

# “Solid Waste Management Emphasis on Hotel Waste a Review”

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**ABSTRACT:** large amount of solid waste are disposed of at various landfill sites. This waste is generated by homes, offices, industries, and a variety of agricultural activities. If waste is not properly stored and treated, these landfill sites emit a foul smell. It can pollute the surrounding air and can seriously affect the health of humans, wildlife and our environment. There are several major sources of solid waste, including residential, commercial, industrial, and institutional waste. Today's hotel and restaurant industries generate a significant amount of solid waste.

Presently there are improper waste management practices in hotel industry. And lack of suitable facilities and underestimates of waste generation rates, inadequate management and technical skills, improper collection, and route planning are responsible for poor collection and transportation of municipal solid wastes. The primary goal of this research is to classify the various types of waste generated in hotels and restaurants, as well as the sources of hotel waste and its negative effects on the environment and human health, as well as the current methods of hotel waste management.

**Key words:** landfill sites, solid waste, inadequate management, municipal solid wastes.

## I. INTRODUCTION

Hunger levels are still alarmingly high over the world. According to the findings of the GRFC 2022, they broke all prior records in 2021, with close to 193 million people acutely food insecure and in need of urgent help across 53 countries/territories. This indicates an almost 40

million-person increase over the previous peak of 2020 (as reported in the GRFC 2021).

An estimated 931 million tonnes of food, or 17% of total food available to consumers in 2019 globally, went into the waste bins of households, retailers, restaurants and other food services, said the Food Waste Index Report 2021, released by the United Nations Environment Programme (UNEP) on Thursday

So we should concentrate on the generation of food waste in households as well as the hotel industry because we can easily reduce food waste generation in households by educating people and making them aware of the current situation of food scarcity in the world, but food waste generation in the hotel industry cannot be controlled purely by educating people; proper waste management techniques must also be used.

## II. OBJECTIVES

- To list and classify various recyclable wastes generated in hotel guest rooms and restaurants
- To Identify the source of food waste Generation in hotel and restaurant
- Collection of different types of waste in hotel Separately
- To reduce wastage of food and quantity of solid waste generation

## III. SCOPE

Hunger exists today, despite the fact that there is enough food for everyone. Even if agricultural output increases by 60% by 2050, 300 million people will still go hungry due to a lack of adequate food access. We cannot increase food production beyond certain limits, but world

population is increasing every day. The goal of the Global Hunger Index is to reduce global hunger to zero by 2030, but in the current situation, due to the climatic crisis, the Covid pandemic, and conflicts between Russia and Ukraine, as well as the unstable condition of various countries due to food scarcity, the only solution is to reduce food waste generation worldwide.

#### IV. PROBLEM STATEMENT

Most hotel solid waste can be recycled and reused if properly managed, but every day tonnes of solid waste are disposed of at various landfill sites from various sources, with hotels being one of the main sources of solid waste. This untreated solid waste produces foul odours and pollutes the surrounding air, affecting human health, wildlife, and our environment. We can overcome the above situation if this waste is properly managed through various methods such as reduce, reuse, recycle, and energy generation

#### V. LITERATURE REVIEW

##### **Dongare Rina, Sarika Joshi (2020)**

Objectives of her study were: -

1. To list the various recyclable wastes generated in hotel guest rooms.
2. To identify the various methods adopted for treating the recyclable material in guest rooms.
3. To study the benefits of adopting recycling practices by hotels.
4. To explore the various challenges faced by hotels in implementing recycling practices

According to the findings, hotels should implement effective waste management programmes that have a significant impact on the environment. As the need of the hour, they should strive for sustainable practises. Employees' mindsets must be changed through conscious effort and ongoing training in order for them to understand the importance of their contribution to sustainability. The hotel that acts responsibly will only be able to survive in the long run; by cultivating goodwill and making efficient use of resources.

