



**SOCIAL RESPONSIBILITY THROUGH FOOD WASTE MANAGEMENT IN THE
KENYAN HOSPITALITY INDUSTRY: A LOOK AT HEMINGWAYS WATAMU**

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DECLARATION

Student's Declaration

“This proposal is my original work and has not been presented for a diploma in any other institution”

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Supervisor's Declaration

“This proposal has been submitted with my approval as the college.”

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DEDICATION

I would like to dedicate this work to my loving family for their support and love as I undertook this research and throughout this term.

ACKNOWLEDGEMENT

I extend my sincere gratitude to the Almighty for His blessings and guidance throughout my academic journey. I am deeply indebted to my supervisor, Madam Naomi Mwangi, for her invaluable mentorship and support in this research endeavor. My parents' unwavering love, prayers, and sacrifices have been instrumental in my success. I am eternally grateful for their unconditional support. Lastly, I would like to express my appreciation to my fellow classmates at BIHC for their encouragement.

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ABSTRACT

This research delves into the critical issue of food waste within the hospitality sector, with a specific focus on Hemingways Watamu hotel. By comprehensively examining the extent, causes, and environmental implications of food waste, this study seeks to provide a comprehensive understanding of the problem and to inform the development of effective mitigation strategies. The research employs a multifaceted approach, encompassing quantitative and qualitative methodologies to investigate food waste generation, management practices, and the potential for sustainable solutions. By exploring the complex interplay between operational factors, consumer behavior, and environmental impact, this study aims to identify key areas for improvement and inform the development of targeted interventions to reduce food waste at Hemingways Watamu. Ultimately, the findings of this research contribute to the growing body of knowledge on food waste management in the hospitality industry, offering valuable insights for industry stakeholders, policymakers, and researchers seeking to promote a more sustainable and resource-efficient future.

CHAPTER ONE: INTRODUCTION

1.1.Introduction

This chapter introduces the topic by highlighting the background of the study by providing the background information of the research. In addition, it defines the need for study, the purpose of the study, objective and research questions, in detail and clarity. Lastly, the limitations and scope of the study are also outlined within.

1.2.Background of study

1.2.1. Food waste

Food is referred to as edible products going to human consumption. Food waste has been defined as any form of food loss that happens during the various stages of production, distribution and consumption (Muposhi & Musavengane, 2023). According to the United Nations Food and Agriculture Organization as cited by (Odula A.D., 2023), “food waste is defined as the amount of food often unused or left over and discarded from kitchens and eating establishments as a result of decision and action of food service providers and customers.” Food waste is further defined as edible food that goes uneaten due to the supply chain inefficiency as a result of decisions by the consumer, supply chain managers and other stakeholders decisions (Demetriou, 2022). There are two categories of food waste according to Mabaso and Hewson (2018), (1) avoidable food waste which includes food items that at some point before disposal were edible such as, slices of bread, food leftovers among others. (2) Unavoidable food waste refers to food items that are non-edible from preparation to consumption (Mabaso & Hewson, 2018). Food wasted is estimated to be a third of all food produced for human consumption according the Food and Agricultural Organization (FAO, 2013).

Today’s world is increasingly challenged with environmental issues such as global warming, depletion of natural resource and pollution. Environmental deterioration develops at alarming

rates primarily due to poor waste management practices (Kimeu, 2015). This is true as it pertains to food waste as it contributes to the overall waste produced across all part of the world. It is estimated that 8-10 percent of the global greenhouse gas emissions are associated with food that ends up being wasted (UNEP, 2021). To put into scale, food wasted is estimated to take nearly 30 percent of the world's agricultural land. As seen in the United Nations Environmental Programme Food Waste Index Report of 2024, up to 783 million people are affected by hunger, whereas 150 million children suffer from nutrient deficiency related ailments which affect their health, development and growth. These staggering facts and really put food waste into perspective. It is evident food waste is directly affecting the world socially and environmentally (UNEP, 2024).

Further study reveals that food waste in the hospitality industry contributes largely to global food waste. The study reveals 45% food waste is during the production and processing stage, 21% is due to poor storage leading to food spoilage and 34 % through customer left overs (Were et al., 2018). Were also identifies factors the affect food waste generation as: “the type of service, the type of food served, the expected and actual numbers of customers, the season and the food service organization.”

