Foodwaste Reduction Masterplan by Environment Conservation Committee in 1996

Set the Standard Rules concerning foodwaste collection and transportation and separated collection system in 1997

Establish Foodwaste Recycling Program (‘98~’02) in 1998 and Foodwaste Reduction and Recycling Program (‘04~’07) in 2004

Inhibit direct landfilling of foodwaste nationwide since Jan. 1, 2005 to promote FMR
- Steer Foodwaste Forum May to Nov. 2005 to address and improve challenges after inhibiting direct landfilling of foodwaste

Establish Foodwaste Comprehensive Plan in 2005 to change food culture and facilitate foodwaste minimization and recycling
Status of Foodwaste Generation and Disposal (1)

Trend of foodwaste generation

<table>
<thead>
<tr>
<th>Year</th>
<th>Non-foodwaste</th>
<th>Foodwaste</th>
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<tbody>
<tr>
<td>'95</td>
<td>32,699</td>
<td>15,075</td>
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<tr>
<td>'97</td>
<td>34,832</td>
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<td>'04</td>
<td>38,543</td>
<td>11,464</td>
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<td>'05</td>
<td>35,370</td>
<td>13,028</td>
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</tbody>
</table>
Trend of foodwaste recycling

Status of Foodwaste Generation and Disposal (2)

Disposal of foodwaste in 1995
- 96% Lanfilling
- 2% Incineration
- 2% Recycling

Disposal of foodwaste in 2004
- 81% Lanfilling
- 14% Incineration
- 5% Recycling

Disposal of foodwaste in 1999
- 59% Lanfilling
- 34% Incineration
- 7% Recycling

Disposal of foodwaste in 2005
- 93% Lanfilling
- 3% Incineration
- 4% Recycling
System of FMR

Vision

Policy Targets

Policy Tools

Resource saving and construction of waste recycling society

Foodwaste Minimization

- Collaborative programs with NGOs
- Public awareness through TV, radio, and internet
  - Edu-programs for children & soldiers

Foodwaste Separated Collection

- Set bylaws by local government
- Enforcement and supervision

Foodwaste Reuse and Recycling

- Expansion of treatment facilities
- Improving process and product quality through regular inspection
- Increase of demand of recycled products
Foodwaste Disposal Process

**Generation**
- Household
- Restaurants
- Agriculture & fishery center

**Transportation & treatment**
- Self-recycling through
  - Waste volume reduction machine
  - Self-recycling facilities

**Products**
- Livestock feed
- Compost
- Methane gas

**Consumption**
- Livestock farm
- Agriculture farm
- Energy for electricity or heating
Where are we now?

- **Remarkable increase of recycling rate and effect of import substitution**
  - Foodwaste recycling rate: 2.1% in 1995 → 41.1% in 2000 → 93.8% in 2005
  - Effect of import substitution for livestock feed and compost: about USD 111.8 mil. in 2005

- **Reduction of foodwaste bringing into landfill sites**
  - Extension of life span of landfill site: 7 years → 11 years
  - Saving wastewater treatment expense: about USD 61.1 mil.

- **Settling down separated collection system of foodwaste**
  - 81.3% in 2004 → 96.6% in 2005
Issues & countermeasures

- **Reduce increasing foodwaste**: 11,464 ton/day in 2004 → 13,028 ton/day in 2005
  - Waging the intensified foodwaste-reduction campaigns with NGOs and mass media to improve wasteful food culture
  - Driving the FMR Comprehensive Plan(2006~2010) with 10 central government agencies

- **Improve negative recognition of foodwaste recycling products**
  - Stable operation of foodwaste treatment facilities through regular inspection
  - Holding annual contest for selecting best foodwaste recycling products

- **Diversification of foodwaste treatment methods**
  - Anaerobic treatment of biomass (foodwaste+nightsoil+sewage sludge)
Thank you very much for your attention!

Any Qs?