Beneficial Uses of Sludge

This Pilot and Demonstration Activities (PDA) supported a study on the beneficial uses of sludge in Wuhan City.

Snapshot

<table>
<thead>
<tr>
<th>Project site</th>
<th>Wuhan City, Hubei province, People's Republic of China</th>
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<tbody>
<tr>
<td>Cost</td>
<td>US$ 70,000 (US$50,000 PDA Grant and US$20,000 Government Counterpart)</td>
</tr>
<tr>
<td>Status</td>
<td>Completed</td>
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<tr>
<td>Approval date</td>
<td>May 2008</td>
</tr>
<tr>
<td>Completion date</td>
<td>June 2009</td>
</tr>
<tr>
<td>Category</td>
<td>Urban</td>
</tr>
<tr>
<td>ADB officer</td>
<td>Wang Jianguo</td>
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<tr>
<td>Partner</td>
<td>Wuhan Urban Drainage Development Company</td>
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</tbody>
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Report card

Completed in June 2009, this PDA

- Determined at least 2 commercial products that can be generated from sludge:
  - As hydrolyzed protein liquid, which can be transformed into protein firefighting powder
  - As hydrolyzed biosolids, which can be directly used in urban gardening and landscaping
- Assessed the financial viability and environmental sustainability of these uses of sludge through an end-user survey and market study
- Developed 100% use of Wuhan City's surplus sludge

Read the final report.

Description

Wuhan City in Hubei province produces some 500 tons of sludge daily that are transported to landfills or incinerated. According to the Municipal Urban Development Master Plan, landfills would close in the coming years and sludge disposal would become a major issue. Sustainable solutions for disposing the surplus of sludge are needed.

This PDA replicated a successful bench-scale study of the Wuhan Urban Drainage Development Co., Ltd on reducing the water content of sludge. It determined the beneficial uses of biosolids from sludge, including as fertilizer and soil replacement, and the appropriate technologies for sludge disposal. It also provided support and technical justification for the preparation of the 3rd phase (dealing with solid waste and sludge management) of a series of ADB water projects in Wuhan. The first phase focused on wastewater management and water quality modeling while the 2nd phase dealt with wastewater and stormwater management.
Expected outcomes

- Beneficial uses of sludge determined
- Financial viability and environmental sustainability assessed

Related

- Knowledge and Innovation Support for ADB’s Water Financing Program
- Scribd: Final Report (June 2009)
- Scribd: Midterm Report (May 2009)
- Scribd: Inception Report (January 2009)
- Scribd: Proposal (February 2008)
- Pilot and Demonstration Activities in the Water Sector
- People's Republic of China and ADB
- Country Water Action: Science Makes Sludge Useful
- ADB’s Focus on Water

Sourced from https://www.adb.org/results/water-pda-beneficial-uses-sludge