



**Waste Management in Tourist Accommodation
Establishments in King Sabata Dalindyebo Local Municipality
coastal areas in the Eastern Cape**

**Submitted in the fulfillment the requirements for the Degree of
Master of Health Sciences: Environmental Health
Faculty of Health Sciences, Durban University of Technology**

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Date

ABSTRACT

The study objectives were to identify the waste management strategies implemented in tourist accommodation establishments in Coffee Bay and Hole-in-the-Wall in Mqanduli coastal areas in the Eastern Cape; to assess the effectiveness of recycling initiatives in these accommodation establishments and to identify waste management practices as compared to policies and legislation. The study population was n=150, four questionnaires and checklists were used as data collection tool in accommodation establishments. The data was collected by the use of questionnaires and walkthrough observations using checklists. Each establishment was classified into four groups.

The types of waste generated in all the different participants were: plastics (100%), wet waste (71.4), cardboards (33.3%), cans (33.3%), Paper (76.2%), Glass 28.6 % and Garden waste (23.8%). According to the data collected from the participants of different departments waste separation before disposal was as follows, managers (52.4%), kitchen staff (15.4 %) and gardens (73.4%) separated waste before disposal. Recycling was mostly done in the garden which was mainly composting and by managers which was mainly cardboard and a small percentage of cans and tins. The results report the following trend on recycling on site: Managers (52.4%), gardeners (84.2%), cleaners and kitchen staff (31.1%)

Tourist's accommodation establishments (81%) did not have a waste management policy on site, (19%) claimed to have trained their staff on waste management whilst the majority was not trained on waste management. Knowledge of legislation was observed to be very less although some legislation was known. Waste management in tourist accommodation establishment needed more development and provision of a local recycling site is urgently needed.

DECLARATION

I, Nobesuthu Mgambi hereby declare that this is my original work and has not been submitted in any university beside DUT. I hereby declare all work used has been acknowledged by means of complete references.

.....
NOBESUTHU MGAMBI

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.....
DATE

DEDICATION

I dedicate this work to my Lord Jesus Christ who gave me the power to make it through even though I thought it was impossible.

ACKNOWLEDGEMENTS

I would love to acknowledge the following people who never gave up on me and encouraged me at all times. May the Lord abundantly bless them.

- My husband and child
- My late supervisor: Ms. Emilie Joy Kistnasamy for all the passion and dedication she had towards my work and Dr Georgina Arthur for all her support
- Dr Shanaz Ghuman, my supervisor who picked up the pieces when I was alone again and pulled me through, even though I thought it was impossible.
- My Colleagues and Manager
- Coffee Bay and Hole in the Wall Accommodation owners
- The Chief of Coffee Bay
- The Ward Councilor of the area

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LIST OF ABBREVIATIONS

BnB	Bed and breakfast
DEAT	Department of Environmental Affairs and Tourism
EHP	Environmental Health Practitioner
IDP	Integrated Development Plan
IWMP	integrated waste management plan
WMP	Waste management plan
KSDLM	King Sabata Dalindyebo Local Municipality
NEMA	National Environmental Management: Waste Act
ORTDM	Oliver regional Tambo district municipality
SPSS	Statistical Package for Social Sciences
SWM	Solid waste management
SSWM	Sustainable solid waste management
UK	United Kingdom
WMP	Waste Management Practices
GHG	Green House Gases

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CHAPTER ONE

INTRODUCTION

1.1 INTRODUCTION

Internationally waste management, is a huge environmental challenge that continues to overwhelm governments as population grows and consumption patterns escalate (Mukama, 2016:1). In many communities, poor solid waste management has contributed to pollution and the spreading of disease giving rise to severe physical, economic and social losses (Mukama, 2016:1). Profitable practices in a Swedish resort has shown that waste can be decreased by only 50kg per guest per night, if correct waste management techniques are followed (Lazareva, 2016:2).

Oliveira and Turra, (2015:454) state that in Brazil, (24.6%) of people live in coastal municipalities, Brazil is one of the countries with coastal areas. Waste-collection coverage is done differently in different municipalities, but is over 80% in all regions (North, Northeast, Southeast, South and Middle West). Nevertheless, most of the municipalities discard waste incorrectly, showing the need for pursuing alternative treatments for solid waste under the principles established in Agenda 21. Radwan et al. (2010:186), states that lodges (accommodation establishment) make contributions to environmental degradation international through the disposal of enormous tons of waste in landfills. (Mbasera *et al*, 2016:2) found that in Zimbabwe and South Africa, the hospitality sector is facing a huge challenge of solid waste. Poswa (2001:7) in a study done in the King Sabata Dalindyebo Local Municipality (KSDLM) which is located within the O.R. Tambo District Municipality in the Eastern Cape in South Africa, showed that different population groups accumulated different waste streams which could be influenced by social status and socio-demographics.

It is notable that in the KSDLM, there was an increase in the number of accommodation establishments, leading to an increase in the production of solid waste. There was therefore a need for these establishments to engage in waste minimization endeavours.

To do this, a need to have a thorough understanding of the waste stream from cradle to grave and its potential negative impacts on the surrounding population and environment. However, the areas under study are only serviced twice a week with no proper storage sites.

1.2 BACKGROUND

Omidiani *et al* (2016:6) noted that there was a lack of publications to support research on waste management in accommodation establishments. Due to the King Sabata Dalindyebo Local Municipality KSDLM study area being a major tourist attraction and destination, these establishments may possibly produce huge amounts of waste. The tourism sector is a major generator of solid waste and improper location of waste collectors and inadequate collection capacity contributes to service delivery challenges (Bashir *et al*, 2016:1). It is hoped that by undertaking this study, waste management and recycling strategies can be implemented and or strengthened on site. Additionally, Lazareva, (2016:13) advised that campaigns should be conducted on educating businesses about the advantages of the waste management hierarchy principles, promoting sustainable waste management and implementing correct legislation would be of benefit to accommodation establishments.

1.3 RATIONALE OF THE STUDY

The study area is located in OR Tambo District Municipality (ORTDM) in the Eastern Cape, South Africa, in the King Sabata Dalindyebo Local Municipality (KSDLM) and has coastal areas which are namely Hole-in-the-Wall and Coffee Bay under the town Mqanduli and has an influx of national and international tourists throughout the year, resulting in large amounts of waste being generated. The area is mostly surrounded by rural areas with unemployed youth and women. However, municipal waste collection is bi-weekly, on a Tuesday and Thursday. Currently, the waste is transported to a landfill site in Mqanduli. Coffee Bay has an illegal waste storage site which is not secured. The owners of accommodation establishments in this area have to store their generated waste on site for almost a week or transport it personally to the storage site. Additionally, due to

the lack of regulatory town planning and proper control mechanisms, hotels, bed and breakfast establishments, lodges and guest houses are mushrooming in the area. Coffee Bay is earmarked for development into a town and most departments and stakeholders are securing land in the area. It was therefore considered important to undertake this study in this area in order to understand the waste management practices and recycling strategies in place so as to not overwhelm an already poor municipal delivery system.

1.4 STUDY AREA



Figure 1.1 Map of Tambo District Municipality (Sourced from: www.municipalities.co.za)

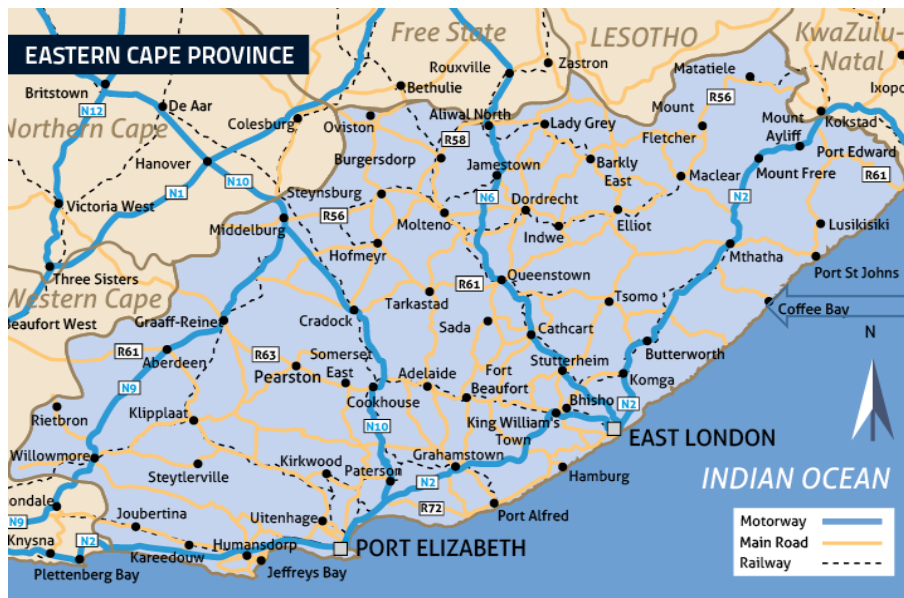


Figure 1.2 Location of the research site in the Eastern Cape (Coffee Bay)
 (<https://www.globalafricanetwork.com>)

1.5 SIGNIFICANCE OF THE STUDY

The findings of the study can be of assistance to:

1. Ensuring proper waste management strategies are implemented in the areas under Study, as stated by the National Waste Act 59 of 2008 and other legislation (*Waste Act No 59, 2008*).
2. To assist the accommodation establishments in formulating policies and initiatives that are not detrimental to the community.
3. To improve the efficiency of solid waste reduction at source by implementing recycling initiatives.
4. To reduce the health risk of communities due to improper waste management.

1.6 AIM

To assess waste management strategies in tourist's accommodation establishments in Hole-in-the-Wall and Coffee Bay in King Sabata Dalindyebo Local Municipality (KSDLM), Eastern Cape, South Africa.

1.7 RESEARCH OBJECTIVES

- 1) To identify the waste management strategies implemented in tourist accommodation establishments in Hole-in-the-Wall and Coffee Bay.
- 2) To assess the effectiveness of recycling initiatives in these accommodation establishments.
- 3) To identify waste management practices as compared to policies and legislation.

DEFINITIONS

Accommodation establishment: accommodation establishments refers to hotels, guest houses, lodges or boarding houses, where accommodation is provided to people on a temporary basis or on a semi-permanent basis.

Hazardous waste: Hazardous waste is waste that has substantial or potential threats to public health or the environment.

Non-hazardous waste: Non-hazardous waste, does not pose a direct threat to human health or the environment

Wet waste /food waste: in terms of this study wet waste refers to leftover food

Waste management: Waste management is defined as “the systematic control of the generation, collection, storage, transportation, source separation, recovery, treatment and disposal of solid waste”.

Chapter Two will review local, national and global literature as related to the aim and objectives of the study.

CHAPTER TWO

LITERATURE REVIEW

2.1 INTRODUCTION

This chapter reviewed studies that assessed solid waste management in the hospitality sector, and looked at recycling initiatives that were implemented and the types of legislation that was used to regulate waste management produced in this industry. Hotels are one of the key sources of production of solid waste Omidiani and HashemiHezaveh (2016:671). Bashir and Goswami, (2017:81) discovered the accommodation sector had the major generator of solid waste in India. In the hospitality industry there are two types of waste namely, wet waste (organic/biodegradable) and dry waste. Food waste is regarded as wet waste, which can account for greater than (50%) of the hospitality waste and up to (1/3) of all the meals served with in the hospitality area (Omidiani and HashemiHezaveh, 2016:671). Vaidya and Saxena (2017:815) mentioned that most activities done by humans create waste, and the way this waste is handled, from storage to final disposal, can become dangerous to the surroundings and to general health being.

Ghana is also facing similar problems with drastic increases in waste generation and seeking for an urgent remedy to manage its waste efficiently if it is to safeguard its environment from damaging effects (Sanaa *et al*, 2014:43). In the South African context, the country is perceived as being one of the most competitive traveler locations in the world, consisting of huge number of sufficient hotels (Mabaso and Hewson, 2018:2).

2.2 WASTE MANAGEMENT STRATEGIES IN ACCOMODATION ESTABLISHMENTS

Hotels are known as one of the accommodation establishments. Originally, hotels were used as a place where families accommodate their visitors, (Nath, 2014:1). An accommodation establishment is defined as: “a hotel guest house lodge or boarding

house, bed and breakfast or any other establishment where accommodation is provided to people on a temporary basis or semi- permanent basis” (Environmental Health norms and standards, 2015:37). Waste management involves collection, transportation, processing or disposal, managing and monitoring of waste material (Waste Act No. 59 of 2008). Beaches were important tourist sites that contributed to enhancing the quality of life of local residents as the economy improved (Liu *et al*, 2013:1). Coastal beaches though, are places whereby litter is in huge volumes with beach litter becoming an international dilemma. Most problems encountered regarding waste management by resorts and hotels as observed by Orpia (2016:2) were: infrequent collection by the municipality, inaccessible dumpsites and lack of waste collection bins. Tseng (2007:1) described waste as waste generated from daily life and various activities and generally this increased with the growth of population and personal income.

One of the major environmental health challenges is solid waste management and continues to become impossible for local authorities and national government to manage Mukama *et al*, (2014:1). In the UK the accommodation establishments produce 920,000 tonnes of wet waste per year, (75%) of which cannot be avoidable, meaning it usually end up being thrown away though it has no defect or is unfit for consumption (Lavara, 2016:2). Omidian and HashemHezaveh (2016:2) discovered that the hospitality industry consists of both dry and wet waste and are major waste generators. Omidian and HashemHezaveh (2016:2) revealed that the main sources of waste were: aluminium, plastics, glass, steel, cardboards and food waste. Abdulredha *et al* (2018:1) found that that waste generated by hotels is not the same. In general, it was discovered that a guest can produce an average 0.89 kg of waste a day. However, this is also determined by the star rating of the accommodation establishment. The overall rates of waste produced from different star rated hotels were (0.83) and (1.22) kg per guest a day. This shows that the waste of a hotel or lodge can be defined by its capacity and activities done on site as well as the type of services offered. The characterization of the waste shows that accommodation establishments produce organic waste (58%), and recyclable waste (36%), (Chaabane *et al*, 2018:1).

Hence waste management planning needs to be aligned with the communities serviced by a municipality. Worku (2012:1) noted that waste management by businesses in Tshwane showed three distinct features, namely:

- A. People not adhering to municipal bylaws and regulations;
- B. Incorrect perceptions on advantages of a proper waste management; and
- C. Insufficient provision of waste bins for waste disposal.

The above findings show that businesses/accommodation establishments usually have other challenges that may affect their waste management practices. If by-laws and regulations are not adhered to, then this usually results in poor waste management practices. There is therefore an urgent need to assess knowledge of waste management practices in businesses and strengthen these practices at source.

The Constitution of South Africa, states that everyone has a right to a clean and healthy environment with regards to solid waste management (The Constitution of South Africa, Act 108 of 1996). Accommodation establishments were found by Mbasera *et al* (2016:1) to be important contributors of waste to the hospitality sector. However, on average, hotels produce 1kg of waste per guest per night (Mbasera et al, 2016:1).

The importance of the waste hierarchy (Figure 2.1) and its implementation could assist the current challenges faced in solid waste management in tourist accommodation establishments. The waste management hierarchy emphasises waste avoidance and reduction especially at source. Omidian and HasemHezaveh (2016:5) stated that the purpose of the waste hierarchy waste is to show the importance of waste prevention; and also aims to encourage two elements which are re-use and recovery of waste. The final stages of the hierarchy are usually implemented by the local municipality as mandated by the legislation, whereby waste is disposed of in the landfill site after collection and cannot be recycled and the landfill site when full, is rehabilitated.

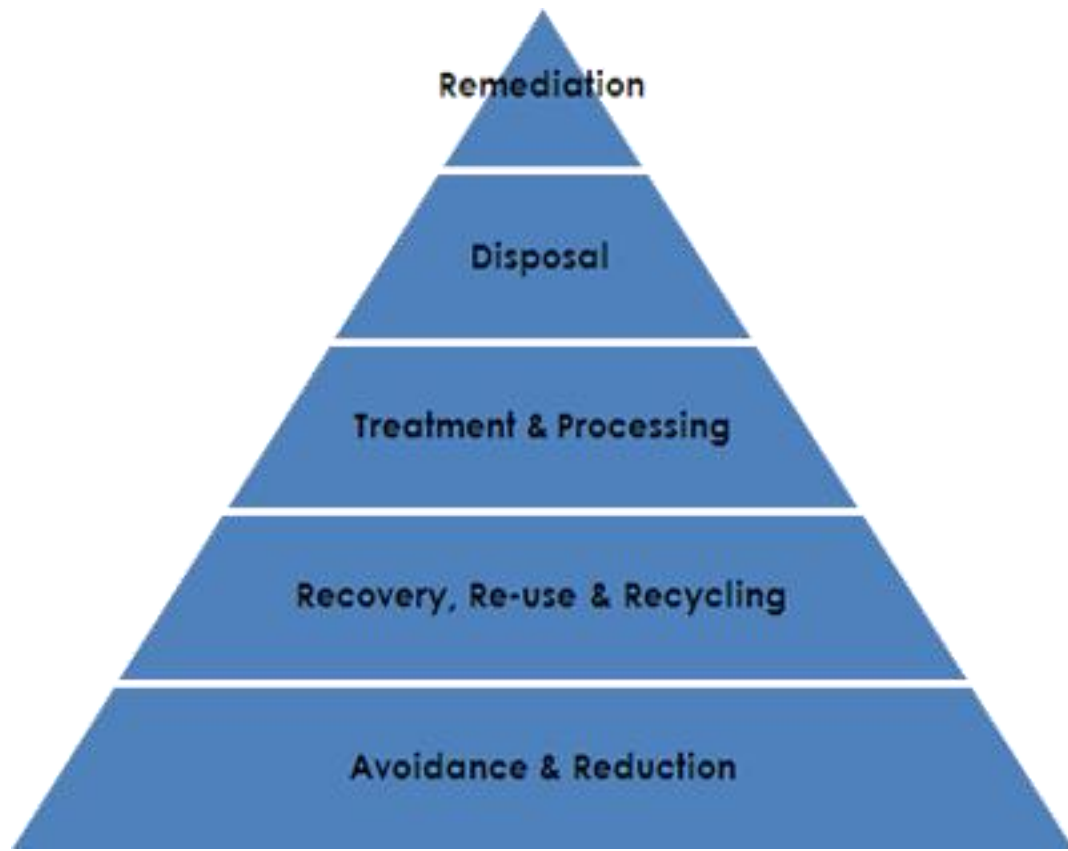


Figure 2.1. Waste Hierarchy - National Waste Management Strategy 2010 (Department of Environmental Affairs, 2017)

2.2.3 TYPES OF WASTE PRODUCED

These were some of the findings from various study reviews on quantifiers and composition of hospitality industry waste according to Omidiani and HashemHezaveh (2016:673) showed in the following Table 2.2.3.1 were most waste showed a similar trend in each study. Wet waste, plastics, cans and paper were more dominate.