“Food waste is unethical, not only because it means that food that could have been redirected/provided to people needing food is needlessly thrown in the landfill, but also because it has serious environmental implications” (Demetriou, 2022). Food waste poses a problem to the lives of people, directly being associated with world hunger and serious environmental implications that lead to drastic climatic changes over years to come.

1.2.2. Food waste management

With the rising of environmental degradation, social and economic effects of food waste, different hospitality institutions have put in effort to finding practical solutions to food

waste(Kinyua et al., 2024). food waste management was defined as the techniques, methods, strategies and approaches to reduce food waste by proper collection, handling and disposal (Kimeu, 2015). Food waste has increasingly being a problem and is growing throughout the years. With sufficient data on it effects to the economy, environment and the people globally, there are strategies to mitigate this growing problem.

The world is expected to increase by almost 2 billion persons in the next 30 year from the current projections(UN, 2024c). According to Kenya National Bureau of Statistics, Kenya will have a population of 57 million people which represents an 18 percent growth from the 2019 census. Growth in population translates to more mouths to feed. This sobering fact necessitated the creation of the 13 Sustainable Development Growth by the UN and its adoption in the Kenyan pillars of development for Vision 2030. The SDGs were created at the United Nations Conference on Sustainable Development In Rio De Janeiro 2012 with the goal of meeting urgent Environmental, political and Economic Challenges facing the world (UNDP, 2024). SDG 2, “End hunger, achieve food security and improved nutrition and promote sustainable agriculture” (UN, n.d. 2024) and SDG 13, “Take urgent action to combat climate change and its impacts.” (UN, 2024), directly necessitate the need for better food waste management that would greatly reduce the greenhouse gas emissions and also reduce wastage to mitigate food insecurity

1.2.3. Social responsibility

Social responsibility or better known as Corporate Social Responsibility (CSR) is defined as dealing with key stakeholders of an organization in an ethical and responsible manner to achieve sustainable development in societies (Hopkins, 2006). Organizations decision to undertake CSR depends on their economic perspective. The neo-classical view believes that the only social responsibility is providing employment and paying taxes. The second view adopts a more wider angle that include non-economical influences (Moir, 2001) . However, as

Moir would state, “Business only contributes fully to society if it efficient and profitable and socially responsible.” He continues to add “CSR is the continuing commitment by business to behave ethically and contribute to economic development while improving the quality of life of the workforce and their families as well as of the local community and society at large.” This a marriage of the two perspectives to give a wholesome view and a better understanding of CSR.

Corporate Social Responsibility, at its core is termed as self-regulation by an organization by measuring success using the three Ps: profit, people and planet. Furthermore, CSR is broken into 4 categories, environmental, philanthropic, ethical and economic (HBS Online, 2022). This paper will focus more on the environmental Corporate Social Responsibility, which dictates that an organization should operate as environmental friendly as possible. Organizations as it pertains to this paper, include entities that provide hospitality services.

1.2.4. Hospitality in Kenya

The Kenyan hospitality industry which includes hotels, restaurants, and cafes among other accommodation, food and beverage entities has shown growth in terms of income and number



Figure 1: Revenue generated 2005-2022 (statist, 2019)

Sources

Ministry of Tourism and Wildlife Kenya; Tourism Research Institute Kenya
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Additional Information:

Kenya; Ministry of Tourism and Wildlife Kenya; Tourism Research Institute Kenya; 2005 to 2022

of guests since 2020 during the COVID 19 pandemic. According to the Kenya National Bureau of Statistics economic survey of 2024, a 34% increase of global tourist arrival in 2023 from 2022, 11% increase in local conferences and 23.2% increase in bed occupancy were reported (KNBS, 2024) . Tourism and hospitality contributes 8.8% to Kenya's Gross Domestic Product (GDP). Kenya being a tourist destination hub in Africa, attracting international guests, there was an 83% increase in 2022 in earnings from international arrivals compared to the previous year. The figure below illustrates revenue gained from 2005 to 2022

The statistics show an uptake of guests in hospitality establishment's increase in Kenya translating to the increase of food and beverage services. This means more and more food is being produced and inevitably being wasted. This study will focus on the Kenyan hospitality industry and more specifically Hemingways Watamu Hotel.

