

## INDONESIA

### AN INTEGRATED HOTEL WASTE MANAGEMENT SYSTEM IN BALI

*In partnership with hotels and waste haulers Wisnu Foundation, a local NGO, initiated a programme to use waste as a resource in order to contribute to more sustainable tourism development.*

Bali is the largest tourist destination in Indonesia, with over two million foreign tourists a year. One of the island's main problems is solid waste, much of which is dumped on vacant land, in rivers, and in roadside ditches. This waste threatens beaches and blocks waterways, causing flooding during the rainy season. A common way of disposing of garbage is through burning, which is hazardous to local residents and foul smelling. Open dumps are odorous and attract animals and flies, which spread disease. As the composition of waste has changed with the introduction of inorganic materials such as plastic bags, this problem is increasing as garbage is no longer biodegradable.

Much of the problem can be attributed to the tourist industry. The amount of garbage produced in Southern Bali exceeds 240 tonnes per day, 25% of which comes from the tourism industry. Waste generated per hotel room is on average 5kg/day, in comparison to waste generated per household, 2.5 kg/day.

The Wisnu Foundation, a local NGO, has set itself the mission of using waste as a resource to create jobs, and to provide professional and integrated waste management services that contribute to sustainable tourism development. Wisnu became involved in the hotel waste management field in 1994 when asked to perform a solid waste audit for the Bali Inter-continental Resort, where they recommended and helped implement a system involving source separation and onsite composting.

Wisnu function as a communication link between the hotels and the haulers, helping to develop realistic, appropriate and cost effective solutions to waste management. They also have an awareness-raising role, bringing waste haulers' and hotel managers' attention to environmental and social issues.

Strategies promoted by Wisnu include reducing the amount of waste produced by hotels through promoting changes that can be made in purchasing

and consumption practices, eg: re-using materials in hotels as much as possible; recovering food scraps for pigs, cows and firewood and compost; recycling plastic, glass, metal, paper and cardboard; composting for hotel gardens; disposing of residual waste at the final dumpsite; and treating wastewater on site or paying for treatment at the municipal sewage treatment plant.

The foundation has been able to mobilise hotels by selling the benefits of these strategies to management. One way of doing this is through the inclusion of solid waste management with the hotels' existing environmental management programmes and recognition of the hotel's efforts through an Eco Hotel Rating Programme, which promotes the green image of the hotels involved, thereby attracting the attention of environmentally concerned travel agencies and consumers.

In addition, hotel solid waste is a valuable source to waste haulers, waste pickers and pig farmers, because materials can be recovered for reuse, recycling and pig feed. Wisnu have therefore shown how hotels can better profit from selling their waste and they have achieved their targeted recycling rate of 75% in 1999.

Wisnu also provide a link between hotels and haulage companies. Hotels sign a yearly contract and pay a monthly hauling fee for reliable and accountable waste management. Proper waste management ensures that hotels are complying with regulations and are not at risk of receiving bad publicity or being sued for careless waste handling.

The programme provides an alternative model for solid waste management that has been replicated in Hua Hin, Thailand and is being planned in Siem Reap, Cambodia.



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