Table 2.2.3.1. Results from various studies on quantifiers and composition of hospitality waste (Vaidya and Saxena 2017:817).

Reference	Research site	Period	Waste quantities/calculation (per day)	Participants
(Nath,2014)	Greater Noida, New Delhi Ghaziabad and Gurgaon and Noida	2013	Food / wet waste (61.2%), (0.8%) pet plastic bottles, (1.5%) other / mixed plastics, (0.5%) tetra pack (laminated paper), (0.47%) aluminum, (14.8%) glass, (6.1%) newspaper, (0.7%) mixed office paper, (13.7%) cardboard, (0.2%) garbage (laminated plastic)	eight hotels

<p>(Singh et al., 2014)</p>	<p>Pennsylvania</p>	<p>2013</p>	<p>(10%) Plastic bottle, (2%) Other plastic, (3%) Teracycle, (5%) Aluminum, (6%)Glass, (7%) Newspaper, (6%) Mixed office, (2%) Cardboard, (47%) Compost, (13%) Trash in hotels with F&B services and (17%)</p> <p>Plastic bottle, (6%) Other plastic, (5%) Teracycle, (12%) Aluminum, (14%) Glass, (3%) Newspaper, (5%) Mixed office, (6%) Cardboard, (19%) Compost, (12%) Trash in hotels without F&B services</p>	<p>5 hotels</p>
<p>(Trung and Kumar, 2003)</p>	<p>Vietnam</p>	<p>Not dated</p>	<p>(41%) Food waste, (21%) Plastics Packing, Paper, (5%) Aluminum cans, metal,</p>	<p>Solid waste in stars hotels (more than 30 hotels)</p>

			glass, (4%) Garden waste, (27%) Others	
(Parfitt et al., 2013)	UK	2012	(37%) food waste, (18%) paper, (7%) cardboard, (15%) plastics, (10%) glass, and (13%) other	Study of 35 hotels
(Wrap UK, 2012a, b)	UK	2009-2010	(41%) food waste, (13%) paper, (9%) cardboard, (10%) plastics, (14%) glass, and (13%) other	Study of 138 hospitality industry bus

Sanaa *et al* (2014:321), found types of non-hazardous waste in hotels to be: household waste, cardboard, paper, cloth, wood, glass, metal and organic waste. According to Haingura (2014) in back packers at Windhoek in Namibia and Cape Town in South Africa most waste substances encountered were paper, plastic, tin, other metals and kitchen left overs.

Guidoni *et al*, (2016:246) noted that for the development and implementation of waste management in a hotel, it is important to know the specific characteristics of each hotel, where the type and amount of waste can vary according to the structure, economic condition of the guests, and its geographic location, among others. The following section will address recycling initiatives done national and internationally in tourist's accommodation establishments.

2.2.4 STORAGE AND COLLECTION OF WASTE

The South African National Environmental Management: Waste Act of 2008 (Act No. 59 of 2008) defines waste storage as “the accumulation of waste in a manner that does not constitute treatment or disposal of that waste” (Mdlozini 2016:9). Kimeu (2015:17) in Kenya states that waste collection and disposal should be undertaken frequently and people from less financial stability may be given the opportunity to employment. The collected non degradable waste should be collected by approved waste collection vehicles. It is also important to ensure that no waste is spilled while being transferred to the landfill site.

In Kenya six beach hotels generated waste from the various places and waste was collected in plastic bags which were then transferred into (70) litre plastic bins and then put in a waste storage area, which was either an enclosed or an open area, temporarily before the waste was collected by the municipality for disposal (Muthini et al, 2003:159).

2.2.5 WASTE DISPOSAL

Kimeu (2015:17) in Kenya stated that uncollected wastes caused bad odour, blockage of drains, encourages scavengers, create a general public nuisance and become good breeding site for rodents and insects, Disposal of waste should be undertaken in regulated prescribed manner. A landfill should be designed for the final disposal of waste.

Breedt et al (2016:330) found that Waste disposal takes place once a week in Zanzibar (Tanzania) Mnemba Island Lodge, with an early boat to the main land where a service provider collects it the landfill waste collected by the service provider is disposed of in a landfill site. The term landfill site is used by the management of the Lodge, but investigation into the Matemwe site confirmed that it is an open dump. Waste management in Zanzibar was in a poor state and waste was dumped on dumping sites which can be described as “widespread area(s) where informal and scattered dumping takes place”. The Matemwe dumping site is the nearest disposal site for the waste

generated on Mnemba Island. In Wales, (Radwan *et al.* 2010:180) it was found that waste is collected in black plastic bags and then taken away by the waste facility carrier, the local municipality or the private sector, to the landfill site. In terms of the Constitution of South Africa (Act No. 108 of 1996), the distribution of waste management services is the responsibility of the local government. In waste management, municipalities are responsible for the 'cradle to grave' operation. Private companies may be employed by municipalities to aid or boost the waste management services, because local municipalities always have capacity constraints (Gumbi 2015:40).

2.3 RECYCLING INITIATIVES IN TOURIST ACCOMMODATION ESTABLISHMENTS

2.3.1 Importance and Benefits of Recycling

When new products are generated using recycled articles and materials, the amount of energy consumed is reduced. Significantly, the pollution that would have occurred whilst generating power to make a new product is also reduced. The raw materials that are saved when using recycled materials instead of virgin materials is also an environmental benefit of recycling (Mdlozini, 2016:22). According to Phu *et al.*, (2018:24) in the USA it was discovered that recycling of waste in huge volumes in hotels in Chicago reduced 40–50% of the waste and saved approximately (\$20,000) per year. Mbasera *et al.*, (2016:5) recommended that recycling is one of the ways whereby the hospitality industry can play a role in waste management. In (75%) of hotels investigated by Lazareva, (2016:1), it was found that recycling strategies were adopted. Proper waste management can lead to higher profitability and hotels can also prevent environmental pollution Omidiani *et al.*, (2016:2). Mbasera, (2016:6) recommended that green management policies should be established by hotel managers in their hotels.

Viviers *et al.*, (2017:5) stated that during Clover Aardklop National Arts Festival, the waste management strategies suggested for implementation included three coloured bins for recycling; use of an item refundable system and a digital marketing system. Training of

hotel employees and backpackers on environmental initiatives was also considered important for recycling at source and waste reduction (Mbasera, 2016:5).

Omidiani and HashemiHezaveh (2016:9) study showed that environmentally friendly contributions can be made, and financial gains when proper recycling practicing is done on long-term basis. This implies that in the long term recycling can become a source of income if done properly and adequate recycling strategies are in place, recycling becomes a benefit to that tourist establishment. Lazareva (2016:2) describes food waste as one of the critical type of waste that must be not be allowed in the landfill site, because when it decomposes it releases methane gases, which is considered one of the gases that causes the greenhouse effect. In the study areas, anecdotal evidence suggested that the above findings reflected what happened in municipalities where bylaws and regulations were seldom implemented by businesses.

The study conducted by De Souza *et al* (2016:1) supported this evidence as he noted that challenges included: proper waste collection, management, treatment and disposal with a lack of emphasis on sustainable management. Poelto *et al* (2016:1) suggested it was important to implement segregation at source campaign and that scavengers needed a deep involvement in the policies associated with the solid waste management adopted by the municipality. Therefore, it was important that consultation be undertaken so that before a collaborative plan can be implemented, there is buy-in of all stakeholders (Worku, 2012:10).

2.3.2 Waste Minimization strategies in tourist accommodation establishments according to Ezeah *et al*, (2015:442)

Waste minimization, is usually done through reproducing products, changing the way of behavior by education and training and encouraging green purchasing (encouraging use of environmentally friendly products). These are the following proposed waste minimization strategies suggested by (Ezeah *et al*, 2015:442): Recycling and sorting of glass, tins, and plastic bottles from hotel rooms. Supplying products in big containers. Eliminating plastic bags by putting washed clothes in washing bins. No replacement of half used toilet paper. Items that have been half used should be given to staff or charities. Servicing of tools frequently. Wet waste or left over prepared food waste: Provision of

guidelines to ensure reuse of product, using serving dishes and encouraging use of refillable containers. ie. Salt container and donation of leftover unused food to people and those in need. Open Spaces or public amenities: Use of material that is not dangerous to the environment and use of composting in on gardens and parks. Office functions: Using electronic bulletin than printed papers; using electronic communication, paper recycling; envelopes reuse for employees and Procuring refillable office material.

2.3.3 REDUCTION AT SOURCE

Globally, there is a problem of global warming mainly caused by greenhouse gases, the minimization of waste at source therefore minimizes this problem This researcher argues that elimination at source contributes to a decrease in pollution and global warming, coastal areas are more prone to pollution if burning and illegal dumping is done especially for area where landfill sites are not properly maintained, changing climate condition impact our society and pollution is found to be one of the causes. Decrease in waste disposal decreases waste pollution and dumping and increases responsibility and saves our environment (Omidiani and HashemiHezaveh, (2016:9).

Poswa (2007:34) describes source reduction as a method that involves the reduction of waste materials to minimum quantities at the place where they are produced. The operation of a source reduction method requires communities to collect, process and dispose of less waste, thereby reducing both their waste management costs and environmental impacts. The advantage of avoiding the generation of waste is that it prevents the building of expensive waste disposal and processing facilities. Moreover, there is no need for the collection of waste materials nor for the marketing or selling of recycled waste goods (Poswa, 2007:34).

The successful operation of source reduction is dependent on consumer behaviour. When consumers consume less, they in turn produce less and this results in less waste generation. A simple example of source reduction is the backyard composting where individual households keep their grass clippings and leaves in their own backyards to

decompose and reuse the decomposed material as compost in their gardens. In this case, the organic waste does not enter the waste stream and the municipality is not required to collect, process or dispose of such waste materials (Poswa, 2007:34).

Reduction of waste has advantages to tourism accommodation establishments and their communities since reduction of waste has financial gains and less waste is collected and disposed of in the landfill site (Zeah *et al*, 2015:443). It has been suggested by Zeah *et al*, (2015:443) that waste management has a huge impact on tourists destinations, this could be challenges and constrains waste faces in tourist destination issues like town planning, climate change waste quantity and composition all play a role hence waste reduction at source make it easier to reduce the volume of waste that needs to enter the landfill site.

Zeah *et al* (2015:443) notes that it is important to implement sustainable waste management methods in such places; for all four regions examined, no single method is optimal. Planning for such processes should take a step-by-step approach, integrating a range of human, physical, technological, fiscal and legal instruments, including tools to manage decision support.

According to Mohan *et al*, (2017:36) the first step of managing waste is waste reduction, this encourages the use of less resources and reduces the amount of waste that is being generated and then disposed of from the establishment. Mohan *et al*, (2017:36) states that the role waste depends on the decision of managers, it all depends if they enforce polices on waste reduction, however it has been proven that the more waste recycling is done the more the rate of waste reduction at source (Phu *et al*, 2018:33).

Breedt *et al* (2016:337) recommended that all the recyclable material needs to be recycled. This includes plastic, paper and glass. Organic matter should be composted. The total amount of domestic waste that will be disposed of will then only consist of non-recyclables. An increase in the quantity of recycled waste will reduce domestic waste removed to the dumping site. Recycling to those facilities with knowledge of recycling and waste reduction at site may be effective as stated by (Breedt *et al* 2018: 337).

Phu et al, (2018:280) discovered that the role of planning and analyzing of waste can impact on the quantity of the waste produced. They showed that status of waste management strategies by hotels which produce excellent results such as: sorting (76%), recycling (39%), reduction (29%), and composting (0.8%) (Phu et al, 2018:280).

2.3.4 The 3Rs

Sustainable solid waste management is a new paradigm namely the '3Rs' or 'RRR'. The first 'R' presents reduce, the second 'R' reuse: Reduce, Reuse and Recycle (Peprah, 2015:114). Reduce deals with mainly prevention and reduction. In order to ensure waste reduction, it means that waste minimization needs to have taken place or been implemented. This is done through legislation, design, or programs which will assist in keeping some products out of the waste. Waste reduction stresses mostly on judicious use of industrial tools (Peprah et al 2015:114). Reuse includes secondary use of waste materials in whole or in part. Reuse of waste is achieved through sorting in the accommodation (Peprah et al 2015:114). Recycle means converting of a material which cannot be instantly used again to a new product. Recycling, unlike source reduction, is a strategy for managing materials that would otherwise be treated as waste. Re-use differs from recycling in that re-use takes a product (as it is) and puts it to another use after the first use is complete, whereas recycling is the reprocessing of used material, therefore becoming a raw material for the making of a new product (Mdlozini 2016:21). Recycling does not decrease the quantity of waste generated but reduces the amount of materials requiring disposal (Poswa, 2007:35). Buy -back -centers, recycling programs and employee education programs are the key factors that promote positive results of a recycling program (Sanaa et al, 2014:323).

Recycling is only one aspect of an integrated approach to waste management, which is a method involving seven stages. The phases include separation, preferably at the point of generation; material collection; delivery to the sorting/cleaning/processing center/s; sorting to a standard that makes the material reusable; delivery to the manufacturer of

the clean reused material; processing of its covered material to produce a new product; and purchase of the recycled product (Poswa, 2007:35).

In the UK Lazareva (2016:11) found that (75%) of hotels adopted recycling, which is considerably more than other forms of waste management. Prevention (30.8%), reuse (25%) and energy recovery (19.2%). No statistically significant difference was found between strategies the hotels use when separated by type (ownership and level of service). Results that showed recycling as the most commonly adapted waste management practice are consistent with previous research (Sanaa et al, 2014;323).

Waste management strategies applied by the accommodation establishments has developed from what it was many years ago. Reduction strategies are currently in place in order to produce an effective waste management system. Waste that is regarded most is wet waste (Haingura *et al*, 2016).

In Nigeria Hammed and Sridhar (2017:5) recommended that there is a need to develop programs to sensitize and sustain the waste management concepts among communities through media and models through: Practicing segregation at source through source separation involving communities; Reducing waste production through unnecessary packaging, and adopting practices that reduce waste toxicity. Reused materials through waste material could be used again, maintenance and repair of durable goods, reuse of bags, containers, and other objects, borrowing, renting, or exchanging frequently used items, and selling or donating goods rather than throwing them out. Recycling of waste by choosing and recycling recyclable items and containers, selecting products manufactured from recycled materials and composting organic parts (yard trimmings and food scraps). Small scale composting involving communities and farming populations is a viable strategy (Hammed and Sridhar, 2017:6)

Fairly sorted paper, plastic, tin, other metals and kitchen left overs waste were encounter at back packers in Windhoek, while Cape Town back packers had paper, plastic, tin and glass and were well sorted into appropriate bags and bins. The difference in the type and efficiency of disposal and handling of solid waste substances at back packers from the two cities could be accounted for by the apparent difference in awareness levels of the

staff members and guests of back packers on the solid waste management hierarchy of "Prevention, Reduction, Re-use, Recycle, and Disposal" (Haingura, 2014).

The type of services offered by the back packers may have influenced the type of waste substances found at those back packers. The difference in levels of awareness on the solid waste management hierarchy of staff members and guests at back packers from Windhoek and Cape Town may have caused the difference in sorting and handling as well as appropriate disposal of solid waste substances at back packers from the two cities. Clear bags should be readily available to members of the hospitality sector by city authorities for appropriate disposal of recyclable waste substances. Moreover, staff members and guests at accommodation sites should be well informed on efficient ways of managing solid waste. Extensive Scientific Research and publicity should be done to better inform decision making processes so that they are sensitive to issues of solid waste management (Haingura, 2014).

Global food waste reduction strategies for the hospitality sector (already implemented by hotels/restaurants): (According to the research of Sanna *et al* (2014:325) in a study of 13 hotel corporations and 32 individual properties. In the United States Found that Practices implemented most frequently included crushing glass % sorting waste (46.7%) collapsing cardboard boxes (55.6%). Recycled material included computer and office paper (61.1%), and aluminum (55.6%), and baling paper and cardboard (28.9) aluminum cans (55.6%), glass and grease and fat (11.1%). Other materials being recycled included (33.3%), cardboard (27.8%), newspaper print (11.1%), magazines, guest soap, steel and overhead transparencies. Sanna *et al* (2014:325) in the United States 401 tons of materials was diverted from the local landfill. The accommodation establishment allows workers to put a program to take home certain reusable items.