1.2.4.1. Hemingways Watamu

Hemingways Watamu is 5-star boutique beach hotel located in Watamu Village approximately 120kms north of Mombasa and 20kms south of Malindi town. The hotel sits in the middle of Watamu Marine National Park along the Indian Ocean. The hotel boasts of white sandy beaches and turquoise waters. The hotel has been in existence for nearly 30 years offering world class luxury service to its guests. The hotel features 39 rooms and 21 state of the art luxury apartments overlooking the Indian Ocean. The hotel has a unique outdoor restaurant by the ocean offering breakfast, lunch and dinner. A comprehensive breakfast buffet and a continental, English and Swahili breakfast menus. The hotel also includes a pizzeria, coffee shop and bar

According to the Kenya National Bureau of Statistics (2019), during the census of 2019, Watamu is home to 27,857 persons which is an 11.47% increase from the 2009 census. It is located in Kilifi County along the shores Indian Oceans. Watamu is diverse in culture with the

Giriama, the Italian, the American, the British and a collection of different tribes in Kenya have settled. The local culture is the Giriama.

Food waste and food wastage management at Hemingways Watamu, poses a challenge to the hotel and the environment around it. The hotel experiences large amounts of waste on a daily basis. Disposal of these waste on land mass and burning brings about negative effects to the community around the hotel. Hospitality establishments as stated previously bear the social responsibility of operating within the bounds of environmental consciousness. The study seeks to investigate how food is wasted and its effects to the environment. Moreover, the research will look into existing methods of food waste disposal and their effectiveness vis-a-vis the environment and suggest solutions on food waste management in the context of Hemingways Watamu Hotel.

1.3.Statement of the problem

Hospitality industry in Kenya is riddled with the plague of food waste affecting its profits, the people around the establishments and the planet at large. At Hemingways Watamu food is wasted during food preparation with excess cuttings, leftover food from guests plates and from the buffet. Food wasted is discarded in a land fill near the hotel. Hemingways Watamu provides a case study to determine how food is wasted, the effects of food waste and suggestions to reduce food waste in the hotel.

1.4.Purpose of the study

The purpose of this study to investigate on the social responsibility of Kenyan Hospitality establishments in regard to food waste management with a look into Hemingways Watamu Hotel.

1.5.Objectives of the study

This section contains the general and specific objectives for the research

1.5.1. General objectives

The general objective of this study is to the social responsibility of Kenyan Hospitality establishments in regard to food waste management.

1.5.2. Specific objectives

- i. To investigate food wastage at Hemingways Watamu
- ii. To identify effects of food wastage on the environment
- iii. To suggest sustainable food management methods to be adopted at Hemingways Watamu

1.6.Research questions

The following are the questions that were raised while conducting this study

- i. How is food wasted in Hemingways Watamu?
- ii. What are the effects of food wastage at Hemingways Watamu?
- iii. What sustainable approaches can be adopted in Hemingways Watamu to reduce food wastage?

1.7.Significance of the study

The study will suggest practical solution for food waste management relying on the data collected and analyzed. This study will be an addition to related study on the matter food waste, food waste management and social responsibility and providing accurate data that can be used on future studies.

1.8.Limitation of the study

The study will have no control over the responses given by the participants in the study. Some respondents may not respond to the questions while others may give inaccurate information.

1.9.Delimitation of the study

The study will focus on only one hotel. This is due to financial situation of the researcher.

CHAPTER 2

2.0. LITERATURE REVIEW

2.1. Introduction

This chapter will contain review of related literature guided by the research questions, that is; how is food wasted in the hospitality industry in Kenya? What are the effects of food wastage? What sustainable approaches can be adopted to reduce food wastage?

2.2. Methods of food wastage

In Kenya, it is estimated that a whopping 72 billion Kenyan shillings is lost through food waste and food loss which 83.33% of hotels waste an estimated volume of 11-30kg of food, construing to 27.5-75 kg of CO₂ emitted to the atmosphere daily (Emmanuel Kwabena et al., 2023, p. 557). Food waste as a whole occurs throughout the entire supply chain process from agricultural production, harvesting, processing, storage, distribution, transportation and consumption. Data show that food loss and waste per capita is 280 -300 kg per year in Europe and North America and 120 – 170kg in Saharan Africa per capita per year. Food in the hospitality industry and food and beverage establishments is wasted throughout the entire food value chain according to Betz (2015) as cited by Odula (2023). The food wastage in the food