##### **Green strategies for hotels: Estimation of recycling benefits Nripendra Singha,1, David Cranage b, Seoki Lee b,\***

According to the current study's findings, while the hotel industry recycles to some extent, there is room for significant improvement. According to the findings, 87 percent and 88 percent offer the sampled waste, the total waste is either recyclable or compostable. Hotels with and without food and beverage services Hotels may or may not Given the effort required to recycle, people believe the potential savings are substantial.

However, this study contends that such perception may be incorrect based on cost-benefit analysis indicating that hotels can not only make environmentally friendly contributions, but also profit from doing so Long-term recycling practise

##### **Food Waste Management: Study of Indian Hotel Industry 1Dr. Dilbag Singh, 2Mr. Amandeep**

The hotel industry is dealing with a number of issues, one of which is massive food waste. Food waste from hotels and restaurants is a major source of worry, and it is frequently mishandled, resulting in extra environmental problems. The purpose of this study is to educate researchers and hoteliers on food waste management strategies in the hotel business.

The current study aims to demonstrate that proper waste management not only assists organisations in working toward a more environmentally friendly environment, but also allows them to profit from it. Waste management is such a critical issue that it requires both public and government attention. The current study not only assists hotels in implementing proper waste management, but it also assists researchers working in the sector.

##### **Tackling food waste in all-inclusive resort hotels Bendegul Okumusa, \*, Babak Taherib , Ibrahim Girtlioglu c , Martin J. Gannond**

The purpose of this study was to determine why and how food waste occurs in all-inclusive resort hotels, what employees believe the causes of food waste are, and how food waste can be reduced in this context.

While many studies have been conducted on this subject, this is one of the first to investigate food waste gaps in all-inclusive resort hotels from the perspective of employees. Thus, this study offers a preliminary examination of employee perceptions of food waste in this context, identifying multiple closely related causes of food waste.

##### **Reducing the plate waste of families at hotel buffets – A quasi-experimental field study Sara Dolnicar a , Emil Juvan b , Bettina Grün c,\***

Food accounts for a significant portion of total global greenhouse gas emissions. Tourism and hospitality make significant contributions, with food accounting for nearly half of the waste generated by these industries. One type of food waste, plate waste, is easily avoidable. Plate waste refers to the

food that people leave uneaten on their plates. It adds nothing to the enjoyment of the meal while costing the hotel money and harming the environment. In a quasi-experimental field study,

we develop and test a game-based intervention that reduces plate waste by 34% and is immediately available for adoption by hotels worldwide.

**Vikas Mohan, Bansal Deepak, and Sharma Mona (2017)**

This review paper on waste reduction in the hotel industries attempts to compile all relevant literature for reducing and recycling waste generated during manufacturing and disposal in hotels.

The steps outlined in this article based on the literature reviewed are not difficult and can be completed by the hotel industries for waste management. However, hotels require a commitment from management and staff to manage their waste, and they must set aside time to implement waste management strategies.

**Afsanehsadat Omidiani, Seyed Mohsen, Hashemi Hezaveh, 2016**

The current study's main goal is to manage hotel waste in order to create a sustainable business while also profiting from waste. It demonstrates that proper waste management can increase hotel profitability while reducing environmental pollution. According to the study, hotels can not only make environmentally friendly contributions, but also profit from proper recycling practises in the long run. Waste reduction and recycling can significantly reduce GHG emissions. As a result, it can reduce pollution and slow global warming, which is a major problem that humanity is currently facing

**Dominik Leverenz, Gerold Hafner, Salua Moussawel, Martin Kranert, Yanne Goossens, and Thomas Schmidt (2021)**

The primary goal of this paper is to determine whether self-reporting in hotel kitchens can result in reduced food waste at the breakfast buffet. The study found that self-reporting interventions can reduce breakfast buffet leftovers by more than half in hotels. The achieved reductions were related to prevention strategies developed by each pilot kitchen based on self-reported data. Simple operational changes, such as using smaller serving dishes and refilling the breakfast buffet with smaller quantities of freshly prepared food, appeared to be very effective improvements. The practical feasibility of reducing buffet leftovers motivates future research to improve our study's methodological approach and validate the concept, for example, by testing whether self-reporting interventions contribute to reducing food waste for other types of buffets and food services