Sanna *et al* (2014:325) review revealed in the United Kingdom found that more than 90 percent of respondents said they had taken measures to reduce their environmental effect, 64 percent of the sample said they were taking measures to reduce resource use, about 50 percent said they were exploiting recycled goods, (67%) of the sample had ta; 64 percent cited recycled glass, (42%) paper and (25%) metal. Recycling of cardboard

and plastics was reported by (19%) of respondents. In Vietnam, found that about (60%) of (Sanna *et al* 2014:325) hotels surveyed suggested that their food waste is sold as animal feed to local collectors, while about (10-30%) of solid waste is sold for recycling to local collectors. Recyclable dry solid waste (plastic bottles, paper, cardboard boxes, and cans), which accounts for (10-30%) of overall waste, is sold for recycling to local scrap collectors. Popular good practices seen in the hotels surveyed included preventing unnecessary photocopying, the usage of double-sided copying, the reuse of carton boxes for storage purposes, the reuse of leftover toilet paper rolls and soaps from guest rooms for internal use the refilling of used laser printer cartridges and shampoo bottles, the purchasing of bulk goods (e.g. shampoos, soft drinks) and the testing of the quantity of food products already available prior to the purchase order in a survey of 50 hotels.

In a study conducted in Sweden and Poland in 2006, (Sanna *et al* 2014:325) reported in an email-based survey of 349 hoteliers that (80%) and (30.6%) of hotels respectively had an active waste sorting and recycling program. The donation of hotel equipment and furniture (60%) for Sweden, (50.8%) for Poland, recycled food and detergent packaging (61.8%) for Sweden, (50%) for Poland, and donation of leftover, high quality food (17.3%) for Sweden, (32.3%) for Poland were other waste minimization techniques. In Canada, (Sanna *et al* 2014:325) revealed in 2013 that a compost program was developed to help divert organic material from landfills. In order to decrease the use of petroleum based plastics, the restaurant discontinued the use of drinking straws in the restaurant.

2.3.5 COMPOSTING

Composting is the natural decomposition of organic material, such as garden waste and food waste, by naturally occurring microorganisms. Composting is an easy technique that needs only a small amount of effort and minimize a property's solid waste stream and reduce the need to purchase fertilizer or mulch. The first primary composting step is waste separation on the basis of compostable materials (such as waste, fruit peels, vegetable cuttings). The non-compostable waste is produced in hotels, such as plastics, metals, meat and fatty food waste, metals, etc. In the garden region of the hotels, this compost can be used to preserve the fertility of the soil. Food waste has historically been

fed to animals in the United Kingdom, but after the foot and mouth disease outbreak in the United Kingdom in 2000, this option is no longer used, (Radwan 2010:178)

2.3.6 GREEN INITIATIVES

The term "green hotel" refers to an eco-friendly lodging operation that tries to decrease its negative influences on the surroundings and ecosystem, and that actively encourages personnel and friends to engage in inexperienced practices (Han, 2015).

Green management is one of the essential elements of environmentally responsible development in the hotel industry; but little research has examined the function of guests' perceptions involving lodge performances of green management. In addition, waste reduction (or recycling), water saving, and power conservation are important sustainable practices for hotels. Sustainable Solid Waste Management (SSWM) is a fundamental for developing international locations with regards to local weather trade and greenhouse gas emission, and also the widely wide-spread wellbeing of the populace (Quartey et al 2015:9907). The principal predictor of coastal environmental quality is a clean seashore. Coastal areas, however are prone to accumulate litter, and marine litter has ended up becoming a global problem. In tourist areas, solid waste management systems have their very own laws, not just for hotel waste collection, but also for seaside and street cleaning and infrastructure (Chaabane et.al 2018:2). Waste management in tourism destinations is a major problem in rising countries, for instance, the waste management disaster in Lebanon in 2015, in which housing was the main producer of waste, (Ghadban et al 2015:1). In addition, since 2012, Djerba Island in Tunisia, where resorts produce (45%) of all waste (according to the Ministry of Local Affairs and the Environment), has experienced a major waste management disaster. The rise in the quantity of waste still motivates the need for collection costs. For example, Malaysia spends (75%) of the municipal budget on waste collection, (Chaabane, *et al* 2018:2).

It is recommended that hotel managers develop green management laws within their hotels by (Mbasera *et al*, 2016:5). These policies offer rules and hints and recommend what is to be completed in order to minimize the environmental impacts of a hotel's

operations. Mbasera *et al*, (2016:5) also suggested that green Solid Waste Recycling initiatives in Zimbabwe and South Africa are one way by which accommodation establishments can begin to participate in waste management. Composting at the institution is also motivated. Greening is an advantageous way for accommodations establishments to limit their effect on the environment. Studies have proven that many South African accommodations have not adopted greening practices due to the fact governance and education from the South African authorities are terrible (Smith and Leonard, 2018:480).

2.3.7 TRAINING

Breedt *et al* (2018:335) states that education on separation at source of the specific recyclables is recommended as a practical demonstration, illustrating correct sorting of waste into the specific bins. All housekeeping, gardening, butlers and kitchen staff should attend the training and the practical demonstration. This not only gives the staff an idea of the actual process but also puts in order the systems in place. It is necessary for hoteliers to send their workers to participate in courses developed by green initiative agencies, colleges and universities that recognize the concept of green management and environmentally sustainable practices in order to play a role in mitigating environmental impacts through environmentally friendly initiatives by Mbasera *et al* (2016:6). The role of training is further stressed by (Radwan *et al*, 2010:182) where the importance of knowledge and education services in supporting them properly in SWM was emphasized by small hotel owners/managers. None of the hoteliers had received any details concerning SSWM from the local council. The Council should use many strategies to get the message across, including: sending brochures or leaflets summarizing why SSWM is relevant and how it should be done, providing site visits to educate hoteliers about how to reduce their resort waste and organizing educational classes or seminars for hoteliers to be skilled and educated.

According to Georgia Hospitality Environmental Partnership (1996:8) states that a software developed for worker education programs that consist of recycling strategies

specific for quite a number department in hotels and motels: Include recycling facts in new worker orientation programs. Inform personnel of environmental problems and regulation Employees choose to understand why the hotel is recycling. Appaw-Agbola and Freeman (2015:47) endorsed that Ghana Tourist Authority municipal council, and other stakeholders need to supply continues training on benefits of recycling for managers of accommodations establishments and environmental implications if solid wastes are no longer managed properly.

2.4 WASTE MANAGEMENT POLICIES AND LEGISLATION

This section will discuss policies and legislation in accommodation establishment internationally and nationally the main aim is to check and evaluate any gaps and challenges experienced by the hospitality sector through legislation implementation.

2.4.1 INTERNATIONAL LEGISLATION

New Zealand introduced the New Zealand Waste Plan in 2002 (Gary Davidson, 2011:12), which included a zero waste target. New Zealand was one of the first nations to pursue a national target of achieving zero waste and the country was able to achieve massive growth with its strategy (Gary Davidson, 2011:12). There have been some difficulties in measuring development and success in the direction of their goals, and so these days New Zealand have changed their zero waste vision to an approach that focuses on decreasing damage and growing efficiency (Gary Davidson, 2011:12). Japan has exceeded a number of legal guidelines encouraging waste recycling since 2000, including the Basic Law on the Promotion of the Development of a Recycling-Oriented Society; the Revised Law on Waste Management; the Law on the Promotion of Efficient Use of Resources; and the Green Purchasing Law (Gary Davidson, 2011:21). Since adopting the new complete provincial waste management approach in 1995, Nova Scotia has become one of the leading waste management structures in North America.

The approach has required massive legislation to each the residents and ICI region in Nova Scotia. Part of this rules has covered setting strict restrictions and bans on what can be placed in landfills (Gary Davidson, 2011:12).

Lazareva (2016:14) stated that introducing control strategies to monitor development in waste management can be accomplished via introducing waste management reviews submitted to the local council or to charity companies such as WRAP, which would help in monitoring of how accurately the Waste Hierarchy concepts are complied with, to the extent to which every method is applied In Tunisia, accommodations establishments themselves simply figure out how their waste management strategies will work, due to the fact legal guidelines are no longer sufficiently enforced by municipalities, (Chaabane et al, 2018:7).

Germany was the first country in the European Union to introduce producer accountability for packaging waste legislation in 1991. This means that the producer of a product is accountable for the product when it will become waste. This legislation is solely relevant to some product kinds such as packaging materials, digital equipment, automobile scrap parts, solvents, waste oil and batteries, (Gumbi 2015:11).

2.4.2 AFRICAN AND SOUTH AFRICAN LEGISLATION

According to Mbasera *et al* (2016:3), there was no existing legislation nor any green management and waste management policies or environmental friendly initiatives that was considered mandatory in hotels. The Constitution of South Africa (Act No. 108 of 1996) states that everyone has a right to a clean environment hereby mandating effective waste management. According to Godfrey and Oelofse, (2017:2) the Environmental Conservation Act (Act No.73 of 1989) as amended, it set out the necessities for the management of waste and furnished the first legal definition of waste. In South Africa, Mdlozini (2016:12) noted that the waste management function was the responsibility of local municipalities and was administered through the National Environmental Management: Waste Act (Act No.59 of 2008) (the Waste Act). According to the Department of Environmental Affairs and Tourism at a National level, the Department of

Environmental Affairs & Tourism is the lead agent for waste management and has a standard responsibility for enforcing the Waste Minimization and Recycling Action plan of the National Waste Management Strategy. Part of its function is to have interaction with other Government Departments where necessary, for example, the Department of Trade and Industry and the Dept. of Finance where financial devices are being regarded to promote waste minimization and recycling. At a Provincial stage the Provincial Environmental Department is accountable for integrated waste management planning which consists of waste minimization and recycling. The Municipal Systems (Act No.32 of 2000) requires all Municipalities to put together an Integrated Development Plan for waste. As part of this, Local Municipalities are accountable for drawing up Integrated Waste Management Plans which encompass waste minimization and recycling. They have to additionally promote the improvement of recycling centers, waste minimization organizations and gather data on recycling material kinds and quantities for the regional (DEAT).

The National Environmental Waste Strategy which was developed in 2012 is also used for the implementation of waste management. KSDLM uses the Waste (Act No.59 of 2008) and has developed an integrated waste management plan (KSD IWMP, 2019) to implement waste management strategies, recycle and implement waste management policies on their facilities. However, they are regulated by waste by-laws with regards to illegal dumping, (KSDLM bylaws, and 2010). Gary Davidson, (2011:7) states that forming an Integrated waste management (IWM) design can be a complicated undertaking. Those accountable for designing IWM structures have to have a clear understanding of their goals and objectives and make certain that terminology and things to do are sincerely defined in the plan. The next step requires figuring out the range of practicable preferences that are appropriate for managing waste with price estimates, hazard assessments, accessible processing services and practicable partners, and the product requirements which exist for the recycling of positive wastes. Public remarks in this step can help to assure the accuracy of assumptions made, and assist to construct public acceptance. The ultimate step entails analysing the trade-offs which exist amongst the accessible preferences given what is regarded about the risk, cost, waste volumes, and

achievable future conduct changes. Once these important points are known, a complete IWM approach can be formed.

The Constitution of South Africa (Act No.108 of 1996) Chapter 2 Section 24 states that everybody has a right to a clean and healthy, protected environment for the present and future generations.

The National Waste Management Strategy (NWMS) is a legislative requirement of the National Environmental Management: Waste Act, 2008 (Act No. 59 of 2008), the “Waste Act”. The reason of the NWMS is to attain the objects of the Waste Act. Organs of state and affected individuals are obliged to provide effect to the NWMS. The objects of the Waste Act are structured around the steps in the waste management hierarchy, which is the overall approach that informs waste management in South Africa.

The NWMS is built around a framework of eight aims, which are:

- Promoting waste minimization, reuse, recycling and waste recovery
- Ensure the efficient and effective transportation of waste services
- Growing the waste area's contribution to the green economy
- Ensure that human beings are mindful of the effect of waste on their own
- Education, well-being and surroundings
- Achieving centralized planning for waste management (NWMS.2012)

Poswa (2007) indicated that the main socio-economic factors relating to solid waste management in South Africa according to DEAT and DWAF, (1999) include:

- Restricted understanding of the need for efficient waste management in low-income high-density areas.
- Difficulties in securing capital expenditure funding for machinery and facilities, by small contractors.
- Failure to pay for services because of insufficient transparency, integrity, undemocratic processes and inadequate delivery of services. In some situations, the services offered are no longer suitable, adequate or less costly for the recipient population.

At present, waste in South Africa is regulated by a range of pieces of legislation, including:

- The Constitution of South Africa (Act No. 108 of 1996)
- Hazardous Substances Act (Act No.5 of 1973)
- Health Act (Act No. 63 of 1977)
- Environment Conservation Act (Act No. 73 of 1989)
- Occupational Health and Safety Act (Act No. 85 of 1993)
- National Water Act (Act No. 36 of 1998)
- The National Environmental Management Act (Act No. 107 of 1998)
- Municipal Structures Act (Act No. 117 of 1998)
- Municipal Systems Act (Act No. 32 of 2000)
- Mineral and Petroleum Resources Development Act (Act No. 28 of 2002)
- Air Quality Act (Act 39 of 2004)
- National Environmental Management: Waste Act, 2008 (Act No. 59 of 2008)
- National Environmental Management: Waste Amendment Act, 2014 (Act No. 26 of 2014)

2.5 CONCLUSION

Waste Management is serious issue that needs public awareness and governmental attention immediately (Vaidya and Saxena, 2017:821). Several policies are being implemented by the hotels and resorts and most common of which are sorting and recycling (Orpia, 2016:7).

Chapter Three will describe/explain how the study was conducted, the phases of the study, study population, sample size and selection, inclusion and exclusion criteria, data analysis and ethical considerations.

CHAPTER 3

METHODOLOGY

3.1 INTRODUCTION

This Chapter details the research methodology used to undertake this study and includes the strategy, plan and structure of how this investigation progressed over the data collection period. The aim of the study was to assess waste management strategies in tourist accommodation establishments in Coffee Bay and Hole-in-the-Wall in the King Sabatta Dalindyebo Local Municipality (KSDLM), Eastern Cape, South Africa. The objectives were (i) to identify the waste management strategies implemented in tourist accommodation establishments in Hole-in-the-Wall and Coffee Bay; (ii) to assess the effectiveness of recycling initiatives in these accommodation establishments; and (iii) to identify waste management practices as compared to policies and legislation.

3.2 RESEARCH DESIGN

This was a quantitative cross sectional study which assessed the current status of solid waste management practices implemented in accommodation establishments in the coastal areas of KSDLM. Hole in the wall and Coffee Bay are two tourist attraction site which are situated in the coastal area of Mqanduli in KSDLM and are a major tourist attraction. The cross sectional study design was the best study design for these sites data was collected from different individual at a single point and time measuring different variables.

3.3 RESEARCH POPULATION

The study population were accommodation establishments in Coffee Bay and Hole-In-The-Wall. The local Environmental Health database revealed that there was approximately ± 20 such establishments. The tourists' accommodation establishments consisted of backpackers, hotels, guest houses, lodges and bed and breakfasts in the

coastal area of KSDLM. The accommodation establishments were selected because of the mushrooming of this establishments due to the high demand of national and international tourists. Hole-in-the-wall site itself had turned into a major attraction in the area, the area is usually busy throughout the year. This hereby make the tourist accommodation establishments busier and hence the amount of waste increases.

3.4 SAMPLING METHOD

Purposive sampling was used so as to ensure that all types of accommodation establishments i.e. hotels, backpackers, lodges, bed and breakfasts and guest houses were included in the final sample. This was to ensure that all tourists' accommodation establishments producing waste in the area of Coffee bay and Hole-in-the-wall were selected in the study.

3.5 SAMPLE SIZE

The sample size was 20 accommodation establishments (95% of the population) with 150 participants as per classifications noted in Table 2.1. To establish how many staff worked at each establishment, the various sites were visited and numbers obtained.

TABLE 3.1: Classification of accommodation establishments

ACCOMODATION TYPE	ESTABLISHMENTS	MANAGERS	KITCHEN STAFF	GARDENERS & MAINTENANCE	CLEANERS	TOTAL
Hotels	2	4	25	4	12	45
Backpackers	5	5	10	5	8	28
Lodges	3	3	11	3	5	22
Bed and breakfast	5	5	10	5	7	27
Guest houses	5	5	10	3	10	28
TOTAL	20	22	66	20	42	150

3.6 INCLUSION AND EXCLUSION CRITERIA

3.6.1 Inclusion Criteria

- All accommodation establishments situated in either Coffee Bay or Hole in the Wall, KSDLM.

3.5.2 Exclusion Criteria

- All accommodation establishments not situated in the study area.

3.7 ETHICAL CONSIDERATIONS

3.7.1 Ethics

Following approval from Departmental and Faculty Research Committees, the Durban University of Technology's Institutional Research Ethics Committee (IREC) granted ethics clearance (IREC No: 174/18). Once full ethical approval was obtained, the fieldwork then commenced as discussed below, noting that all participants' ethical issues were considered namely confidentiality, anonymity and voluntary withdrawal from the study with no penalty involved. In addition, for reliability and validity of the study, the researcher conducted the fieldwork and tested the data collection tools using a pilot study. Validated data collection instruments were used. The legislation checklist also acted as a triangulation tool within the questionnaire where the practices did not correspond with the appropriate legislation chosen.

