Solid Waste Management in Shanghai
-An Overview

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NOTE: Maps and graphs by Chreod Ltd. Canada

CONTENTS

1. Shanghai – Characteristics / Basic Data

2. Shanghai’s Solid Waste System
   - Key Sector Elements

3. Institutional Evolution of the Solid Waste Sector in Shanghai

4. Financing of Urban Services and Investments (Chinese Characteristics)
Finance District in Pudong along the Huangpu River.

The Bund area along the Huangpu River in Shanghai.
Shanghai is Facing New Kinds of Pressures

CHALLENGES

Continued Urbanization...
Environmental Degradation...
Need to Sustain Growth...
1. **SHANGHAI - BASIC DATA**

- **Area:** 6,300 km² (>
  than the State of Delaware); 10% of area as core city; total of 18 Districts + 1 County
- **Population:** close to 20 million (incl. 5-6 million migrants); ~1.5% of China population growth 1.9% / year
- **GDP:** 5.4% of China's GDP in 2003 ($80 B); $4,350 per capita (= PPP figure of about $19,000)
- 25% of China's exports via Shanghai
- >90% pop. in non-agricultural jobs; 12% > 65 years old
2. Shanghai’s Solid Waste System

- Most of disposal (transport) by barges
- To one main landfill (7,000 ton/day now)
- 2 incineration plants (municipal waste)
- One small private composting facility
- One central hazardous waste facility
- New MIS System (weight data, webcams, etc.)
- Suburban districts with own landfills
- Hundred or more ‘illegal’ dump sites

Urban Infrastructure Investment in Shanghai:
1985~2003
3. Evolution of Solid Waste Sector in Shanghai

Traditionally: All solid waste functions managed by Shanghai Sanitation Bureau.

Since late 90’s: Shanghai Chengtou responsible for larger core city investment management in the sector

Since 2004: Districts/County with full responsibility for both collection and disposal (buying most of the disposal services from companies under the Bureau or Chengtou)

2004: Chengtou formed a JV with Veolia Environment for 25 years of O&M of the city’s largest landfill

2005: Chengtou established a District Financing Vehicle (DFV) for project management & finance mobilization support to suburban districts (on demand) for solid waste

2006: Shanghai made a clear division of responsibilities, w. Sanitation Bureau for sector policy / planning, and Shanghai Chengtou for management and investment

4. Financing of Urban Services and Investments in China

O&M
- Beneficiary (User) Charges: Extensive
- Budget Allocation: Other than w/ ww

Investment
- Inter-governmental Transfers: Minimal
- Land/property lease revenues: Extensive, declining
- Market Borrowing from Banks: Extensive
- Private Sector Finance: Some; increasing
- (market provision of services)
- Corporate Bonds: Emerging
- Local budget allocation: Limited
- Own Cash Generation for Inv.: Limited
Infrastructure Finance in Shanghai

- Key Chinese Characteristics

- Largely public finance driven, but municipal governments are not allowed to borrow (by Law)

- Direct budget allocations for investments are limited (although extensive fiscal decentralization)

- “Municipal Asset Management Companies” borrow

- Sale/lease of public property/land has to date been a key revenue source (extra-budgetary)

- High savings rate; domestic banks key factors (but rudimentary and constrained capital markets)

- A growing role of “market mechanisms”

Shanghai Chengtou Corp.: Four Business Sectors

Shanghai Urban Development and Investment Corporation (Shanghai Chengtou), established in 1992, a “holding company” for public utilities.

- **Environment Division**
  - Jiang-Qiao MSW Incineration Plant
  - Lao-Gang MSW Landfill site
  - District Financing Vehicle (DFV)

- **Real Estate Division**
  - New Jiangwan City
  - Songjiang-Sijin Land Lot
  - Old District restoration

- **Road & Bridge Division**
  - Yang-Pu Bridge
  - Xu-Pu Bridge
  - Middle-Ring Road and Interlocking Viaducts

- **Water Division**
  - Yangshupu Water Intake
  - Changqiao Water Plant
  - Sewage system