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Solid waste management in the Philippines: a small island experience

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The Philippines is a country of 85 million people and encompasses 7,107 islands of which only about 2,000 are currently inhabited. The Province of Romblon consists of 20 islands located approximately 275 kilometers (km) southeast of Manila. The Municipality of Odiongan is located on the west coast of Tablas Island, the largest island in the Province of Romblon. Tablas Island comprises a total area of 66,046 hectares (ha), slightly smaller than Singapore, with Odiongan encompassing a total area of 13,603 ha. Odiongan has a residential population of approximately 40,000 spread amongst 25 villages. Average annual income per capita is approximately US\$500.

Solid waste in small island communities is managed primarily through open dumping and open burning. However, the municipal government of Odiongan (Municipality) is implementing an ecological solid waste management program aimed at managing solid waste using systems that are sustainable, environmentally sound, and economically viable. From 1995 to 2001, solid waste was disposed through open dumping at a site originally slated for use as a public cemetery. In 1997, the Municipality formally adopted a program to manage solid wastes through recycling, composting, and landfilling, and obtained a 4.4-ha property with the intention of constructing new solid waste processing center. A development plan was prepared for the composting and landfill operations at the new center. The plan for the landfill operation included the design of a leachate collection and removal system (LCRS), a leachate treatment system, fill sequence plans, and a final cover design. A closure plan for the open dump was also prepared.

The development plan was presented to village and municipal councils, as well as neighbouring church congregations for their endorsement and approval. The Municipality conducted simple baseline groundwater monitoring and soil testing, solid waste community surveys, and visited other active waste management operations in other parts of the Philippines. The development plan and other supporting documents were submitted to the Philippine Department of Environment and Natural Resources in order to obtain an operating permit. An operating permit was granted in May 2001 and construction of the first phase was completed in July 2001. Landfill operations at the new center officially commenced in November 2001. Composting operations began in 2002. Construction of the landfill and composting operations were funded by Philippine government institutions.