The hard copies of information collected was only accessible to the researcher and supervisors and will be shredded while the electronic copies will be deleted after five years. The participants were allocated ID/coded numbers that were only known to the researcher and with no disclosure of participant details. Furthermore, to ensure

confidentiality and integrity of the data, all collected information was safely stored and locked and will only be destroyed during the stipulated post examination time frame.

The gatekeeper's letter requesting permission to conduct the study in the coastal areas of KSDLM were sent to the Chief and Ward Councilor (Appendices C and D) and their permission was subsequently granted. A letter of information (Appendix A) was issued to the accommodation owners/managers and participants outlining the aim, purpose and procedure of the study.

3.7.2 Informed Consent and Confidentiality

Informed consent forms (Appendix B) were issued to all participants to ensure voluntary participation and a willingness to participate in the study. There was no financial cost to participate in the study. The participants were free to withdraw from the study at any time. The questionnaires (Appendix I - L) were available in English and in the local language of Xhosa. These questionnaires were used to respectively interview: managers, kitchen staff, garden staff and cleaning staff of each sampled accommodation.

3.8 DATA COLLECTION

3.8.1 Data Collection Instruments

Questionnaires were developed and adapted for this study. The questionnaires were divided into three sections, namely: waste management practices; recycling initiatives and knowledge of legislation. Two more checklists were developed and observations were done to further assess effectiveness of recycling initiatives and knowledge on waste management legislation. The research instrument consisted of 14 items, with a level of measurement at a nominal or an ordinal level.

The questionnaire was divided into 4 sections which measured various themes as illustrated below:

- A Biographical data
- B Demographics
- C Waste Management Practices
- D Recycling Initiatives

3.8.2 Pilot study

All study instruments were piloted in five accommodation establishments in the town of Mthatha at King Sabatta Dalindyebo local municipality (KSDLM). Piloting tested the study instruments for validity, reliability, language usage and understandability before the implementation of the actual study. Once an individual completed the study instruments, a one on one discussion was held with the researcher to discuss any challenges faced during the process. Any suggested changes were implemented to ensure that it is meaningful, user friendly and suitable to the target group in the actual study. The piloted establishments were not included in the study.

3.8.3 Data collection stages

3.8.3.1 Stage 1

Permission were obtained from the owners of the accommodation establishments (Appendix E). Once permission was received, (letters of information and consent forms) delivered to the sampled accommodation establishments requesting participation by managers, kitchen staff, and garden staff and cleaning staff. On receipt of the completed consent forms, the questionnaires were delivered to participants. The questionnaires were distributed according to the nature of work in each establishment (Managers, cleaners, kitchen staff, and garden staff. In total, 150 questionnaires were dispatched and

150 were returned which gave a 100% response rate. Three checklists were used to evaluate or assess recycling initiatives and knowledge on legislation.

The participants then completed the questionnaires, other participants request to be assisted in filling the questionnaire immediately because of the level of education. The questionnaires were available in two languages Xhosa and English.

The researcher started with accommodation establishments in Coffee Bay and later did Hole -in -the -wall. The researcher had to visit the accommodation establishments more than once firstly for distribution of questionnaires, some staff were on a shift system and were available on certain days. Other establishments were not very busy and staff was mostly available during the weekends. In each establishment certain days had to be set for specific groups. Other participants took the data collection phase as a health education opportunity which resulted in the researcher allocating more time for each establishment.

The questionnaire distribution and collection were the most time consuming phases. In order to measure the percentage of the population a database from the local environmental health officers was obtained through proper request channels. The researcher then aligned the research population with the database.

3.8.3.2 Stage 2

The effectiveness of recycling initiatives was determined by the use of an observation checklist (Appendix F) that was designed to evaluate waste in schools (Anon, 2014) and which was adapted for this study. Each accommodation establishment was informed about the visit prior to observation taking place. All 20 establishments participated in this process. The researcher then visited the site and walkthroughs and observations were done according to the day to day activities of recycling in the establishments, the checklist was designed to check how effective recycling done in these establishments while the observations provided a clear understanding of the situation. The observations were done in the offices, garden and kitchen.

3.8.3.3 Stage 3

The final stage was observation comparing waste management knowledge used in accommodation establishments and current waste management legislation. The aim was to assess the knowledge and identify gaps of the legislation. The South African legislation used in the establishment and current knowledge were assessed using appropriate data collection instruments (Appendix G-H). The researcher visited the sites simultaneously as stage two the observation was done. The researcher checked if there is any legislation in the premises relating to waste. The researcher also checked whether legislation was enforced as described by the managers.

3.9 DATA ANALYSIS

The data collected from the responses was analyzed with SPSS version 26.0. The data was cleaned and coded and entered into an Excel spreadsheet. The results were analyzed by the assistance of a Statistician from the Durban University of Technology. The results presented the descriptive statistics in the form of graphs, cross tabulations and other figures for the quantitative data that was collected. Inferential techniques included chi square test values; and chi square test values; which are interpreted using the p-values. The descriptive statistics was used in form of graphs to analyze demographics like accommodation type, race and gender. The data was further analyzed to check relationships. The relationship between accommodation type, and the amount of waste produced. All the groups responses were analyzed and presented since each category produce different types of waste and different strategies are used in different departments.

3.10 CONCLUSION

This chapter explained how the research was executed and how the information was obtained. The selected sample was ideal for the data to be obtained as it involved persons participating in some manner or another in the practice of waste management.

The data collection was done in three stages. Distribution of questionnaires, site visits for legislation and recycling initiatives in the form of observations using checklists.

Chapter 4 will present the results of the study the following chapter presents data obtained from the respondents. The results will show the following: demographics, waste management strategies, recycling initiatives, and knowledge on recycling.

CHAPTER FOUR

RESULTS

4.1 INTRODUCTION

This chapter will present the results and the findings obtained from the all the research instruments in this study. The questionnaire was the primary tool that was used to collect data and was distributed to 20 accommodation establishments in King Sabata Dalindyebo Local Municipality coastal areas.

4.2. RELIABILITY STATISTICS

A reliability coefficient of 0.60 or higher is considered as “acceptable” for a newly developed construct. The questionnaire reflected a Cronbach’s alpha score for all the items that constituted the questionnaire which was above 0.60. The reliability scores for all sections exceed the recommended Cronbach’s alpha value. This indicates a degree of acceptable, consistent scoring for these sections of the research.

4.3 SOCIO- DEMOGRAPHICS

This section summarizes the socio-demographic characteristics of the respondents. This comprised of age, race and type of establishment the participant worked in during the time of the study. The socio-demographic classified according to the nature of work of the participant e.g. Manager, kitchen staff. Each group was classified according to their categories.

4.3.1 Demographics

Table 4.1: Socio-demographic characteristic of the workers from the tourist's accommodation establishments employees (n=150).

VARIABLE	N (%)	PERCENTAGE	
Gender	Male	49	(32.66)
	Female	105	(70.0)
Race	African	5	(3.33)
	Colored	105	(70.0)
	White	40	(26.66)
Job title	Manager	21	(14.0)
	Kitchen Staff	65	(43.33)
	Cleaner	45	(30.0)
	Gardener	19	(12.66)

Table 4.1 shows there were generally more males than females in the management section ratio was 3:2 ($p= 0.275$) whereas in the kitchen more females were more than males ($p= 0.000$). There was one type of gender in some departments (gardeners and cleaners). There were generally more African respondents than other race groups.

4.3.2 Accommodation Type

Figure 4.1 below indicates the accommodation type in which the respondents worked.

Most of the participants were from hostel/backpackers (34%) and Bed and breakfast (25.3%).

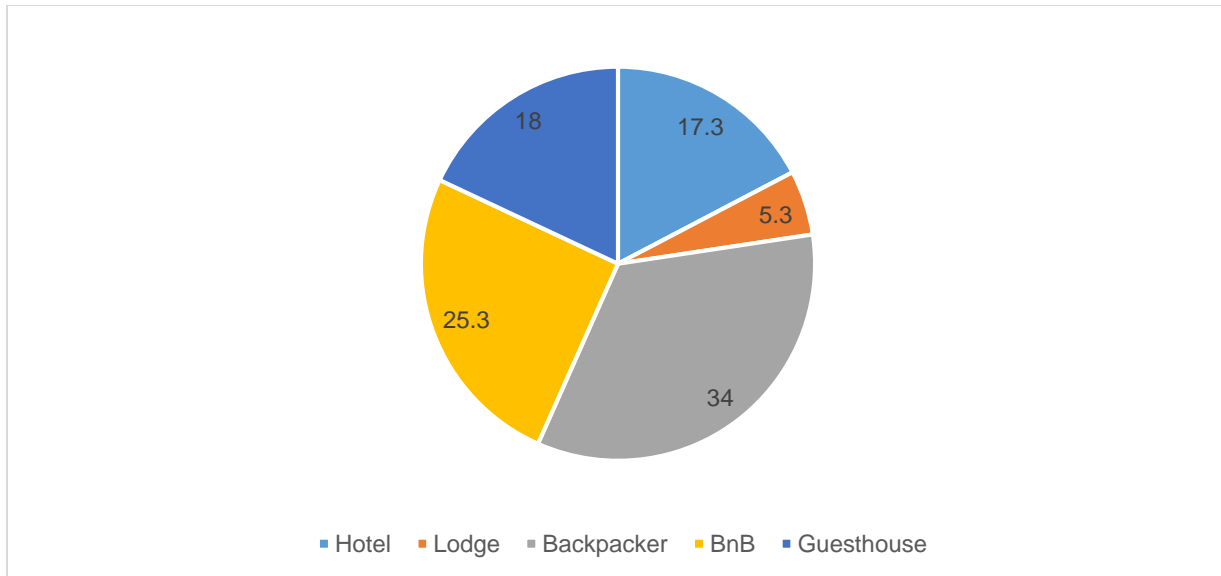


Figure 4.1 Accommodation type

4.4 WASTE MANAGEMENT STRATEGIES

This section deals with the type of waste management strategies implemented in accommodation establishments. The questionnaires looked at the type of waste that is produced, how much waste is produced and the disposal methods.

4.4.1 Overview of Waste according to waste management practice

Figure 4.2 shows different levels of statements. All managers observed plastics to be found in all establishments, Wet waste was found to be mainly produced in most establishments (71.4%), ($p = 0,05$). Cardboards (33.3%) and cans (33.3%) were not lesser produced, ($p = 0.1270$). Paper showed higher levels of production (76.2%) showing that paper is rarely disposed as waste, ($p = 0.000$). Glass was less produced with a percentage of (28.6 %) and a ($p = 0,050$). Garden waste was one of the least waste produced (23.8%) and ($p = 0.016$).

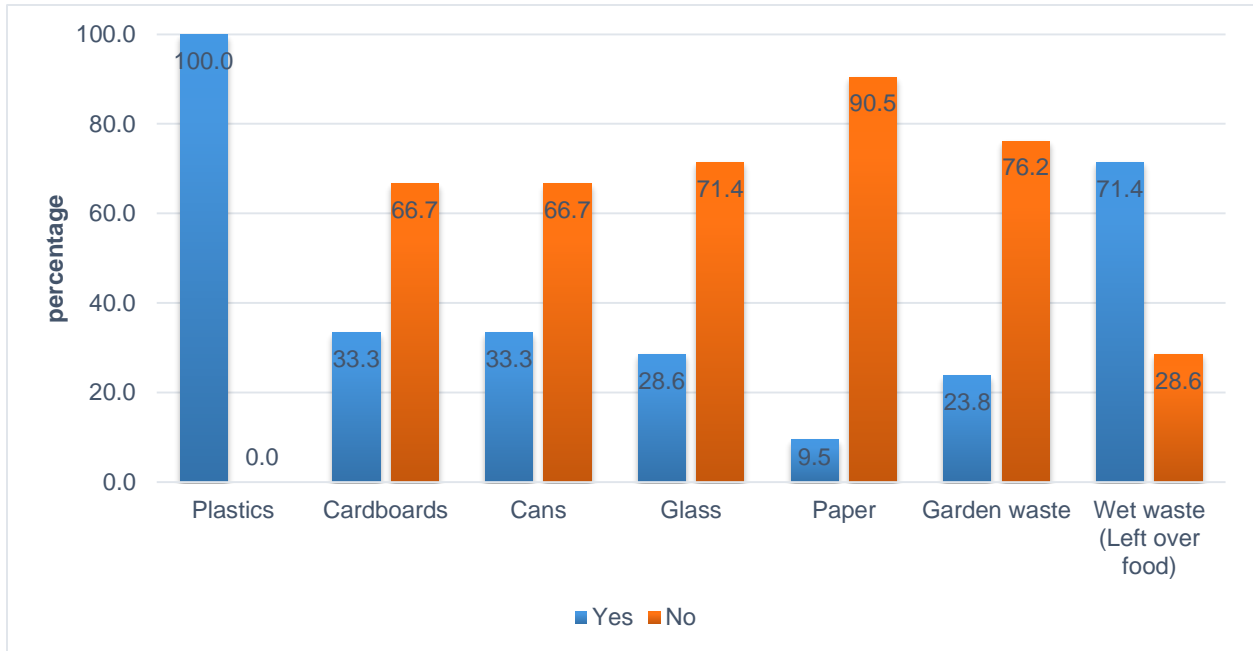


Figure 4.2 Types of waste found in tourist accommodation establishments according to management.

4.4.2 Kitchen Waste

Kitchen staff found more waste to be leftovers all departments had the same response. Vegetables were the second highest waste produced with 50.8% ($p = 0.901$). Most food waste in the kitchen was namely leftover food and vegetables.

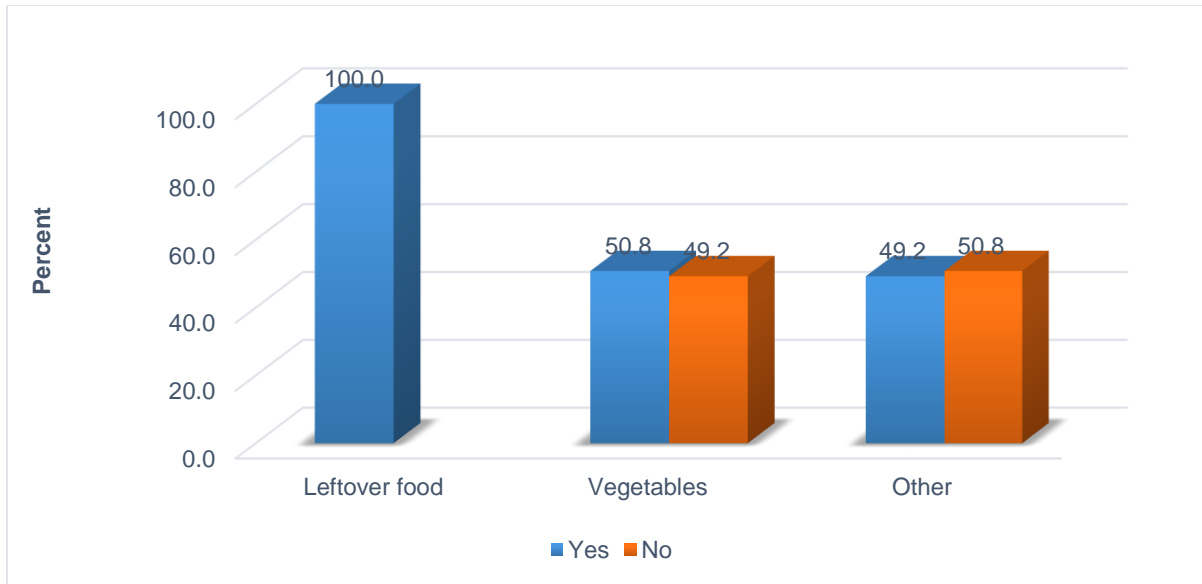


Figure 4.3 Types of waste found in the kitchen

4.4.3. Garden Waste

figure 4.4 Showed garden waste trimmings showed a (100%) response rate of yes and clippings with a (57.9%) with $p = 0.491$ not significant there was not much of a difference. All other waste was less produced in the garden.

