Septage Management in the Philippines
A tale of two cities: Dumaguete and Baliwag

- Provides guidelines in the protection of water resources
- Mandates that local governments put up septage management facility and allows them to charge fees
- Requires the preparation of the National Sewerage and Septage Management Program (NSSMP)
Dumaguete City
Population: 131,400

Baliwag, Bulacan
Population: 149,900
Implementation

**Dumaguete City**

Partnership between the City Water District and the City Government.

Started operations in 2010

**Baliwag, Bulacan**

Partnership between the City Water District and the Private Sector.

Started operations in 2012
# Financing

<table>
<thead>
<tr>
<th>Dumaguete City</th>
<th>Baliwag, Bulacan</th>
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<tbody>
<tr>
<td>Borrowed money ($500,000 USD) from the city’s own operations funds.</td>
<td>Borrowed money (1.5 Million USD) from a commercial bank at 7% interest.</td>
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<tr>
<td>Facility constructed through administration. Also included 6 refurbished trucks</td>
<td>Facility constructed by private contractor. Also included 2 new trucks.</td>
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Technology

Dumaguete City (2 ha)
Passive system using waste stabilization ponds and wetlands

Baliwag, Bulacan (.5 ha)
Fully mechanized system using screw press and SBR
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<td>About $1 USD per family per month.</td>
<td>Initially about $.85 per family per month, but increased after 1 year to $1 USD per family per month.</td>
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<td>Achieved full cost recovery in 2016 (6 years)</td>
<td>Will achieve full cost recovery in 2022 (10 years)</td>
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## Scheduled desludging

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<td>Started out with door to door scheduled desludging, but switched to on-demand in 2012 due to low participation.</td>
<td>Split the city into 5 zones. Within the zone, desludging is on-demand (organized desludging)</td>
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Planning to go back to scheduled this year
Promotions campaigns

Dumaguete City

“Save the Boulevard”. A campaign suggesting that septage management will improve conditions along with water front and be a driver of economic development
Promotions campaigns

Baliwag, Bulacan

Focused on health aspects of sanitation improvement.
Local ordinance

Dumaguete City

Both cities have promulgated local ordinances on septage and sanitation. The ordinance provides:

- Requirements that all sludge and septage be brought to licensed facilities
- Requires proper septic tanks for new construction
- Licensing and inspection of septage vehicles
- Penalties for non-compliance

Baliwag, Bulacan
Waste Flow Diagram – baseline conditions

SHIT

Containment → Emptying → Transport → Treatment → Reuse/disposal

0%

95%

Effluent to surface water

Private emptying - Illegally dumped
Safely stored

Sludge Not emptied

50%

On-site system

96%

Open defecation

48%

Groundwater

4%

Local Area

5%

Drainage system

5%

Receiving waters

52%