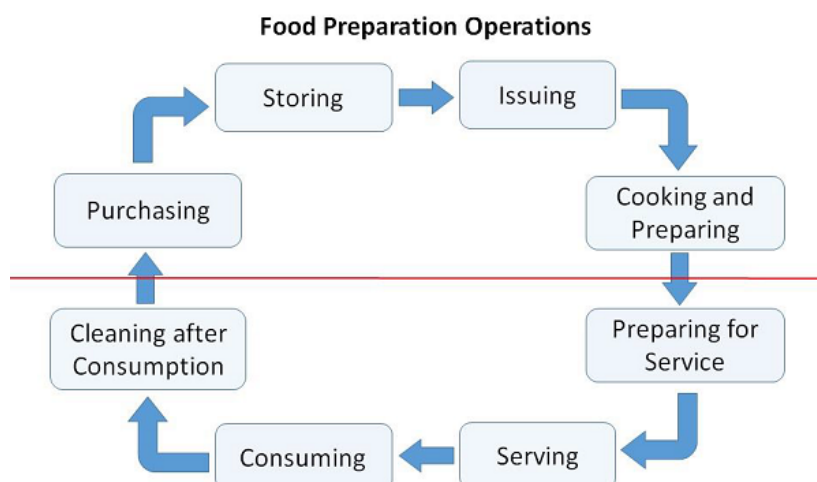


Figure 2: Food cycle.

value cycle occurs during purchasing, transportation, storage, preparation, cooking, serving and after serving.

Demetriou (2022), identifies that food waste is as a result of the consumer decisions, supply chain management and organizational decisions. This study is going to focus on consumer and organizational decisions, that is, the guests and the hotel management and staff and how in each food is wasted.

2.2.1. Hotel staff

Staff qualification

Food and beverage staff are held to a higher standard of physical, psychological and moral measure. This informs their grooming, their attitude and their character. Godze and Evren (2018) cited a study by David and stone (1991), which points out that the hotel staff should complement the meal experience of its guests. This can be achieved through their social skills, age, sex, uniform and the tempo of their service. The food and beverage staff should be able to determine who their market are and what they want. If the staff is able to understand and manage their market, then the food and beverage institution can efficiently purchase and produce what is required and reduce wastage (Özdemir & Güçer, 2018). This translates to the hotel staff qualification which in turn affects their level of professionalism. It can be argued that a staff with higher qualification is able to display higher level of professionalism.

Organizational culture

Organizational culture has been seen to a factor that influences hotel staff attitude and behavior. Positive behavior among the hotel staff is incentivized by existing good relations in the workplace, that is, organizational culture (Laškarin Ažić, 2017). Mabaso and Hewson (2018), further implies that a good organizational culture improve food waste practices, if the organizational culture align the hotel staff personal beliefs and attitudes. Laskarin (2017) cites

Salazar and Pfaffenberg (2006) and quote “The main purpose of empowerment accomplished through work delegation is to create a positive working atmosphere in an organization. Letting employees “call the shots” allows them to feel “ownership” of the job; they feel responsible for it and find the work meaningful”. Creating a sense of ownership in an organization, in this case a hotel, produces responsible staff who will be concerned with daily operations, food cost, guest satisfaction and including food waste. Consequently, quantity food wasted may reduce significantly.

Hotel operations

Hazard Analysis and Critical Control Point (HACCP), is a food control system for production and presentation. As described by the Food and Agriculture Organization, HACCP is a preventive tool and allow food businesses to develop systematic control of hazard beyond the control achieved through good hygiene practices. HACCP contains 7 principles which include: conducting hazard analysis, determine critical control points(CCPs), establish validated critical limits, establish a system to monitor controls of CCPs, establish corrective actions, validate the HACCP plan and establish documentation concerning all procedures and records related to these principles and their application. FAO further states that HACCP is key in increasing the efficiency of food production and handling processes this is by critically analyzing the kitchen operations. In relation to this, Ozdemir and Gucer state that, food waste occurs when: the wrong technique of food preparation, deterioration of food due to failure of following food storage guidelines, failure to follow temperature guide of storing and holding food. Daily hotel operation regarding food and its service are guided by HACCP and failure set and follow the guideline will inevitably lead to food wastage.