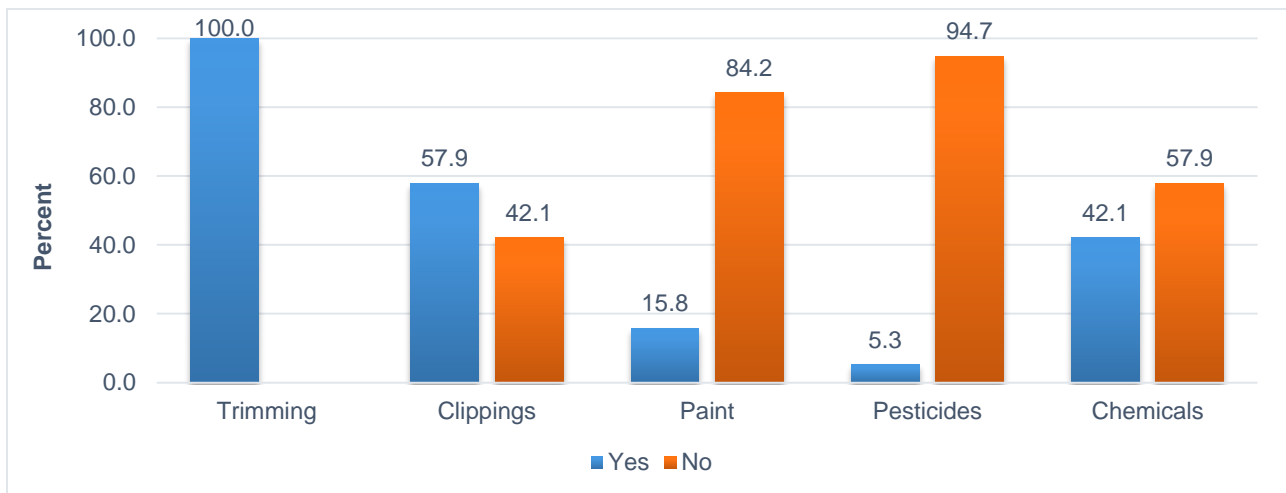


Figure 4. 4 Garden waste

4.4.4 Waste produced in Rooms

Figure 4.5 shows the waste produced by the respondents showed same level of response in all the variables. less waste was produced in this department

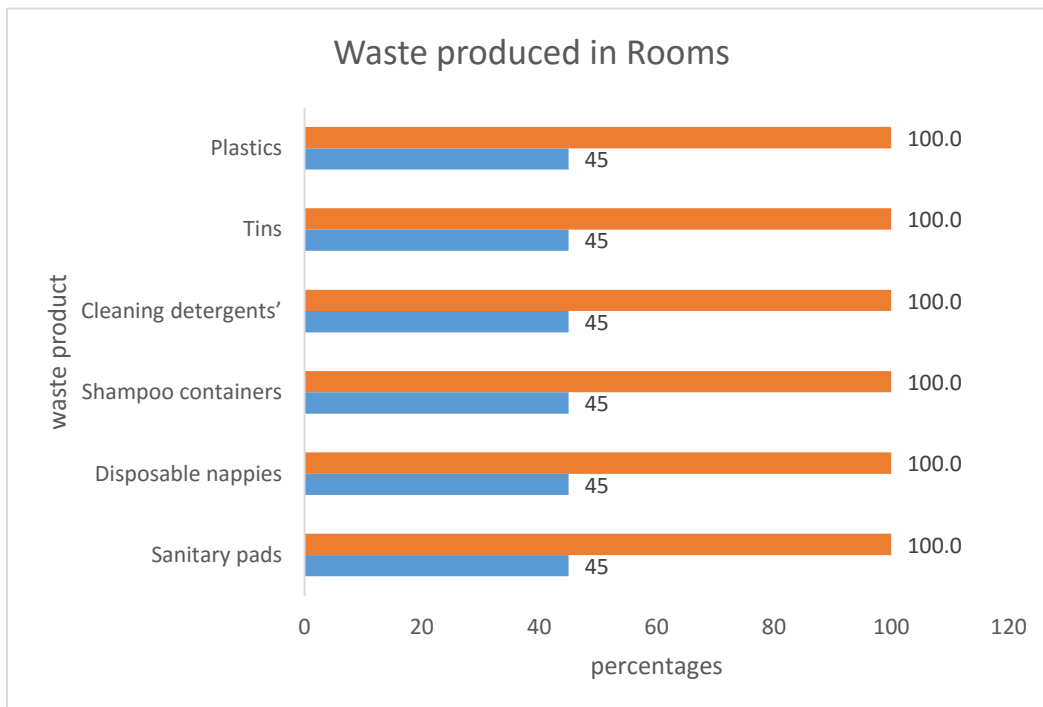


Figure 4.5. Waste produced in Rooms.

4.5 WASTE MANAGEMENT IN DIFFERENTS GROUPS

Table 4.5.1 shows waste collection to final disposal. Most of the waste is taken to the landfill site. Although the gardeners and kitchen staff do composting and donations. Most waste that is produced is less than 5 bags per day, black domestic bags are used.

Table 4.5.1 Waste Management Strategies

	Amount of waste collected per day			Waste disposal			Waste separation before disposal		
	Frequency		%	Frequency		%	Frequency		%
Managers	0 – 5	20	100	Collected by the local municipality	21	100.0	Yes	11	52.4
							No	10	47.6
							Total	21	100.0
Cleaners	0 – 5	31	68.9	Collected by the local municipality	45	100.0	Yes	45	100.0
	5 – 10	5	11.1						
	> 10	9	20.0						
	Total	45	100.0						
Kitchen staff	0 – 5	57	87.7	Take to municipal site	65	100.0	Yes	10	15.4
	> 10	8	12.3						
	Total	65	100.0						
Gardeners	10- 5	14	26.3	Refuse bin-	5	26.3	Yes	14	73.7
	5 - 10	5	73.7	Compositing-	14	73.7	No	5	26.3
	Total	19	100.0	Total	19	100	Total	19	100
n=150									

4.5.2 Waste and Accommodation Type

Table 4.5.2 shows the relationship between accommodation type in kitchen waste . 1-5 black domestic bags of waste was produced in most establishments, the type of accommodation played a significant role guesthouses and BnB donot offer fully prepared meals but only on request hence less waste was produced. More waste is produced in hotels in the kitchen, this explanation is reasonable since hotels offer more kitchen service producing more food waste hence a huge volume of waste. Fishers test of 0.001 for the relationship is significant.

Table 4.5.2 Accommodation Type *How many bags of waste are produced per day?

	How many bags of waste are produced per day					Total
	Hotel	guesthouse	lodge	Bnb	backpackers	
1-5	6	14	3	14	20	3
%	50.0	100.0	100.0	100.0	87.5	87.7
>10	6	20	0	0	0	16
%	50.0	16	0	0	12.3	12.5
Total	12	34	3	14	20	19

4.6 RECYCLING INITIATIVES

4.6.1 RECYCLING DONE ON SITE

Table 4.4 highlights that recycling was mostly done by gardeners (84.2%) and managers (52.4%) in all the accommodation establishments.

Table 4.4. Recycling on site

Department	N	Percentage
Managers	11	52.4
Cleaners	14	31.1
Gardeners	16	84.2
Kitchen staff	14	31.1

4.6.2 Perceptions and views on recycling by managers

In figure 4.6 below, twenty accommodation establishment of manager respondents who did not recycle the different types of waste, the recycling material that had the highest positive response was cardboard (33.3%), with smaller and similar numbers of the rest. The graph showed that less waste was recycled according to managers, (14.3%) cans and papers and (9.5%) in other waste, (4.8%) paper being the least. The results revealed recycling of waste by managers is not a common practice in these establishments. All p values were less than (0.05) with only one product of waste above 0.05 which is cardboard ($p = 0.0127$).

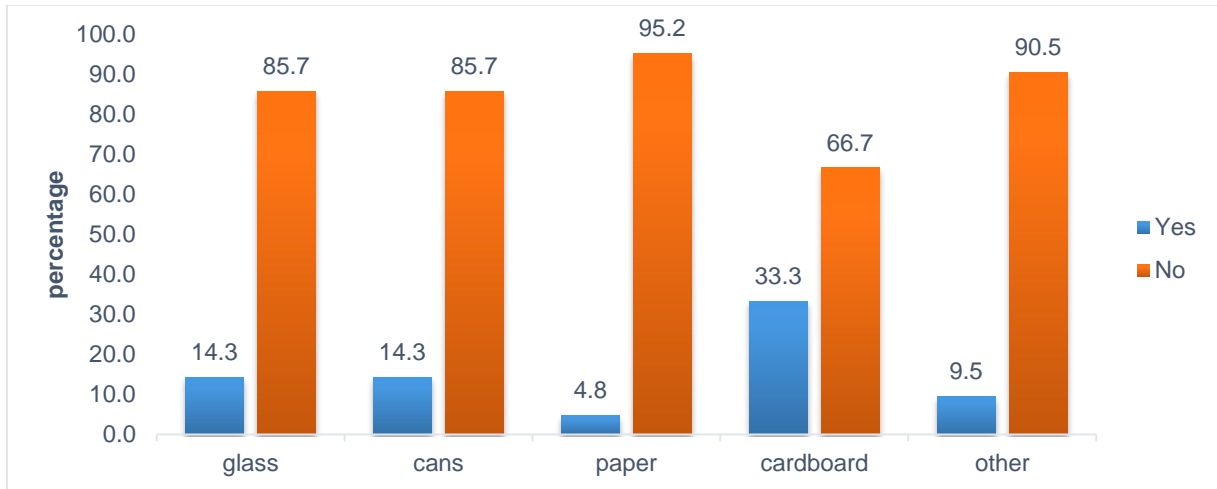


Figure 4.6 Perceptions and views on recycling.

4.6.3. Recycling in the kitchen

In Figure 4.7 below composting is the recycling initiative that is done in most establishments (70.8 %) lesser percentage of recycling initiatives done in waste sorting, waste separation and recycling of recyclable products. The Figure 4.7 shows higher degrees in the levels of No's in three methods of recycling initiatives implying that lesser waste is recycled in the kitchen of 20 tourist establishments. All the p values were less than 0.05 (0.000 for the three recycling initiatives and 0.001 for composting) the results were significant

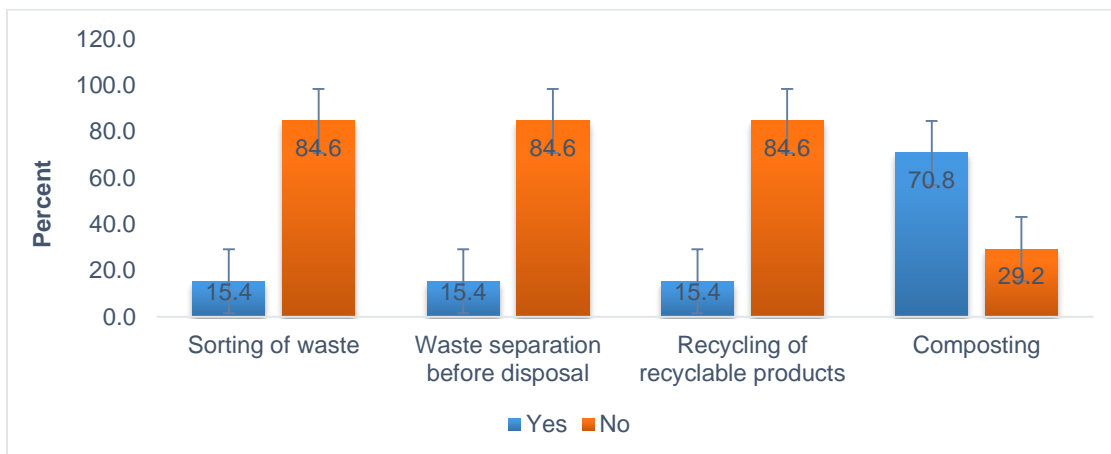


Figure 4.7 Recycling initiatives in the kitchen.

4.6.4 Recycling in the rooms

In Figure 4.8, Forty-five of the cleaners responded with two levels of statements of Yes and No on how recycling initiatives is implemented in the tourist accommodation establishments. All the respondents considered themselves not to produce hazardous waste and all respondents did know what recycling was, all respondents knew the benefits of recycling and there were two levels of responses on recycling (31.1%) responded Yes and most (68.95%) responded No implying that in the cleaning department recycling is not frequently done.

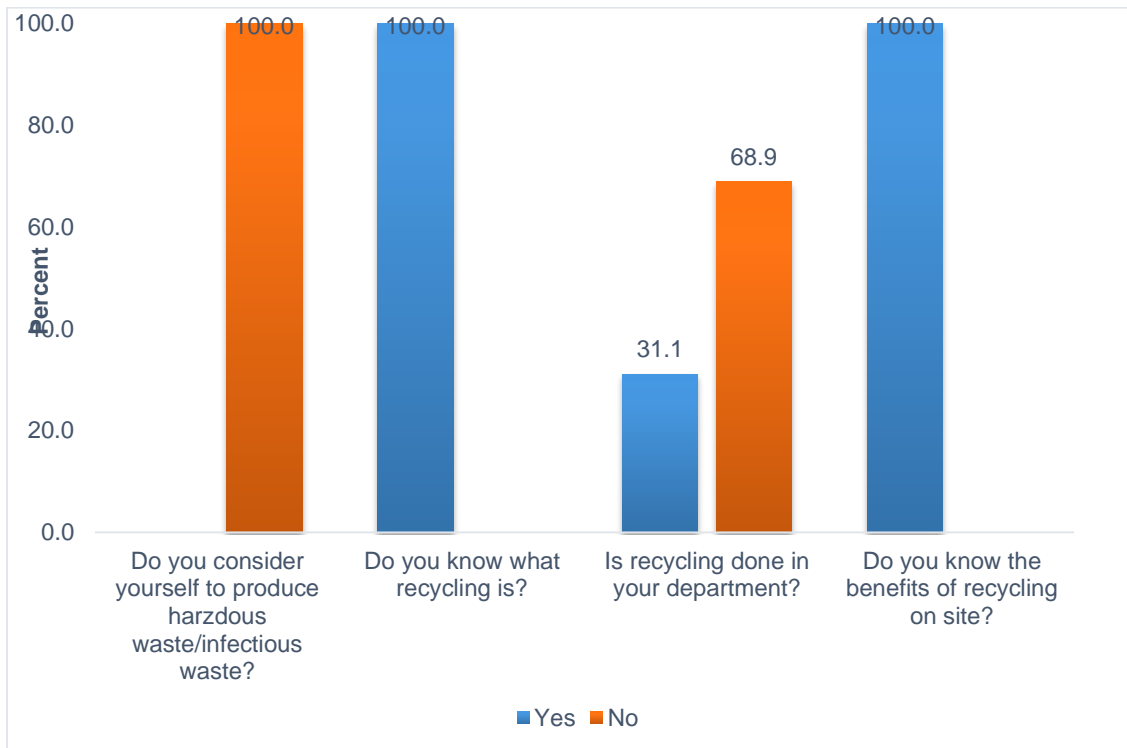


Figure 4. 8 Recycling initiatives in the rooms

4.6.5 Recycling in the garden

Figure 4.9 indicates that all gardeners knew what recycling was and knew the benefits of recycling whilst the other two statements differed (84.2%) responded to do recycling on garden waste whilst (15.8%) did not recycle garden waste $p = 0.003$. (84.2 %) composted garden waste and (15.8%) did not compost garden waste. The graph indicates that composting and recycling was done in the tourist accommodation establishments with a $p = 0.0003$, the result was significant.

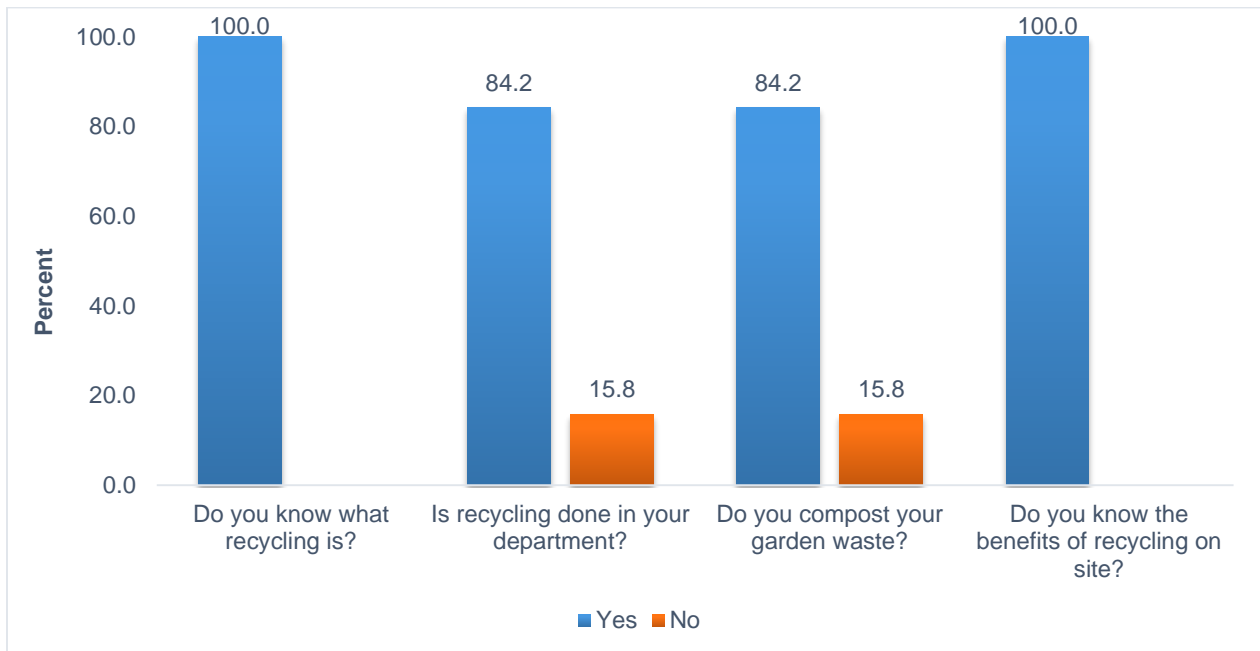


Figure 4. 9 Recycling in the Garden

4.7 WASTE MANAGEMENT LEGISLATION

This section deals with legislation, the legislation was evaluated using two tools the first tool was to check the basic legislation requirement like policies and training and this was done by a questionnaire. The following 4.10 and 4.11graphs shows the Responses from managers of the establishments.

Most of the managers did not have a waste management policy (81%), training was also less done in the establishment only (19%) responded to have trained their staff on waste management. This implies there is no proper management or knowledge on waste management legislation in some tourist accommodation establishments. $p = 0.005$, the result was significant.