**A review of solid waste management in the hospitality industry Sanaa I. Pirani and Hassan A. Arafat, Elsevier Journal of Environmental Management, 2014.**

In the hospitality industry, solid waste management is an important part of environmental management. In this study, we looked at the current state of waste management in the hotel industry, with a particular emphasis on food waste management. We concentrated our efforts on the for-profit hospitality industry, which includes hotels and restaurants. The causes of the various wastes encountered in this industry, as well as measures to reduce them, are described. It also highlights global initiatives and techniques for promoting sustainable garbage management.

We also recommended a general waste management procedure for hospitality establishments and demonstrated how trash mapping, an innovative yet simple method, can significantly reduce a hotel's waste generation. We discovered a scarcity of academic papers in this field. More research is needed on the challenges and opportunities of sustainable waste management in the hotel industry globally.

## VI. CLASSIFICATION HOTEL SOLID WASTE

**Basically hotels generates two types of waste biodegradable waste and non biodegradable waste**

Biodegradable waste includes any organic matter in waste which can be broken down into carbon dioxide, water, methane or simple organic molecules by micro-organisms and other living things by composting, aerobic digestion, anaerobic digestion or similar processes. It is basically originates from plant and animals e.g. Vegetables peels, plate rice, chapatti etc.

Non biodegradable materials are the materials which can be broken by micro organism so it leads to the source of pollution e.g. Metals, plastic papers, glass, plastics bottles etc

## VII. SOURCES OF HOTEL WASTE.

Hotels and restaurants are bound to generate significant amounts of food waste due to the nature of their work. This is undoubtedly a major concern for the relevant authorities, such as management and the government. Control measures must be implemented in some way to ensure that hotels and restaurants thrive in a pleasant environment. Food waste can occur at

many different stages of hotel and restaurant operations. Food waste can occur as a result of activities such as unidentified demand, overstocking, inefficient production, poor communication, staff behaviour, unskilled trimming, over-merchandising, and expiration, among other reasons.

Due to huge quantity amounts ordered, poor serving methods, and consumer menu acceptance, waste may occur after the meal has been consumed. The sorts of trash produced in hotels and restaurants differ depending on the culinary products used. Egg shells, potato and fruit peelings, bones, food leftovers, and packaging debris are all examples.

### VIII. HOTEL WASTE MINIMISATION.

Hotel waste can be minimising to great extent by following steps of food waste hierarchy i.e. **Prevention**. Prevention is the best practice in the hotel industry to reduce the Solid Waste generation in hotel. Hotels can prevent the generation of waste at its start point only for example if serving size is small then waste generation automatically get prevented.

**Minimisation:-** food waste can be minimised by redirecting to the needy people or it can be directed to the animals this can reduce the waste generation

**Re-use:-** Food can be preserved and reuse for feeding animals can reduce food from wastage.

**Recycling:-** Recycling the food waste to produce composting and biogas generation

**Recovery:-** Recovery of energy by incineration.

**Disposal:-** The food waste that cannot be utilised in above steps that can be directly dump to the landfill site.

### IX. RESEARCH GAP:-

The Re-use of food is very important steps to minimise the waste generations. The food produced for feeding purpose that should be totally use for feeding only that should not go to for recycling and dumping site but present Scenario Is that most of the hotels are not reusing their food waste to feed the livestock that food directly going at dumping site for dumping ground sometimes it is utilised for compost generation

### X. CONCLUSION

Because waste is not properly processed in India, waste creation from the hotel industry is one of the biggest challenges. As a result, creating a holistic framework for waste management is critical to optimizing each waste item in the hotel business. The majority of hotel waste is recyclable or compostable.

The study indicates that hotels can not only contribute to the environment, but also earn from efficient recycling practices in the long run. GHG emissions can be reduced significantly by eliminating waste at the source and recycling. As a result, it can reduce pollution and halt global warming, which is a serious problem that humanity is currently confronting.

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