2.2.2. Customer attitude

In the attempt to determine how food is wasted in hotel, consumer's attitude, behavior become a one of the major factors that affect the increase and reduction of food waste. It is of paramount importance to understand the costumers' consumption habit, preference, needs and wants in in order to combat food waste(Özdemir & Güçer, 2018). In the effort to understand customer behavior, the Stimuli Organism Response (SOR) model was developed. The SOR model created by Mehrabian and Rusell (1974), provides a theoretical frame for interpreting human behavior (Huang, 2023). It states that a person's decision process triggered by an environmental stimuli(S), which influences an individual internally (O), resulting in a behavioral response (R)(Muposhi & Musavengane, 2023) (Huang, 2023). The study seeks to understand why customers may choose to leave food on the plate or not by seeking to know specific stimuli for it. The SOR model will provide a basis of understanding customer behavior and underlying factors and how to influence behavior to effectively reduce food waste

The study will focus on three environmental stimuli that may influence customer behavior. Hemingways Watamu Hotel is rated a 5 star hotel. The hotel attracts high class guests by offering luxury and comfort encompassed with exclusivity. The hotel also boasts the rights to being the only 5 star hotel in Watamu. Hence, the hotel as perceived value, high prices and exceptional food quality and service. Therefore, guests have a premeditate mindset about the hotel and it may influence the behavior. Konuk (2019) examined how food quality, price point and value affects customer satisfaction and influence on customer referrals. This study will focus on the three variables and how they affect customer behavior in regards to food waste.

2.3. Effects of food wastage

Food waste has adverse effects on the people, planet and profit as mentioned previously in this study. This section will in detail dive into effects of food wastage in respect to past studies.

2.3.1. Economical effect

It is estimated that approximately 88 million tons of food is wasted every year reaching up to 140 billion Euros in the European Union. Turkey loses about 26 million food, translating to a loss of 36 billion Euros yearly (Aydin & Yildirim, 2021). The study continues to cite FAO (2019) and Boston Consulting Group (2018) stating that one-third of all food produced in the world is wasted through spillage, loss in quality and value. The study by Boston Consulting group estimates an increase of 33% in food waste by 2030 equivalent to 2.1 billion tons or \$1.5 trillion. These unfathomable figure represent past losses and future estimated losses as per current projection if the situation remains unchanged.

Seberini and kliestik (2020) mentions that both producers and consumers are part of the economic system. The economic system is complex with interwoven ties that affect each other. Consumption is not only influenced by the technology of consumption, distribution and redistribution but also with the end consumption size that is multiplied by the size of population. This mean both production and consumption are tied to each other that each player even at the bottom of the “hierarchy of supply and demand” has direct effect to the economy. The study further mentions that the higher the waste, the higher the demand which in result increases food prices. This poses a problem to low income earners as they can’t afford to spend more on food which is ironically being wasted.

A recent study reveals, 54% of the world’s food waste occurs during production, post-harvest handling and storage. Whereas 46% happens after processing, distribution and consumptions stages. Food waste in Kenya accounts of 51% of the country’s solid waste with 1.9 million tons

equivalent to Kshs 150 million worth of food. One-third of which is lost through the customers who buy more than they need (Odula A.D., 2023) (KNBS, 2024). When there exist a literature gap about the effect food waste, the figures that exist show the depth of this dire situation.

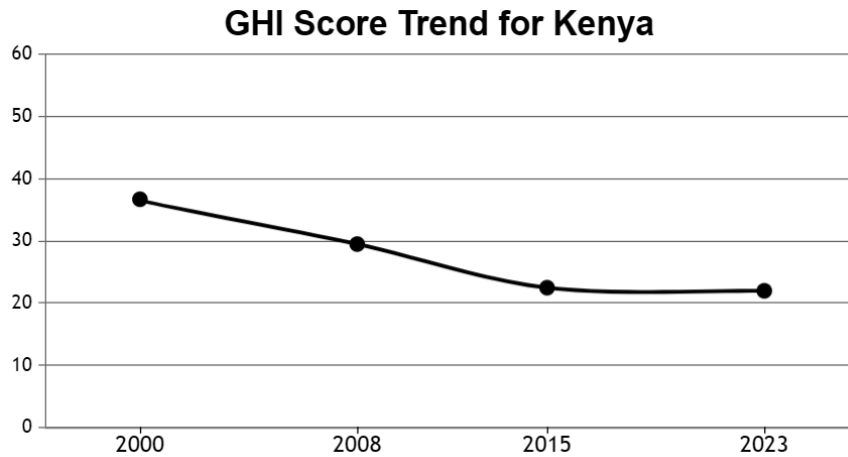
2.3.2. World hunger

According to the World Food Programme, global hunger is mainly due to food wastage which amounts to one-fifth of all food produced each. WFP says there is enough food produced to nourished every child, woman and man on the planet however food ends up wasted before even being consumed (WFP, 2024). The UNEP Food waste Index Report 2024, food equivalent to a billion meals a day is waste. This really puts the extent of food waste into perspective and paints the tremendous effect food waste has on the planet and its people.