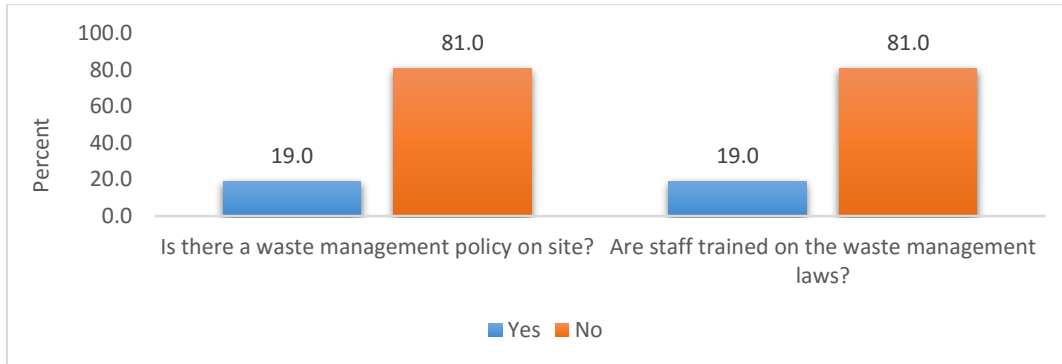


Figure 4.10 Knowledge on waste legislation

Accommodation Type* is there a waste management policy in the facility

Table 4.7 describes the type of establishment and if this had an influence in having a waste management policy, some backpackers and all the hotels did have a policy, whilst others did not have any policy. The type of establishment influences waste management legislation. The Fisher's Exact Test proves this 0.028 and result to be significant.

Table 4.7 Accommodation Type* is there a waste management policy in the facility

	Is there a waste management policy in the facility					Total
	Hotel	guesthouse	Lodge	BnB	backpackers	
Yes	2	0	0	0	1	3
%	100.0	0	0	0	14.36	15.8
No	0	5	1	4	100.0	12
%	0	85.7	100.0	100.0	7	84.2
Total	2	5	1	4	8	19

4.7.3 Waste management legislation

Figure 4.11 shows that all the tourists' accommodation establishments had the South African constitution (Act 108 of 1996) 100%. The KSDLM IDP 2017/2018 was also known by some establishments 36.8% ($p = 0.251$) and the NEMA 26.3 knew this Act ($p = 0.039$). Figure 4.11 illustrates that less knowledge on legislation is known by these tourists' accommodation establishments. In summary some of the accommodation tourist establishments had a waste management plan and very few had a policy on site. Knowledge of legislation was observed to be inadequate although some legislation was known. In overall waste management in tourist accommodation establishment needs more development.

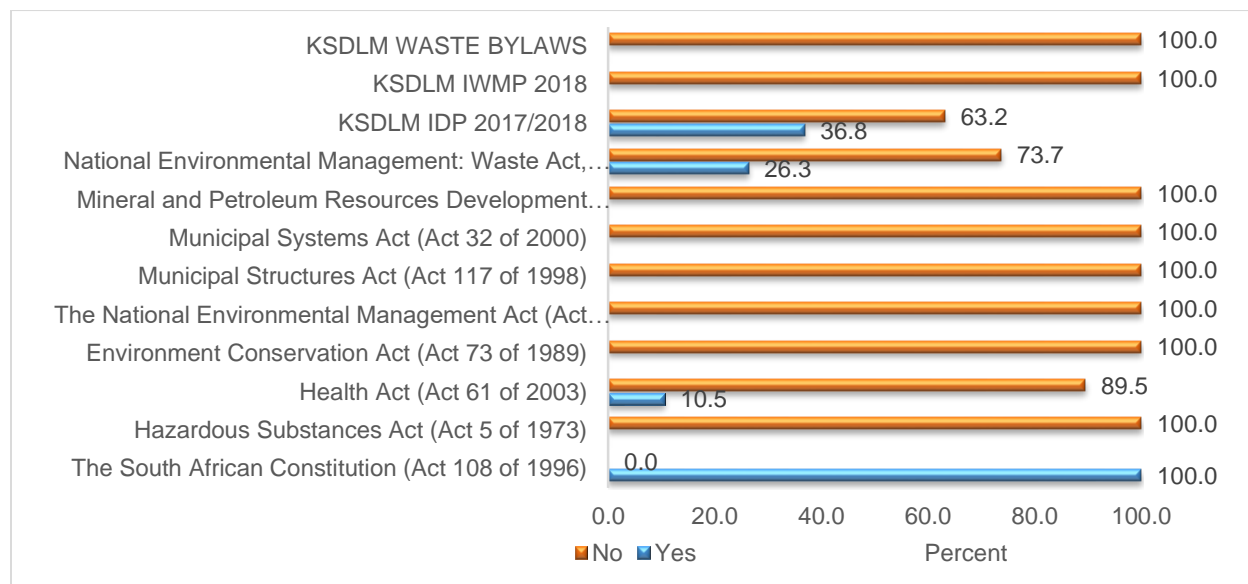


Figure 4.11 Waste management legislation

CHAPTER FIVE

DISCUSSION

5.1 OVERVIEW

The previous chapter focused on data analysis and presentation of results. In this chapter a critical analysis of the findings of this study and the relationship to other studies will be discussed. The aim of the study was to assess waste management strategies in accommodation establishments in Hole-in-the-Wall and Coffee Bay in King Sabata Dalindyebo Local Municipality (KSDLM), Eastern Cape, and South Africa.

5.2 DEMOGRAPHICS

5.2.1 Gender, Race and Accommodation Type

There were more females than males, the participants this could imply more females are employed in tourist accommodation establishments than males. There were more African workers in accommodation establishments than other races this could be due to the fact that Coffee Bay and Hole in the wall is in rural areas so most of the employees are from surrounding areas and the surrounding areas are dominated by African people especially Xhosa speaking people hence the questionnaires were in two languages. Mahlangabeza-Paliso, (2016:57) stated that South Africans are mostly poor and they tend to stay in rural areas, and most of rural households benefit from grants. This has been seen to be the same in the Hole in the Wall and Coffee Bay because most of people are not working and depend on social grants participants were from backpackers and bed and breakfasts, this could be due to increased number of Bnb and backpackers in the area. The results obtain justify why more women work in accommodation establishments, women have families and are more likely found in rural areas unemployed.

5.2 WASTE MANAGEMENT PRACTICES

5.2.1 Types of waste

The waste types were classified according to the four categories of employment, which were managers, cleaner's, kitchen staff and gardeners. The types of waste generated in all four groups consisted of: plastics, cardboards, cans, glass, wet waste, paper, vegetables, garden waste, pesticides, chemicals, disposable nappies, sanitary pads, detergents, shampoo containers and tins. The type of waste mostly generated in all group were mainly dominated by the following: Plastic, wet waste, garden waste and chemicals. Although other waste like can, papers, tins, glass etc. were found but at a relative low volume in the waste streams but were still present in lower numbers. Sanaa et al (2014:321) found similar results of waste in a study cardboard, paper, plastics, metal, glass and wood. Whilst Omidiani and HashemHezaveh, (2016:672) found different types of waste in a review of different studies, aluminum, glass, metal mixed office waste, wet waste, garden waste, cardboard, paper compost etc. The study done by, Cabana et al, (2018:8) in Tunisia it was found that about (39%) of the waste was from food preparation, (59%) from guests' plates, and (2%) from non-consumed food. The results obtained showed a similar pattern of waste in tourist accommodation establishments whereby plastics and wet waste and trimmings were the most type of waste produced in these tourist accommodation establishments. This shows that most waste is usually generated by establishments that offer prepared meal or allow self-catering illustrating that more waste is produced in such environments.

5.2.3 Summary of waste management strategies

The tourist accommodation establishments disposed of their waste in an illegal dump nearby where it is collected twice a week by the municipality and waste is collected daily by a private contractor. Waste poses a threat to public health and the environment if it is not stored, collected, and disposed of properly Yooda et al, (2014:1) hence it is important that waste is disposed of safely. All the groups mostly produced (0-5) domestic plastic bags of waste. The percentage of each of these different waste types also varies by

establishment type Omidiani and HashemHezaveh, (2016:672). A cross tabulation was done to determine the relationship between accommodation types and kitchen waste, increased volumes of waste was produced in hotels in the kitchen, this explanation is reasonable since hotels offer more kitchen service hence a huge volume of waste. The bigger hotels, more waste is generated (Phu et al, 2018:28). All groups separated their waste before disposal expect kitchen staff whereby (15.4%) claimed to separate waste before disposal. Mohan et al, (2017:360) advised that waste should be reduced or eliminated. Waste elimination is done by source separation and sorting in the establishment before final disposal similar trend would benefit these hotels.

5.3 RECYCLING INITIATIVES

Recycling is mostly done in the garden which is mainly composting and by managers which is mainly cardboard and a small percentage of cans and tins. Malik and Kumar (2012:48) found the hotel sector in Hue City, Vietnam that only there were three hotels that had separate bins for different types of waste collection, (44) of the hotels did not separate the waste in different categories. Phu *et al*, (2018:28) study revealed that the implementation status of waste management practices of the accommodation establishments showed good results with (76%) for sorting, (39%) for recycling, (29%) for reduction, and (0.8%) for composting. The above findings relate to this study in certain aspects were gardeners had more knowledge on recycling and its benefits hence less waste was produced in the garden and garden waste is easy to recycle. Compost is used in the garden area of the accommodation establishments for nurturing the fertility of the soil. Composting is an efficient method for decreasing the amount of solid waste quantity of hotels (Mohan *et al*, 2017:36). Nath, (2014:24) states that composting the wet waste and garden waste has been seen as having a huge influence in diverting biodegradable waste from landfill site and has been encouraged so as to derive compost which is a form of fertilizer and soil conditioner. The Vaidya and Saxena, (2017:820) study showed that accommodation establishments can not only make a contribution to the environment, but also make financial gains from recycling long term. Waste elimination at source and recycling can reduces greenhouse gases emission to a large extent. Composting was

also observed in the kitchen since most waste is wet waste and (15.4%) for sorting, waste separation and recycling. The cleaning staff did not consider themselves to produce hazardous waste and knew what recycling was and benefits of recycling although less recycling was done (31.1%).

5.4 WASTE MANAGEMENT LEGISLATION

Waste management is guided by waste management legislation, in this study two tools were used to assess the knowledge on waste management legislation in accommodation establishments.

Accommodation establishments found that (81%) did not have a waste management policy on site whilst a few did have a policy. Some managers claimed to have trained their staff on waste management (19%) whilst the majority was not trained on waste. (Haingura and Nakapunda, 2016) addressed the difference in levels of awareness on the solid waste management hierarchy of staff members and guests at back packers from Windhoek may have caused the difference in sorting and handling as well as appropriate disposal of solid waste substances at back packers from the two cities. Orpia, (2016:8) found a need for massive educational campaign to be conducted to sustain proper waste management local governments should provide long-term and comprehensive solid waste management programs that would encourage and motivate the public to cooperate and participate. Clear bags should be readily availed to members of the hospitality sector by city authorities for appropriate disposal of recyclable waste substances. Moreover, staff members and guests at accommodation sites should be well informed on efficient ways of managing solid waste. Breedts *et al*, (2018:335) states that training on sorting at source of the different material is advisable, all housekeeping, gardening, butlers and kitchen staff should attend the training and the practical demonstration. This not only gives the staff an idea of the actual process systems in place.

A cross tabulation was done to determine if the type of accommodation had an influence in having a waste management policy, few backpackers and all the hotels did have a

policy, whilst others did not have any policy. The establishments which did not have a policy were Bnb and guest houses. The type of establishment influences waste management legislation. (NWMS, 2012) states that one of its goals is to ensure that people are aware of the effects of waste on their life, well-being and the environment and achieve integrated waste management planning.

A second tool was used to evaluate legislation knowledge in accommodation establishments which consisted of several Acts related to waste products produce by tourist's accommodation establishments. There were 12 Acts that the establishments were evaluated on and only four Acts were known with different levels of knowledge. The South African Constitution (Act 108 of 1996) 100% and the KSDLM IDP (2017/2018) was known by some establishments (36.8%). The National Environmental Management (Act 59 of 2008) (26.3%) and the Health Act 61 of 2003, (10.5%) were some of the legislation identified. In conclusion Waste management in tourist accommodation establishment needs more development.

CHAPTER 6

CONCLUSION AND RECOMMENDATIONS

Chapter Six will focus on concluding statements, limitations and strengths followed by recommendations.

6.1. CONCLUSION

The aim and objectives of this descriptive quantitative study was to assess waste management strategies in tourist accommodation establishments, to identify the waste management strategies implemented in tourist accommodation establishments in Hole-in-the-Wall and Coffee Bay, to assess the effectiveness of recycling initiatives in these accommodation establishments and to identify waste management practices as compared to policies and legislation.

The study revealed that most of the waste generated in these tourist accommodation establishments are plastics, cardboards, cans, glass, wet waste, paper, vegetables, garden waste, pesticides, chemicals, disposable nappies, sanitary pads, detergents, shampoo containers and tins. The type of waste mostly generated in all group were mainly dominated by the following: Plastic, wet waste, garden waste and chemicals. The tourist accommodation establishments disposed of their waste in a municipal site. There was no illegal dumping of waste that was reported.

All the groups produced between (0-5) bags of waste. More waste was disposed of in the landfill site. The tourist accommodation establishments showed a responsible manner of waste disposal and management of waste even though they did not receive everyday waste management services from the municipality, these accommodation establishments need to be commended considering the fact that the landfill site/ transfer site was not properly fenced and just a site but no waste was ever illegal dumped in the area. It was noted though that hotels and a few backpackers produce more kitchen waste, this could be contributed by the type of services and activities done in the facilities.

It was noted that most recycling is done in the garden and very few in other departments, this could be due to the fact that Hole in the wall and Coffee Bay is located far away from

Mqanduli and Umtata whereby it is easy to sell off recyclable material or recyclable material is sold. No recycling is done on the landfill site, accommodation owners have to transfer recyclable material to Mqanduli or Umtata and this is costly and not effective, even a few who start recycling it is not sustainable.

All tourists' accommodation establishments did not have a policy or do training on waste management, the main problem could be due to the fact that there was no department or enforcement body. Very few legislation was known by the management of these tourist accommodation establishments due to various conditions managers may be changed every now and then, training may have been done owners it is noted though that National waste management Act 59 of 2003 and other Acts were known a less population had knowledge on such legislation.

6.1.1. Limitations of this study

- Other accommodation establishments were opened after the data collection phase (due to the mushrooming of Bnb s every day).

6.1.2. Strengths of this study

- The tourist accommodation establishments participated in the study and realized the need for knowledge on waste management legislation.
- The importance of reduction of waste at source was identified.
- The study itself created an awareness and education to the staff and management.

6.2 RECOMMENDATIONS

The following recommendations are made:

- Development of training on waste management legislation
Training are needed for both accommodation establishments owners and staff on current legislation, the local municipality and other involved departments should conduct these training even once a year. This training could be in the form of workshops, awareness campaign or health education.

- Provision of a proper transfer station or landfill site.
A proper landfill site is in urgently needed to provide daily services to this location since it is very busy throughout the year with national and international tourist's, and considered as one of the most popular holiday area.
- Provision of local recycling sites by the local municipality to encourage recycling on site, since this is one of the challenges recycling is not done on most premises hence this will decrease waste disposed in the landfill site and encourage source reduction.

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Appendix A



LETTER OF INFORMATION

Title of the Research Study: Waste management practices in accommodation establishments in King Sabatta Dalindyebo Local Municipality coastal areas in the Eastern Cape, South Africa

Principal Investigator/s/researcher: Nobesuthu Mgambi (BTech: Environmental Health)

Co-Investigator/s/supervisor/s: Dr S Ghuman
(PhD, Public Health, PGH Diploma Tertiary Education)
Ms Emilie Joy Kistnasamy
(MTech: Environmental Health; B. Comm)

Brief Introduction and Purpose of the Study: I am currently a Masters student at the Durban University of Technology doing research on waste management in accommodation establishments in Coffee Bay and Hole in the Wall at King Sabatta Dalindyebo local municipality. You are hereby invited to participate in this study to determine the waste management practices implemented in accommodation establishments. Also, recycling strategies will be assessed and note will be taken of waste management challenges and gaps experienced in accommodation establishments. Questionnaires and a checklist will be used as data collection tools. At your establishment, the following staff: managers, kitchen staff, room staff, gardener and maintenance staff will also be invited to participate so that the research outcomes can be achieved.

Outline of the Procedures: You will be required to fill in an appropriate short questionnaire that has being compiled for that particular sample group and should take a maximum of ten minutes to fill in. The questionnaire will be administered in your workplace at a scheduled time as agreed upon by the establishment's management. A walkthrough shall be conducted by the researcher on an agreed time with management.

Risks or Discomforts to the Participant: There will be no discomfort to you and participation is voluntary.

Benefits: This research will benefit accommodation establishments as they will become more cost effective and efficient in their waste management practices and recycling strategies. An awareness of current legislation on waste management will also be created

Reasons why the Participant May Withdraw from the Study: You may withdraw from the study anytime if you feel any discomfort.

Remuneration: There will be no incentive issued to you in the study.

Costs of the Study: You shall not incur any cost on participation in the study.

Confidentiality: Questionnaires will only be assessed by the research team and shall be filed in a secured facility. You can remain anonymous if you wish to do so, noting that all establishments and participants will be allocated a study number so as to further maintain confidentiality.

Research-related Injury: The research will not involve any exercise that may result in an injury.

