

# Food waste management in luxury hotels – best practices

Klára Morvay Karakas

Department of Catering, Budapest Business School, Budapest, CEE, 1054, Hungary

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Presenting author email: [karakasnemorvay.klara@uni-bge.hu](mailto:karakasnemorvay.klara@uni-bge.hu)

The Food and Agricultural Organization of the UN (FAO, 2018) highlighted that food waste principally refers to the diminution of food within the various phases of the food supply chain that eventually decreases the food available for consumption. In fact, food waste is considered to be one of the priority streams for waste prevention on a global scale, due its substantial and alarming economic, social, and environmental consequences (Riley, 2016). As stated by FAO (2018), more than 30% of the food produced is wasted worldwide amounting to approximately 1.3Bn tons/year.

Hospitality industry has been widely discussed in this regard (Legrand et al., 2016; Kaur, 2016; Marthinsen and Sundt 2012), as hotels are among the leaders in food waste generation. This is primarily attributed to the fact that only around 50% of the food in hotel buffets is consumed as hotels tend to overstock their buffets to ensure high level of guest satisfaction with regards to food service (EPA, 2018).

As hotels worldwide have an increasing awareness on the issue of food waste as well as the negative implications it has on their profit margins; food waste reduction is a key objective nowadays (Troitino, 2017). The issue is commonly approached by reconsidering previous practices and implementing new approaches. In fact, hotels that have been engaged in effective food waste reduction can realize up to 600% return on investment with the implementation of food waste reduction initiatives (Clowes, 2018). This implies that many hotels on a global scale have been considering and/or implementing food waste reduction strategies.

According to Tekin and Ilyasov (2017), food waste is unavoidable in the hospitality industry due to the fact that hotels welcome guests with diverse cultures, lifestyles and eating habits on a global scale. Luxury hotels are perceived to generate higher share of food waste as opposed to other hotel types. This can be explained by the fact that luxury hotels aim to fulfil their guests' expectations in terms of luxury services, which includes offering and serving the greatest abundance of food either through á la carte or open buffet options (Lephilbert, 2016). Furthermore, staff behavior at luxury hotels was also found to be a major factor in food waste generation as in case staff has insufficient knowledge and/or involvement, they tend to generate unexpected amount of food waste (Baldwin and Shakman, 2012). Hotels have to prevent food wastage, while allowing to use food surplus, should they occur, to engage in donations to people in need, or to re-use leftovers and/or non-edible food waste for other purposes in accordance with the food waste hierarchy (HOTREC, 2017, p. 9.)

The most commonly mentioned practices in academic papers with regards to food waste prevention include food waste tracking on a daily basis (Baldwin and Shakman, 2012, p. 68); higher quality ingredient purchasing (Giorgi, 2013, p. 11); smart food merchandising (Baldwin and Shakman, 2012, p. 70); flexible menu design through the creation of various use for ingredients (Linh, 2018, p. 29); effective staff training to establish a sustainable company culture and raise awareness among staff (Baldwin and Shakman, 2012, p. 71); and enhanced customer engagement (Linh, 2018, p. 29). The most commonly mentioned practices with regards to food waste management comprise donating the leftovers that are in good condition or food closed to expiry date to charity organizations (Linh, 2018, p. 30); feeding animals or using it in agricultural production (Baldwin and Shakman, 2012, p. 72); recycling in case the food cannot be reused (Linh, 2018, p. 30), or sending the waste to landfills, which is the least desirable alternative.

This research aims to focus on food waste management in luxury hotels by investigating three luxury hotels in Budapest (Hungary). The name of the hotels will be not indicated upon their request, but all of them are parts of different worldwide hotel chains.

The research takes a case study approach by evaluating the current state and effectiveness of the food waste management practices. In the exploratory stage of the research the investigation focuses on qualitative methods. The primary data collection is based on eleven interviews and observations from September to December 2018. The interviewees were selected only from the level of managers and department heads of the three hotels (GM, F&B managers, purchasing, chefs, Chief stewards, Banquet managers, Banquet sales etc.) and the semi-structured interviews gave the opportunity to the participants to talk free in a set range. The questions follow the logic of food preparation process and the steps included in HOTREC (the umbrella Association of Hotels, Restaurants, Pubs and Cafes and similar establishments in Europe) guidelines for hospitality establishments to reduce food waste.

Regarding the results this article focuses on the kitchen and the buffet (breakfast) service because the research has shown that these are the most wasteful activities. Table 1 presents a summary of the key challenges and best practices identified with regards to food waste management in luxury hotels in the course of the secondary and primary data collection.

Table 1: Best practices focusing on kitchen and open buffet (Source: Author's Summary)

Challenge	Best practice (Consumption-related)	Best practice (Staff-related)
Minimizing food waste at buffet service	Shifting specific items to a la carte 30 minutes before ending the mealtime	Rewards for those colleagues who accurately and consistently track food waste
	Giving leftovers in doggie bags to non-resident a la carte guests	Punishment for those who not accurate in the separating and tracking
	Showing sample plates	Participating on trainings on how to reduce food waste
	Using smaller plates	Regular staff meeting on food waste prevention
	Serving single portions	Peer learning opportunity
	Shrinking the pastry baskets	Eye-catching signage in staff canteen
	Asking guests about their food preferences	
	Sizing down the portions	
	Utilizing leftovers as fertilizer in rooftop garden	
	Too good to go' app	
Minimizing food waste in the kitchen	Careful menu planning	Brainstorming on donation possibilities
	Separating and weighting kitchen-level waste on a daily basis	Giving culinary team tools and resources to prevent food waste
	Utilization of large-scale technology to more precisely track the waste	Appointing a responsible person

In luxury hotels the main challenge is to ensure the correct balance between 5\* experience and minimizing food waste. It was found that kitchen, breakfast open-buffet and staff canteen is among the leading causes of food waste, generating even higher food waste compared to conferences, banquets, or á la carte options. The limitation in terms of food waste include the barriers in donation, the guests' behaviour and the recycling. The interviewees highlighted on the issues that edible leftovers cannot be given to people in need due to health safety reasons and transportation difficulties. There is no adequate background for food waste management, and lack of state-supported handling of green waste and oil waste. While a broad range of practices exist that are believed to minimize the food waste of buffets, most of the luxury hotels are only implementing a small ratio of such practices and are only in the beginning of the planning phase to expand their practices in this regard.

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