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CASE HISTORY – Hotel Catering Services

STRUCTURE
Diamonds Hotels e Resorts – Planhotel Hospitality Group

CUSTOMER DATA		
Place	**Dimensions**	**Typology**
Malè (Maldives)	big dimensions (Resort hotel)	luxury resort with international clientele - located on multiple atolls in the Maldives. Equipped with various restaurants with local and international cuisine.



PROBLEM
o It is of primary importance to eliminate bad smells from the waste collection and storage area, which are very abundant also due to the strong heat present in the area and of bad impact given the proximity to the facilities occupied by guests. (the refrigerated cell alternative was excluded due to significant power consumption and noise of the refrigeration units, as well as probable breakages and maintenance in high season) o Improve the hygienic and sanitary conditions of the waste storage environments (of primary importance) o Reduce the use of personnel for the frequent washing, conditioning and sanitization of bins dedicated to the collection of wet waste (large quantities of various fruit waste, fish and kitchen remains, as well as important food remains of all kinds discarded after meals) o Reduce the presence of insects and decidedly annoying odors that lurk near the containers of organic waste o Reduce the costs of evacuation (every week) organized by transport with trolleys through the resort and then by boat to islands used as incinerators o Finding a sustainable solution in line with the policy of the resort management which proposes itself as an Eco-sustainable structure capable of reducing the CO2 impact produced by its activity and in line with the nature protection program

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STRUCTURE DESCRIPTION



Innovative all-inclusive resorts that offer luxurious stays in exceptional locations in the Indian Ocean. Equipped with large villas, spas and diving centers, as well as several restaurants offering international, local or specialized cuisine for various regions or cuisines.



For example, at the MAAKANA BUFFET RESTAURANT, the international breakfast buffet offers a wide choice of fresh tropical fruit and juices, homemade breads and pastries, European cold cuts and cheeses, and eggs prepared on request by the chef. The lunch buffet offers a wonderful variety of options, from pizza to pasta, salads, and a barbecue grill where the catch of the day and a selection of meats are cooked on the spot.



Or, at the THILA JAPANESE RESTAURANT where you have a unique experience of live cooking. Overlooking the sea and the beautiful reef, the specialist chefs will theatrically cook a selection of fish and meats on the Teppanyaki grills.



Or again, at the KAKUNI SEA FOOD RESTAURANT, where fish specialties and lobster menus are offered in an extremely romantic setting.



The facilities manage an average of 150-200 breakfasts and meals with an average daily waste of just under 250Kg, requiring the use of at least two machines which sometimes both work with two daily cycles per machine.





- Type of organic waste — Significant amount of waste fruit, vegetables, fish and carbohydrates
- Average daily amount of organic waste produced per resort — 200-300 Kg

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ORGANIC WET WASTE COLLECTION SERVICE





The collection is managed directly by the accommodation facilities and takes place by accumulating organic waste in more or less secluded places, smelly and full of insects, mice and birds. Once a week or even more frequently, it is transported through the village, towards the landing place for the boats, where a barge in charge will then transport it to islands (near the capital Malè) responsible for the collection and incineration of waste

This management was quite expensive and above all in strong contrast with the image of the resorts, as well as in stark contrast with the political objectives of the Maldivian government, aimed at ecological sustainability for the protection of the atolls and coral reefs.



SOLUTION ADOPTED

Purchase and use of a no. 5 EFR100 EcoSwiss machines to manage all the organic wet waste produced daily by the various structures located on three separate atolls.

Installation of the machinery in the areas reserved for catering services, adjacent to the preparation area represented by the main kitchen of the resort. The little condensed water produced is evacuated into the nearby drain (see following photos).













Average daily quantity of product that can be reused directly on the island as a soil improver for plants and flowers: 20-30 kg per machine (x 5 Mc = 125-150 kg).

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Impact on waste with use of EFR

- Kg of organic waste / year **(3 resorts)**: 180,000 - 240,000 Kg
- **Reduction of organic waste produced / year about 80-90%**
- **Less kg of organic waste / year between 150,000 - 210,000kg**

List of Advantages and Economic Savings (quantifiable)

- Total elimination of bad smells around the entire structure **non-quantifiable value but of fundamental and great impact / image for the structure and its prestige; fundamental aspect for choosing the purchase of machinery**
- Total elimination of the need to use a refrigerated cell for the storage of organic waste (100%); **value of about € 30,000 (3 resorts)**
- Total elimination of maintenance and repair costs of the refrigerated cell; **value equal to € 4,000 / year (3 resorts)**
- Reduction of personnel costs for cleaning, reconditioning and sanitizing the refrigerated area **(about 80%)**; **value of € 4,000 (3 resorts)**
- Improvement of the decor and general cleaning of the external and internal area of the structure; **an unquantifiable value but of great and fundamental impact/image**
- **Total elimination of costs** and management for the disposal of organic waste, thanks to the elimination of the need to store and transport them by sea

One-time savings: **€ 30,000 (3 resorts)**



Average-annual savings: approx **50'000 € (3 resort)** (and residual use as a mixed composted soil conditioner directly on site)

Clean working environment, free of leachate and unpleasant odors: **The image for the resort towards guests is priceless!**

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Positioning and use of the machinery: area near the kitchen









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Initial discard and final result





End of cycle and final residual discharge from the EFR100 tank


View inside the tank at the end of the cycle



Beginning of draining of the tank into the collection container



The resulting dry solid residue is largely used as a valid mixed soil conditioner for vegetable gardens, plants and flowers grown at Km Zero in the same area of the structure.

Eco-sustainable solution aimed at pursuing the reduction of CO2 emissions