Persons to Contact in the Event of Any Problems or Queries:

Supervisor: Ms Joy Emilie Kistnasamy: 031 373 2249 / JoyK@dut.ac.za

Researcher: Nobesuthu Mgambi: 076 979 8337 / nobsie@webmail.co.za

Or the Institutional Research Ethics Administrator on 031 373 2375. Complaints can be reported to the Acting Director: Research and Postgraduate Support, Prof CE Napier on 031 373 2577 or carinn@dut.ac.za

APPENDIX B



CONSENT

Statement of Agreement to Participate in the Research Study:

- I hereby confirm that I have been informed by the researcher
- Nobesuthu Mgambi about the nature, conduct, benefits and risks of this study -
- Research Ethics Clearance Number: 174/18
- I have also received, read and understood the above written information
- (Participant Letter of Information) regarding the study.
- I am aware that the results of the study, including personal details regarding my sex, age, date of birth, initials and diagnosis will be anonymously processed into a study report.
- In view of the requirements of research, I agree that the data collected during this study can be processed in a computerized system by the researcher.
- I may, at any stage, without prejudice, withdraw my consent and participation in the
- Study.
- I have had sufficient opportunity to ask questions and (of my own free will) declare myself prepared to participate in the study.
- I understand that significant new findings developed during the course of this research
- which may relate to my participation will be made available

Full Name of Participant
Thumbprint

Date

Time

Signature/Right

I, Nobesuthu herewith confirm that the above participant has been fully informed about the nature, conduct and risks of the above study.

_____	_____	_____
Full Name of Researcher	Date	Signature

_____	_____	_____
Full Name of Witness (If applicable)	Date	Signature

_____	_____	_____
Full Name of Legal Guardian (If applicable)	Date	Signature

APPENDIX C



Box 84

Elliotdale

5070

Date: _____

The Chief (Ngwenyathi)

Mqanduli

5080

Dear Chief Ngwenyathi

Request for Permission to conduct research at Mqanduli coastal areas: Coffee Bay and Hole in the Wall

My name is Nobesuthu G. Mgambi. I am currently a Master's student in Environmental Health at the Durban University of Technology doing research on waste management in accommodation establishments. I hereby request permission to carry out the study in Coffee Bay and Hole in the Wall accommodation establishments.

The main aim of the study is to identify solid waste management practices implemented in accommodation establishments. The study will determine the following:

- 1) To identify the waste management strategies implemented in accommodation establishments in Coffee Bay and Hole-in-the-Wall.
- 2) To assess the effectiveness of recycling initiatives in these accommodation establishments.
- 3) To identify gaps in waste management policies and legislation with regard to solid waste management in the sampled accommodation establishments.

The study will use questionnaires and a checklist to collect data of the 20 sampled establishments and their proposed managers and employees (+/-150 participants). Participation of the study is voluntary and anonymity will be maintained at all times. There will be no cost to participate in the study and it shall only take a maximum of 10 minutes to complete the appropriate questionnaire. It is proposed that data collection will commence December 2018 and is dependent on ethical approval being

obtained. I hope you find this in order.

If further information is needed, do not hesitate to contact me on 076 979 8337 or on e-mail address:
nobsie@webmail.co.za.

Yours faithfully Nobesuthu Mgambi

APPENDIX D



Box 84

Elliotdale

5070

Date: _____

King Sabatta Local Municipality

Mqanduli

5080

Dear Councillor Msakeni

Request for Permission to conduct research at Mqanduli coastal areas: Coffee Bay and Hole in the Wall

My name is Nobesuthu G. Mgambi. I am currently a Master's student in Environmental Health at the Durban University of Technology doing research on waste management in accommodation establishments. I hereby request permission to carry out the study in Coffee Bay and Hole in the Wall accommodation establishments.

The main aim of the study is to identify solid waste management practices implemented in accommodation establishments. The study will determine the following:

- 1) To identify the waste management strategies implemented in accommodation establishments in Coffee Bay and Hole-in-the-Wall.
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obtained. I hope you find this in order.

If further information is needed, do not hesitate to contact me on 076 979 8337 or on e-mail address:
nobsie@webmail.co.za.

Yours faithfully
Nobesuthu Mgambi.

APPENDIX E



Box 84
Elliotdale
5070

Date: _____

Dear Manager

Request for Permission to conduct research at Mqanduli coastal areas: Coffee Bay and Hole in the Wall

My name is Nobesuthu G. Mgambi. I am currently a Master's student in Environmental Health at the Durban University of Technology doing research on waste management in accommodation establishments. I hereby request permission to carry out the study in Coffee Bay and Hole in the Wall accommodation establishments.

The main aim of the study is to identify solid waste management practices implemented in accommodation establishments. The study will determine the following:

- 1) To identify the waste management strategies implemented in accommodation establishments in Coffee Bay and Hole-in-the-Wall.
- 2) To assess the effectiveness of recycling initiatives in these accommodation establishments.
- 3) To identify gaps in waste management policies and legislation with regard to solid waste management in the sampled accommodation establishments.

The study will use questionnaires and a checklist to collect data of the 20 sampled establishments and their proposed managers and employees (+/-150 participants). Participation of the study is voluntary and anonymity will be maintained at all times. There will be no cost to participate in the study and it shall only take a maximum of 10 minutes to complete the appropriate questionnaire. It is proposed that data collection will commence December 2018 and is dependent on ethical approval being obtained. I hope you find this in order.

If further information is needed, do not hesitate to contact me on 076 979 8337 or on e-mail address:
nobsie@webmail.co.za.

Yours faithfully
Nobesuthu Mgambi.

APPENDIX F



**CHECKLIST ON RECYCLING INITIATIVES IN
ACCOMMODATION ESTABLISHMENTS**

Study ID Number of Establishment:

Date Checklist completed (dd/mm/yyyy)

Select the type of Accommodation Establishment (√)

Hotel ₁ Lodge ₂ Backpacker ₃ Bnb ₄

Guesthouse ₅

OBSERVATIONS

1 = Yes

2 = No

1. Are waste recycling containers appropriate for use?

₁ ₂

2. Waste separation

₁ ₂

3. Labelled recycling bins

¹ ²

4. Are waste recycling containers emptied regularly?

¹ ²

5. Appropriate waste removal schedule

¹ ²

6. Is recycled waste is stored in a well-ventilated room?

¹ ²

7. Checked waste storage areas for odour's, contaminants

¹ ²

8. Separate collection of different types of packaging waste (Glass, metal, paper /cardboard, plastics)

¹ ²

9. Separate collection of organic waste

¹ ²

10. Collection of recyclable material

¹ ²

11. Uniform labelling/colour system for the waste recycling containers.

¹ ²

12. Education of the employees on waste segregation (company-specific segregation Guide)

¹ ²

13. Education of the cleaning staff on waste segregation (Segregation guide, part of The tender}

¹ ²

14. Nomination of persons responsible for waste logistics in different departments

¹ ²

Notes

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APPENDIX G



CHECKLIST ON LEGISLATION IN ACCOMMODATION ESTABLISHMENTS

Study ID Number of Establishment:

Date Checklist completed (dd/mm/yyyy)

Select the type of Accommodation Establishment (√)

Hotel ₁ Lodge ₂ Backpacker ₃ Bnb ₄

Guesthouse ₅

OBSERVATIONS

1 = Yes

2 = No

1. Is there a waste management policy in the facility?

₁ ₂

2. Does the facility have a waste management plan?

₁ ₂

3. Does the policy cover all waste management objectives?

1 2

4. Are there enforcement measures in place?

1 2

1. Are the enforcement measures effective?

1 2

2. Does the legislation cater for policy development?

1 2

3. Are there gaps in the policy and waste management legislation?

1 2

4. Is a copy of the municipal IWMP present on site?

1 2

5. Are the managers of the facility aware of the KSDLM IWMP?

1 2

6. Is the waste Act 59 of 2008 present on site?

1 2

7. Is the management aware of the above legislation?

1 2

8. Are KSDLM municipal bylaws available on site?

1 2

9. Is there any other legislation on waste management present in the facility?

1 2

Notes

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APPENDIX H



CHECKLIST ON CURRENT LEGISLATION KNOWLEDGE

Study ID Number of Establishment:

Date Checklist completed (dd/mm/yyyy)

Select the type of Accommodation Establishment (√)

Hotel ₁ Lodge ₂ Backpacker ₃ Bnb ₄

Guesthouse ₅

1 = Yes 2 = No

1. The South African Constitution (Act 108 of 1996)

₁ ₂

2. Hazardous Substances Act (Act 5 of 1973)

₁ ₂

3. Health Act (Act 61 of 2003)

₁ ₂

4. Environment Conservation Act (Act 73 of 1989)

1 2

5. The National Environmental Management Act (Act 107 of 1998)

1 2

6. Municipal Structures Act (Act 117 of 1998)

1 2

7. Municipal Systems Act (Act 32 of 2000)

1 2

8. Mineral and Petroleum Resources Development Act (Act 28 of 2002)

1 2

9. National Environmental Management: Waste Act, 2008 (Act 59 of 2008)

1 2

10. KSDLM IDP 2017/2018

1 2

11. KSDLM IWMP 2018

1 2

12. KSDLM WASTE BYLAWS

1 2

APPENDIX I



MANAGERS:

QUESTIONNAIRE ON WASTE MANAGEMENT IN ACCOMMODATION ESTABLISHMENTS

Study ID Number of Establishment:

Study ID Number of Participant:

Date Questionnaire completed (dd/mm/yyyy)

IMPORTANT NOTICE: Please mark the appropriate box or write an answer in the space provided

SECTION A: DEMOGRAPHICS

Gender: Male ₁ Female ₂

Race: A ₁ I ₂ C ₃ W ₄ Other ₅

If other specify.....

Age: (Optional)

Select the type of Accommodation Establishment (√)

Hotel ₁ Lodge ₂ Backpacker ₃ Bnb ₄

Guesthouse ₅

SECTION B: WASTE MANAGEMENT PRACTICES

Please tick or write the relevant answer

1. What type of waste is MOSTLY produced?

Plastics	1
Cardboards	2
Cans	3
Glass	4
Paper	5
Wood	6
Garden waste	7
Wet waste (Left over food)	8
Chemicals	9
Hazardous waste if present, specify	10

2. How many bags of waste are produced per day?

0-5	1
5-10	2
10 and above	3

3. How do you get rid of your waste?

Burn it	1
Take to municipal site	2
Taken by the municipality	3
Dump it	4

4. Do you sort waste before placing it in a bin? Yes 1 No 2
 If yes, what do you do with the sorted waste?

.....

SECTION C: RECYCLING INITIATIVES

Please tick or write the relevant answer

5. Is recycling done on site?
 Yes 1 No 2

6. What type of waste is recycled?

Glass 1 cans 2 paper 3 cardboard 4
 Other 5

Specify.....

7. How are recycling bins used?

Black bins with different label 1 coloured bins with different label 2

Black bins of different sizes 3

8. Do you know the benefits of recycling on site?

Yes 1

If yes, please state benefits

.....
.....

No 2

SECTION D: WASTE MANAGEMENT LEGISLATION

Please tick or write the relevant answer

9. Is there a waste management policy on site?

Yes 1

No 2

10. Are staff trained on the waste management laws?

Yes 1

If yes, please explain

.....
.....

No 2

11. Are you aware of the following legislation? If yes, please tick the relevant boxes.

Waste Act 59 of 2008	1
The constitution of South Africa 108 of 1996	2
KSDLM Integrated waste management plan 2018/2019	3
KSDLM Waste management bylaws	4
National waste management strategy 2010	5
Other legislation	6
The National Environmental Management Act (Act 107 of 1998)	7

12. What do you think the legislation does not cover concerning waste in the hospitality sector, please explain?

.....

.....

.....

.....

THANK YOU VERY MUCH FOR YOUR TIME

APPENDIX J



KITCHEN STAFF:

QUESTIONNAIRE ON WASTE MANAGEMENT IN ACCOMMODATION ESTABLISHMENTS

Study ID Number of Establishment:

Study ID Number of Participant:

Date Questionnaire completed (dd/mm/yyyy)

IMPORTANT NOTICE: Please mark the appropriate box or write an answer in the space provided

SECTION A: DEMOGRAPHICS

Gender: Male ₁ Female ₂

Race: A ₁ I ₂ C ₃ W ₄ Other ₅

If other specify.....

Age: (Optional)

Select the type of Accommodation Establishment (√)

Hotel ₁ Lodge ₂ Backpacker ₃ Bnb ₄

Guesthouse ₅

SECTION B: WASTE MANAGEMENT PRACTICES

Please tick or write the relevant answer

What kind of service does your premises offer?	1
Food on the go, take away	2
Self-service or buffet	3
Casual dining (casual atmosphere with table service)	4
Fine dining (full service)	6
No cooking is done on site	7

1. What type of waste is mostly produced in the kitchen?

Leftover food	1
Plastics	2
Oil	3
Vegetables	4
Cardboards and paper	5
Metal	6
Glass	7
Other	8

2. How many bags of waste are produced per day?

0-5	1
5-10	2
10and above	3

3. How do you get rid of your kitchen refuse?

Burn it	1
Take to municipal site	2
Taken by the municipality	3
Dump it	4
Compost	5

SECTION C: RECYCLING INITIATIVES

Please tick or write the relevant answer

4. Do you know what recycling is?

Yes ₁ No ₂

If yes please

Explain.....

 ...

5. Is recycling done in the kitchen?

Yes ₁ No ₂

6. Which waste minimization program is done in the kitchen?

1. Sorting of waste	
2. Waste separation before disposal	
3. Recycling of recyclable products	
4. Composting	

7. Do you know the benefits of recycling?

Yes 1 No 2

If yes please

explain.....

.....

SECTION D: WASTE MANAGEMENT LEGISLATION

Please tick or write the relevant answer

8. Is there a waste management policy on site?

Yes 1 No 2

9. Are you trained on the waste management laws?

Yes 1 No 2

If yes please explain.....

.....

.....

THANK YOU VERY MUCH

APPENDIX K



GARDEN STAFF:

QUESTIONNAIRE ON WASTE MANAGEMENT IN ACCOMMODATION ESTABLISHMENTS

Study ID Number of Establishment:

Study ID Number of Participant:

Date Questionnaire completed (dd/mm/yyyy)

IMPORTANT NOTICE: Please mark the appropriate box or write an answer in the space provided

SECTION A: DEMOGRAPHICS

Gender: Male ₁ Female ₂

Race: A ₁ I ₂ C ₃ W ₄ Other ₅

If other specify.....

Age: (Optional)

Select the type of Accommodation Establishment (√)

Hotel ₁ Lodge ₂ Backpacker ₃ Bnb ₄

Guesthouse ₅

SECTION B: WASTE MANAGEMENT PRACTICES

Please tick or write the relevant answer

1. What type of waste do you generate from choose from the following?

Trimming	1
Yard debris	2
Lawn mowing	3
Clippings	4
Paint	5
Old batteries	6
Pesticides	7
Chemicals	8

2. Where do you put your waste?

Refuse bin	1
Trench	2
Throw away nearby	3
Compositing	4

3. How many bags of waste do you produce per week?

1-5	1
5-10	2
Above 10	3

SECTION C: RECYCLING INITIATIVES

Please tick or write the relevant answer

4. Do you know what recycling is?

Yes ₁ No ₂

If yes please Explain.....

.....

5. Is recycling done in your department?

Yes ₁ No ₂

If yes please Explain.....

.....

6. Do you compost your garden waste?

Yes ₁ No ₂

7. Do you know the benefits of recycling on site?

Yes ₁ No ₂

If yes please explain.....

.....

SECTION D: WASTE MANAGEMENT LEGISLATION

Please tick or write the relevant answer

8. Are you trained on waste management?

Yes ₁ No ₂

If yes explain.....
.....

9. Is there a waste management policy on site?

Yes ₁ No ₂

THANK YOU VERY MUCH FOR YOUR TIME

APPENDIX L



CLEANING STAFF:

QUESTIONNAIRE ON WASTE MANAGEMENT IN ACCOMMODATION ESTABLISHMENTS

ID Number of Establishment:

ID Number of Participant:

Date Questionnaire completed (dd/mm/yyyy)

IMPORTANT NOTICE: Please mark the appropriate box or write an answer in the space provided

SECTION A: DEMOGRAPHICS

Gender: Male ₁ **Female** ₂

Race: A ₁ **I** ₂ **C** ₃ **W** ₄ **Other** ₅

If other specify.....

Age: (Optional)

Select the type of Accommodation Establishment (√)

Hotel ₁ Lodge ₂ Backpacker ₃ Bnb ₄

Guesthouse ₅

SECTION B: WASTE MANAGEMENT PRACTICES

1. How many bags of waste do you produce per week?

1-5	1
5-10	2
Above 10	3

2. Please select the relevant waste generated in room.

Sanitary pads	1
Disposable nappies	2
Shampoo containers	3
Old furniture	4
Paint	5
Electrical material	6
Cleaning detergents'	7
Glass	8
Tins	9
Plastics	10

3. How is the above waste material disposed of?

Put in a refuse bin	1
Flushed in the toilet	2
Buried in an on-site pit	3
Burnt on site	4
Collected by the local municipality	5

4. What is the collection frequency of waste generated in rooms?

Every day	1
Once a week	2
Once a month	3

5. Do you consider yourself to produce hazardous waste/infectious waste?

Yes 1 No 2

If yes what type?

.....
.....