The World Vision organization (2024), reports that more than 1 billion people in Africa struggle to afford a healthy diet while 30 % of children in Africa suffer from stunted growth due to malnutrition. Its estimates that 20% of the population in Africa is undernourished. Furthermore 868 million person experience moderate to severe food insecurity where over one-third suffer severe food insecurity. It would be prudent to add that other factors besides food wastage cause food insecurity and hunger. These factors include conflict, extreme weather, poverty and insecurity.

In the Global Hunger Index 2023, Kenya ranks 90th with a score of 22.0, interpreted as Serious. However data shows a reduction in the number of people exposed to hunger over the years as shown in the figure below(GHI, 2023).

Figure 3: GHI score trend for Kenya (GHI, 2023)



2.2.3. Environmental effects

According to CSR, businesses and organizations should work in consideration to the three Ps; people, planet and profit. Environmental effects fall into the planets category.

In a recent study, food waste effects are felt at every stage of the supply chain from agricultural production to consumption. In order to maximize agricultural yield farmers relentlessly invade wild area, used more chemicals such as insecticides, pesticides and practices such as mono cropping destroy the biodiversity. The study additionally state that produced but unconsumed food accounts for approximately 1.4 billion hectares of land wasting 30% percent of world's fertile land. Food waste in landfills account for 3.3 billion tons of greenhouse gas emissions (rohini et al., 2020).

Another study points out that food waste accounts to about 22% of total greenhouse gas emissions and 30% of the world's total energy consumption (Demetriou, 2022). Food that ends up in landfills, decomposes without oxygen and creates methane. Methane is estimated to be 23 more time dangerous than carbon dioxide. Food waste is estimated, if it would be considered a country, would be the third largest emitter of greenhouse after China and USA (Odula A.D., 2023). Greenhouse gases contribute to global warming that in effect cause adverse change in

weather patterns, extreme weather condition, natural disasters and rising sea level than bring about death of man and wildlife, destruction of property and world crisis.

2.3. Sustainable food management practices

Food waste, a global challenge with far-reaching implications, has emerged as a critical issue in the pursuit of sustainable development. In developing countries, the problem is particularly acute due to a confluence of factors, including inefficient food systems, poverty, and a lack of robust waste management infrastructure (Bernstad & la Cour Jansen, 2012). The repercussions of this issue are manifold, encompassing environmental degradation, economic losses, and social inequities.

A cornerstone of addressing food waste is the implementation of sustainable management practices. These practices encompass a holistic approach, targeting waste reduction at every stage of the food supply chain, from production to consumption. According to UNEP (2022), central to this approach is the prevention of food waste through improved agricultural practices, efficient supply chain management, and consumer education about food storage and preparation. Moreover, innovative technologies and packaging solutions can significantly contribute to minimizing food loss (suimani, n.d.).

Once food waste is generated, proper management becomes paramount. Diverting food waste from landfills through composting, anaerobic digestion, or animal feed is crucial for reducing greenhouse gas emissions and recovering valuable resources. Composting, for instance, transforms organic waste into nutrient-rich soil amendments, enhancing agricultural productivity (Thi et al., 2015). Anaerobic digestion, on the other hand, produces biogas, a renewable energy source, while also generating nutrient-rich digestate for use as fertilizer.

Collaboration between governments, businesses, and communities is essential for the successful implementation of sustainable food waste management practices. Policies and regulations that incentivize waste reduction and recovery are crucial. Additionally, public awareness campaigns and education programs can empower individuals to make informed choices and reduce their food waste footprint.

2.4. Conclusion

The hospitality industry, generates a significant amount of food waste throughout the entire food supply chain. This study dives into the causes and consequences of this issue. It examines how food waste arises at every stage, from agricultural production and food preparation in the kitchen to customer consumption and disposal. The research explores various factors that contribute to food waste within hotels, including the qualifications and training of staff, the overall organizational culture, and the behavior of guests.

