The 5th Kitakyushu Initiative Network Meeting

February 10-11 2010

Session C Summary: Improving Waste management Systems and Final Disposal Sites

Closing of Day 1

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Today's presentations and the topics (2/2)

C-1 Japan, Fukuoka
Fukuoka Method

C-2 Bangladesh, Dhaka
Final disposal site improvement in Dhaka

C-3 Nepal, Kathmandu
Sanitary landfill Improvements in Kathmandu

C-4 Philippines, San Fernando
Sanitary Landfill in San Fernando City

C-5 Japan, Ooki Town
Waste Management System in Ooki Town

C-6 Japan, Ube
Participatory Environmental Management Approach in Ube city

C-1

Fukuoka Method

- **Low degree of technical demand** and machines and devices, and ease of operation and maintenance.
- **Decrease** in the load of **waste water contamination** by the quick drainage of waste water.
- Contribution to the **prevention** of **Global Warming** by control of the discharge of methane gas
- **Early stabilization** of landfill ground by promoting waste bio-degradation.
- **Wider alternatives** of material for construction and lower cost of the construction.

C-2

Final Disposal Site Improvement in Dhaka

Transforming existing open dump into sanitary landfill

- Reduction of the environmental pollution generated from the disposal activities.
- Improvement of the operational practice of landfilling through provision of sufficient facilities and equipments
- Improvement of the working conditions at the site including health & safety

C-3

Sanitary Landfill Improvements in Kathmandu

Sisdol Landfill

Aeration pond and aerator

Aletar landfill site

- Daily Capping: 10 cm Soil Covering
- Leachate Treatment – Aeration, Recirculation, Evaporation
- Increase of Gas Vent Pipe Length
- Maintenance of Gas vent Pipe
- Operating by Kathmandu Metropolitan City & LSMC

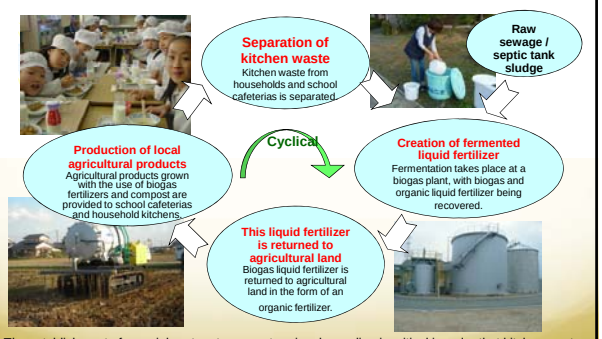
C-4

Sanitary Landfill in San Fernando City

- 2 cells utilizing clay and High Density Polyethylene (HDPE) liners
- established in a 10.6 hectares area
- electronic weigh bridge
- Leachate Treatment Pond (LTP)
- Leachate collection system
- Design-Built-Operate Scheme (DBO)
- Project cost: Php 163 million + acquired to the World Bank (payable in 25 years)

C-5

Waste Management System in Ooki Town



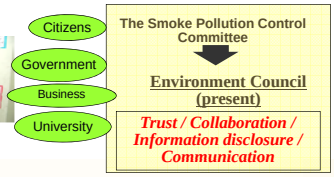
The establishment of a social system to support regional recycling is critical in order that kitchen waste, raw sewage and septic tank sludge to be successfully utilized as a regional recyclable resource.

C-2

Participatory environmental Management Approach in Ube City

City of flowers and sculpture

Fifty-Fifty Project and Eco School



Air Pollution countermeasures from the Ube Model

Other Initiatives

- The Environmental Conservation Agreement
- Expansion of facilities accompanied by Consultation with the city
- Greenhouse gas reduction in Ube City
- Project achieved by co-operation between business, government, academia and citizens

Summary/Conclusion

Success factors for replication of Fukuoka Semi-Aerobic Landfill

- Transfer of technical expertise/financial aid
- Political will and Policy intervention
- Significance of sustainable waste management
  - Waste reduction
  - Capacity building
  - Legislation
  - Quality management systems - ISO9000, 14000

Thank you

Success factors for Improving Waste Management Systems

- Role model from Oki and Ube Cities
- Success factors:
- Institutionalization of a Regional social system and framework comprising of government, business, citizens and research
- Participatory approach rather than top-down or heavy-handed approach