Furthermore, the study sheds light on the far-reaching effects of food waste, encompassing economic losses, global hunger, and environmental damage. It demonstrates how wasted food translates into financial losses for hotels, impacting everything from purchasing costs to operational efficiency. The study also highlights the grim reality that a significant portion of the world's population faces hunger, while a substantial amount of food goes to waste. This raises ethical concerns and underscores the potential to alleviate hunger by addressing food waste within the hospitality industry.

Finally, the research emphasizes the detrimental impact of food waste on the environment. It details how wasted food resources contribute to greenhouse gas emissions, land degradation, and the depletion of valuable resources. By painting a comprehensive picture of the causes and consequences of food waste in hotels, this study paves the way for potential solutions and strategies to achieve a more sustainable and responsible food service industry.

CHAPTER 3: RESEARCH DESIGN AND METHODOLOGY

3.1. Introduction

This chapter clarified how the research was carried out from preliminary stages to completion. It intricately described the type of research design adopted, the research strategy, area of study, target population, the sampling techniques, sources of data, approaches and procedures for data collection, data analysis and presentation, operationalization of the variables and finally ethical issues regarding the whole study

3.2. Research design

A research design is the scheme, outline or plan that is used to generate answers to research problems. The choice for a research design is made for a variety of reasons, some of which are functional and realistic(Wambua & N, 2019). Descriptive research design will be used to conduct this research. The descriptive survey design method is a method that institutes the used of interviews or administration of a questionnaire to a sample of individuals (Braglia et al., 2022; Nasirzadeh & Nojedehe, 2013). This design includes administering questionnaires. It will involve gathering of information about the peoples' opinions, ideas, feelings and approaches. Qualitative and quantitative research methodologies are adopted in the design. This design will facilitate the researcher to provide logical analysis and representation of the finding and drawing of conclusions and providing recommendations.

3.3. Location of the study

The study will be conducted at Hemingways Watamu hotel. This is because the researcher observed a food waste problem and its potential effects on its environment, cost and the people near the hotel. The hotel is also a 5-star rated hotel making it a suitable subject for extensive research and more definitive results.

3.4. Target population

A population is “a comprehensive set of individuals, cases or objects with some common observable characteristics that a researcher wants to generalize the results of the study(Mugenda, 1999). The target population will be drawn from the Hemingways Watamu Hotel food production staff and food and beverage staff. The food production has 42 staff. The food and beverage consists of 29 staff. Totaling to 71 staff. The target population will be in the best position to provide reliable information needed by the researcher as they are involved in daily operations of the hotel and have firsthand information relevant to food waste.

Table 1: Kitchen staff (Researcher, 2024)

Food production staff	
Executive chef	1
Sous chef	1
Junior sous chef	1
Chef de partie	7
Commi chefs	15
Trainees	10
Head steward	1
Stewards	6
TOTAL	42

Table 2: Food and beverage staff (Researcher, 2024)

Food and beverage staff	
Food and beverage manager	1
Restaurant manager	2

Head waiter/waitress	2
Supervisors	4
Hostess	2
Waiters and waitresses	10
Trainees	8
TOTAL	49

3.5. Sampling techniques and sample size

3.5.1. Sampling techniques

In conducting research, gathering data from the entire population is frequently unfeasible, unworkable, or even expensive. As a result, a smaller set of units—referred to as a "sample"—is frequently selected to accurately reflect the pertinent characteristics of the entire population. Sampling is just the favored method of achieving financial gains like reducing study duration and research expenses. In addition, sampling enables improved record-keeping and supervision, and most importantly, it yields more accurate results.

Purposive and random stratified sampling techniques will be applied to the target population. In stratified sampling, the researcher divide subjects into subgroups called strata based on characteristics that they share whereas Purposive sampling is a technique where the researcher relies on their judgment to choose the members who will provide the information required. The top management level subject will be purposely be selected who are namely; food and beverage manager, restaurant managers, head waiters, executive chef, sous chef, junior chef, head steward and hostesses. The selected respondents are suitable to provide information in a management point of view. The stewards, chef de parties, commi chefs, waiters and trainee will be selected using the stratified random sampling techniques.

3.5.2. Sample size

The study sample size will consist of stewards, chef de parties, commi chefs, waiters and trainees. These represents the strata of the target population according to work position, rank and responsibilities. A sample population of 30% will be used. Each stratum size share similar rank and job responsibilities. To determine the proportion in each stratum a simple proportion determination formula will be applied on the stewards, chef de parties, commi chefs, waiters and trainees. A population of 60 will be used form the total of 71 after the top management were purposely selected. 11 will be purposively selected, and the 60 will be subjected to a 30% sample size.

Formula;

$(\text{Sample/population}) \times \text{stratum size}$

Sample = 30% of population

Sample = 30% * 60

Sample = 18

Table 3: Sample size

Respondents	Stratum size	Sample size
Top management		
Executive chef	1	1
Sous chef	1	1
Junior sous chef	1	1
Head steward	1	1
Food and beverage manager	1	1

Restaurant manager	2	2
Head waiter/waitress	2	2
Hostess	2	2
Strata		
Chef de partie	7	2
Commi chefs	15	5
Trainees	18	5
Stewards	6	2
Supervisors	4	1
Waiters and waitresses	10	3
Total	71	29

3.6. Research instruments

3.6.1. Questionnaires

Data will be collected primarily through questionnaires. This is because they are easy to the analysis of data contained, which could be easily understood and clearly presented. The questionnaires will consist of both open and closed ended questions. Closed ended questions are used to obtain data, which are to be analyzed, by use of quantitative measures while open ended questions provided qualitative data. The open-ended questions will be used specifically for purposes of harnessing especially in cases where the need for further clarification about the variables under study will be required.

3.7. Data collection

An introductory letter will be attached to the questionnaires outlining the purpose of the research this is after approval from the human resource department. An introductory statement

will explain how to respond to the questionnaire and provide an assurance of confidentiality. The questionnaires will be circulated to the management respondents that were purposely selected and randomly to the respective strata.

3.8. Data analysis

The data collected will be analyzed using Microsoft Excel software. The data, quantitative data, will be represented in tabular form, using also charts and bar graphs. Specific responses from the open ended questions, qualitative, will be quoted to explicitly provide information.

3.9. Logical and ethical considerations

An introduction letter will be obtained from Boma International Hospitality College to Hemingways Watamu Hotel Human Resource Department for approval. Consent will be sought from the respondents, they will engage voluntarily and the information gathered will be strictly confidential with no identifying markers on the questions or answers. The research will conform to consultation and acknowledgement of all sources through citations and referencing

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APPENDIX I: BUGDET

ACTIVITY	TOTAL COST (KSHS)
Travelling expenses	1,000
Printing	2000
Internet services	4,000
Binding Expenses	100
Overhead	3000
Total	11,100

APPENDIX II: WORKPLAN

Activity	May 2024	June 2024	July 2024	August 2024	Sept 2024	October 2024
Proposal Writing						
First assessment						
Second and last assessment						
Interviews and questionnaires						
Data analysis						

APPENDIX III: QUESTIONNAIRE

Dear respondent

My name is **MARK MUCHEMI** a Student at Boma international hospitality college undertaking culinary arts. My study requires that I undertake a Study on **SOCIAL RESPONSIBILITY THROUGH FOOD WASTE MANAGEMENT IN THE KENYAN HOSPITALITY**

INDUSTRY: A LOOK AT HEMINGWAYS WATAMU. I kindly request for your assistance in filling this questionnaire to help me achieve my objective. Thank you for sparing your time and for your cooperation.

1. POSITION IN THE HOTEL

2. DEPARTMENT

3. LENGTH OF SERVICE

4. WHAT ARE THE PRIMARY SOURCES OF FOOD WASTE

Mark only one oval.

☐ KITCHEN SCRAPS

☐ GUESTS LEFTOVER

☐ FOOD SPOILAGE

☐ Other:

5. WHAT DO YOU THINK ARE THE REASONS FOR FOOD WASTAGE IN YOUR DEPARTMENT

6. ARE YOU AWARE OF THE EFFECTS OF FOOD WASTE ON THE ENVIRONMENT

Mark only one oval.

☐ YES

☐ NO

7. WHAT STRATEGIES ARE IN PLACE TO REDUCE FOOD WASTAGE

8. HAVE STAFF BEEN TRAINED ON FOOD WASTAGE

Mark only one oval.

☐ YES

☐ NO

☐ I DONT KNOW

9. HOW OFTEN ARE THE TRAININGS CONDUCTED ON THIS TOPIC

Mark only one oval.

☐ DAILY

☐ WEEKLY

☐ MONTHLY

☐ NOT SURE

☐ Other: _____

10. WHAT ARE THE BIGGEST CHALLENGES IN MANAGING FOOD WASTE AT HEMINGWAYS WATAMU

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