SECTION C: RECYCLING INITIATIVES

Please tick or write the relevant answer

6. Do you know what recycling is?

Yes 1 No 2

If yes please explain.....

7. Is recycling done in your department?

Yes 1 No 2

If yes what type?

.....

8. Is there any recycling strategy in place? select below

Donation programs	1
Installation of soap and shampoo dispensers	2
Recycling on site	3

9. Do you know the benefits of recycling on site?

Yes 1 No 2

If yes, please explain.....

.....

SECTION D: WASTE MANAGEMENT LEGISLATION

Please tick or write the relevant answer

10. Are you trained on waste management?

Yes 1 No 2

If yes explain

.....

11. Is there a waste management policy on site?

Yes 1 No 2

THANK YOU VERY MUCH FOR YOUR TIME

APPENDIX M



INKCUKACHA YOLWAZI

Isihloko sophando: linkqubo zolawulo lwenkunkuma kwiindawo zokuhlala kwi-King Sabatta Dalindyebo kwimihlaba yonxweme kamasipala waseMpuma Koloni, eMzantsi Afrika

Umphandi oyiNtloko: Nobesuthu Mgambi (BTech: Health Environmental)

Abaphathi mphandi: uNksz Emilie Joy Kistnasamy (MTech: Environmental Health; B. Comm)
: UDkt Georgina Dede Arthur (PhD)

Isalathiso esifutshane kunye nenjongo yesisifundo: ndingumfundi weMasters kwiYunivesithi yaseThekwini yeThekhnoloji eyenza uphando malunga nokulawulwa kwenkunkuma kwiindawo zokuhlala e Coffee Bay naseHole in the wall kumasipala we King Sabatta Dalindyebo. Uyamenywa ukuba uthathe inxaxheba kolu phando loku cacisa iindlela zokulawulwa kwenkunkuma eziphunyeziweyo kwiindawo zokuhlala. Kwakhona, uphando luza kuvavanywa indlela zoncitshiswa kwenkunkuma, kuphinde kujongwe kwimingeni yokulawulwa kwemfucuzo kunye nezikhewu ezifumanekayo kwimithetho yenkunkuma kwiindawo zokuhlala. Imibuzo kunye nohlu lokutshekisha liya kusetyenziswa njengezixhobo zokuqokelela idatha. Oluphando luzakucaphazela abasebenzi abalandelayo: abaphathi, abasebenzi basekhithini, abasebenzi abacoca amagumbi okuhlala kunye nabasebenzi begadi. Bayamenywa ukuba bathathe inxaxheba ukwenzela ukuba iziphumo zophando zifezekiswe.

Inkcazo yeeNkqubo: Abachaphazelekayo baya kufuneka ukuba bazalise iphepha lemibuzo elifutshane elifanelekileyo elihlanganisiwe kwiqela elithile lesampula kwaye ikuyathatha imizuzu elishumi nangaphantsi ukuba uyigcwalise. Iphepha lemibuzo liya kuqhutywa kwiindawo yomsebenzi ngexesha ekuvunyelwene ngalo kwiziko elo umsebenzi asebenza kulo. Umphandi uzoyokujonga kwiindawo zabasebenzi ngexesha ekuvunyelwene ngalo.

Ingozi okanye ukuxhatshazwa kumthathi-nxaxheba: Akukho nto iya kuba yintlungu kumntu othatha inxaxheba, kwaye inxaxheba izokuthathwa ngozithandelayo.

linzuzo: Olu phando luya kunceda amaziko okuhlala njengoko aya kuba neendleko ezincinci xa elawula inkunkuma ngendlela ezifanelekileyo kunye nezicwangciso zokunciphisa inkunkuma, nokwazi ngomthetho okhoyo ngokulawulwa kwe inkunkuma.

Izizathu zokuba kutheni umthathi-nxaxheba angathathi nxaxheba kwiSifundo: Umntu othabatha inxaxheba unokuzirhoxisa kwisifundo nanini na xa enqwena kanjalo.

Umvuzo: Akuyi kubakho mali Ozakuyikhupha ukuba uthabathe inxaxheba kwisisifundo.

Iindleko zoFundo: Umntu othabatha inxaxheba akayi kuba nandleko ngokuthatha inxaxheba kwesifundo.

Inxaxheba eyimfihlo: Imibuzo iza kuhlolwa kuphela ngeliqela lophando kwaye liya kufakwa kwindawo ekhusekileyo Umntu othabatha inxaxheba unokuhlala engaziwa, ukuba ufuna ukwenza njalo kunye nabathathi-nxaxheba baya kwabelwa inombolo yokufunda ukuze baqhubeke beyimfihlelo.

Ukulimala okunxulumene noPhando: Uphando aluyi kubandakanywa nayiphi na into eyenza ukuba kube nokulimala

Abantu ongaqhagamshelane nabo xa kukho iingxaki:

Umphathi mphandi uNksz Joy Emilie Kistnasamy: 031 373 2249 / JoyK@dut.ac.za

Umphandi: Nobesuthu Mgambi: 076 979 8337 / nobsie@webmail.co.za

Okanye

Umlawuli wezoLawulo loPhando kwiziko kulenombolo-031 373 2375. Izikhalazo ziyakwazi ukuxelwa kuMlawuli oPhatheyo: Uphando kunye neNkxaso yezoTitshala, iNkcazo CE Napier ngo-031 373 2577
Okanye i-carinn@dut.ac.za

APPENDIX N



ISIVUMELWANO

- Uyaqinisekisa ukuba uxelelwe ngumphandi, uNobesuthu Mgambi malunga ubunjani, ukuziphatha, iinzuzo kunye neengozi zale sifundo - Inani lophando elinikwe omphandi: 174/18
- Uye wamkela, wafunda kwaye waqonda le ngcaciso ebhaliweyo ngasentla (I-Leta yolwazi) malunga noluphando.
- uyazi ukuba iziphumo zesifundo, kuquka iinkcukacha zobuqu malunga nobulili bakho, ubudala, umhla wokuzalwa, ama-initshiyali kunye nokuxilongwa kuya kuthiwa ingabonakaliswa ngxelo kwingxelo.
- Ngenxa yeemfuno zophando, uyavuma ukuba idatha eqokelelwe kule ngcaciso ingaba iqhutywe kwinkqubo yekhoputha ngumphandi.
- Ndinokuthi, nasiphi na isigaba, ngaphandle kokubandlulula, ukurhoxisa imvume yam nokuthatha inxaxheba kwisifundo.
- Ndinexesha elaneleyo lokubuza imibuzo kunye (kunye nokuthanda kwam mahala) ndizixelele ukuba ndikulungele ukuthatha inxaxheba kwisifundo.
- Ndiyaqonda ukuba iziphumo ezintsha ezifunyenweyo zenziwa ngethuba lophando olunokwenzeka ukumalunga nokuthatha inxaxheba kwam, kuya kufumaneka kum.

Mna, uNobesuthu Mgambi ngqinisisa ukuba le nxaxheba ekhankanywe ngentla iye yaziswa ngokupheleleyo ngohlobo, ukuziphatha kunye neengozi zezifundo ezingentla.

Igama elipheleleyo loMntu
othabatha inxaxheba

Umhla

Ixesha sayina /wobhontsi wasekunene

Igama elipheleleyo loMntu

umhla

sayina

Ophandayo

Igama elipheleleyo leNgqina
(ukuba likhona)

umhla

sayina

Igama elipheleleyo
lomgcini osemthethweni

umhla sayina

APPENDIX O



ABASEBENZI BASEKHITSHINI:

IMIBUZI NGENDLELA ZOKUPHATHA INKUNKUMA KWINDAWO ZOKUHLALA

Inani leNombolo legumbi lokuhlala:.....

Inombolo yesazisi yomthathi nxaxheba:.....

Umhla Uluhlu lokuhlola oluzaliswengalo(dd/mm/yyyy).....

ISAZISO ESIBALULEKILEYO: Nceda uphawule ibhokisi elifanelekileyo okanye ubhale impendulo kwisithuba esinikeziwe

ICANDELO A:IIDEMOGRAPHICS

Isini: Indoda ₁ ibhinqa ₂

Uhlanga: **A** ₁ **I** ₂ **C** ₃ **M** ₄ **Omnye** ₅

Ukuba omnye chaza.....

Ubudala:(Okokuzikhethela)

Khetha uhlobo lweZakhiwo zokuHlala (√)

Ihotele ₁ ilodge ₂ I-Backpacker ₃ I Bnb ₄ iGuest house ₅

ICANDELO B: IINKCUKACHA ZOLAWULO LOKUPHATHWA KWENKUKHUMA

Nceda uphawule okanye ubhale impendulo efanelekileyo

1. Kokuphi ukutya okwenziwa li gumbi lakho lokuhlala?

Ukutya kwethutyana okanye ukutya okuthenga uhambe nako?	1
Ukutya oziphakelayo or I buffet?	2
Ukutya okungesosidlo siphelileyo?	3
Ukutya okusisidlo esiphelileyo?	4
Akuphekwa kweli gumbi lokuhlala?	5

2. Yiyiphi inkunkuma eyenziwa kakhulu ekhishini?

Ukutya okushiyeke xa kutyiwa	1
Iplastiki	2
Amafutha	3
Imifuno	4
Ikhlibhodi kunye namaphepha	5
Iglasi	6
Intsimbi	7
Ezinye	8

3. Zingaphi iingxowa zeenkunkuma eziveliswa ngosuku?

0-5	1
5-10	2
10 ukwenyuka	3

4. Uyilahla njani inkunkuma yakho yasekhishini?

Uyayitshisa	1
uyisakwindawo kamasipala	2
Ithathwa ngumasipala	3
Uyilahla noba kuphi	4
Wenza umgquba	5

ICANDELO

C: AMAPHULO OKUNCIPHISA INKUNKUMA

Nceda uphawule okanye ubhale impendulo efanelekileyo

5. Ngaba uyazi ukuba yintoni ukunciphisa inkunkuma?

Ewe ₁ Hayi ₂

Ukuba uthi ewe chaza.....

.....

.....

6. Ingaba unciphiso nkunkuma luyenziwa ekhitshini?

Ewe ₁ Hayi ₂

7. Yiyiphi inkqubo yokunciphisa inkunkuma eyenziwa ekhitshini

Ukuhlelwa kwenkunkuma	1
Ukwahlukaniswa kwenkunkuma phambi kokulahlwa	2
Nokwenziwa ngokutsha kwezinto ebesezisetyenzisiwe iimveliso ezinokuphinda zisetyenziswe	3
Ukwenziwa komqhuba	4

8. Ngaba uyayazi iinzuzo zokunciphisa inkunkuma

Ewe ₁ Hayi ₂

Ukuba uthi ewe chaza.....

.....

ICANDELO D: IMITHETHO NGOKUPHATHWA KWEENKQUBO ZENKUNKUMA

Nceda uphawule okanye ubhale impendulo efanelekileyo

9. Ngaba kukho umgaqo-nkqubo wokulawulwa kwenkunkuma kwindawo yakho yokusebenza?

Ewe ₁ Hayi ₂

10. Ngaba uqeqeshiwe kwimithetho yolawulo lwenkunkuma?

Ewe ₁ Hayi ₂

Ukuba uthi ewe chaza.....

.....

.....

Enkosi ngexesha lakho.

APPENDIX P



ABASEBENZI BASEGADINI:

IMIBUZI NGENDLELA ZOKUPHATHA INKUNKUMA KWINDAWO ZOKUHLALA

Inani leNombolo legumbi lokuhlala:.....

Inombolo yesazisi yomthathi nxaxheba:.....

Umhla Uluhlu lokuhlola oluzaliswengalo(dd/mm/yyyy).....

ISAZISO ESIBALULEKILEYO: Nceda umaka ibhokisi elifanelekileyo okanye ubhale impendulo kwisithuba esinikeziwe

ICANDELO A: IIDEMOGRAPHICS

Isini: Indoda ₁ ibhinqa ₂

Uhlanga: **A** ₁ **I** ₂ **C** ₃ **M** ₄ **Omnye** ₅

Ukuba omnye chaza.....

Ubudala:(Okokuzikhethela)

Khetha uhlobo lweZakhiwo zokuHlala (√)

Ihotele ₁ ilodge ₂ I-Backpacker ₃ I Bnb ₄ iGuest house ₅

ICANDELO B: IINKCUKACHA ZOLAWULO OKUPHATHWA KWENKUKHUMA

Nceda uphawule okanye ubhale impendulo efanelekileyo

1. Luhlobo luni lwenkunkuma oyenzayo ukungosuku khetha koluhlu lulandelayo?

Inkunkuma yemithi	1
Inkunkuma yengca	2
Inkunkuma yongutyulo lwegadi	3
Inkunkuma yokuphungulwa kwe mithi yegadi	4
I peyinti	5
Amalahle emoto amadala	6
Amayeza okubulala izinambuzane	7
Amayeza	8

2. Uyibeka phi inkunkuma yakho?

Kumqhomo wenkunkuma	1
Emseleni	2
Kwindawo nayiphi na ekufutshane	3
Ndenza umqhuba	4

3. Zingaphi iingxowa zenkunkuma ozivelisa ngeveki?

1-5	1
5-10	2
10 ukuya phezulu	3

ICANDELO C: AMAPHULO OKUNCIPHISA INKUNKUMA

Nceda uphawule okanye ubhale impendulo efanelekileyo

4. Ngaba uyazi ukuba yintoni ukunciphisa inkunkuma?

Ewe ₁ Hayi ₂

Ukuba uthi ewe chaza.....

.....

.....

5. Luyenziwa unciphiso nkunkuma kwindawo yakho yokuphangela?

Ewe ₁ Hayi ₂

Ukuba uthi ewe chaza

.....

.....

6. Ingaba uyawenza umqhuba ngenkunkuma yegadi?

Ewe ₁ Hayi ₂

7. Ngaba uyayazi iinzuzo zokunciphisa inkunkuma?

Ewe ₁ Hayi ₂

Ukuba uthi ewe chaza

.....
.....

ICANDELO D: IMITHETHO NGOKUPHATHWA KWEENKQUBO ZENKUNKUMA

Nceda uphawule okanye ubhale impendulo efanelekileyo

8. Ngaba kukho umgaqo-nkqubo wokulawulwa kwenkunkuma kwindawo yakho yokusebenza?

Ewe ₁ Hayi ₂

9. Ngaba uqeqeshiwe kwimithetho yolawulo lwenkunkuma?

Ewe ₁ Hayi ₂

Ukuba uthi ewe chaza.....

.....
.....

Enkosi ngexesha lakho

APPENDIX Q



ABASENZI BOKUCOCA

IMIBUZI NGENDLELA ZOKUPHATHA INKUNKUMA KWINDOWO ZOKUHLALA

Inani leNombolo legumbi lokuhlala:.....

Inombolo yesazisi yomthathi nxaxheba:.....

Umhla Uluhlu lokuhlola oluzaliswengalo(dd/mm/yyyy).....

ISAZISO ESIBALULEKILEYO: Nceda umaka ibhokisi elifanelekileyo okanye ubhale impendulo kwisithuba esinikeziwe

ICANDELO A: IIDEMOGRAPHICS

Isini: Indoda ₁ ibhinqa ₂

Uhlanga: **A** ₁ **I** ₂ **C** ₃ **M** ₄ **Omnye** ₅

Ukuba omnye chaza.....

Ubudala:(Okokuzikhethela)

Khetha uhlobo lweZakhiwo zokuHlala (✓)

Ihotele ₁ ilodge ₂ I-Backpacker ₃ I Bnb ₄ iGuest house ₅

ICANDELO B: IINKCUKACHA ZOLAWULO OKUPHATHWA KWENKUKHUMA

Nceda uphawule okanye ubhale impendulo efanelekileyo

1. Zingaphi iingxowa zenkunkuma ozivelisa ngeveki?

1-5	1
5-10	2
10 ukuya phezulu	3

2. Kucelwa ukhetha inkunkuma echaphazelekayo eyenziwa kwigumbi.?

I pads zomama	1
Inapkeni	2
Ibhotile eziphelileyo zento zokuhlamba	3
I fenitshala endala	4
I peyenti	5
Into zombane	6
Into zokucoca	7
Iglasi	8
Inkonkxa	9
Iplastiki	10

3. Le nkunkuma ingentla ilahlwa njani?

i Fakwa kumgqomo	1
Ilahlwe kwindlu yangasese	2
Iyangcwatywa	3
Iyatshiswa	4
Iqokelelwa ngumasipala wengingqi	5

4. Iqokelelwa kangaphi eveliswe kumagumbi?

Yonke imihla	1
Kanye ngeveki	2
Kanye ngenyanga	3

5. Ingaba uvelise inkunkuma eyingozi?

Ewe ₁ Hayi ₂

Ukuba uthi ewe chaza.....
.....
.....

ICANDELO C: AMAPHULO OKUNCIPHISA INKUNKUMA

Nceda uphawule okanye ubhale impendulo efanelekileyo

6. Ngaba uyazi ukuba yintoni ukunciphisa inkunkuma?

Ewe ₁ Hayi ₂

Ukuba uthi ewe chaza.....
.....
.....

7. Luyenziwa unciphiso nkunkuma kwindawo yakho yokuphangela?

Ewe ₁ Hayi ₂

Ukuba uthi ewe chaza

.....
.....

8. Ngaba sikhona isicwangciso sokunciphisa inkunkuma esenziweyp? ukhethe ngezantsi

linkqubo yokuphisa ngezinto	1
Ukufakwe kwesepu ezigalelwayo	2
Ukuncitshiswa kwenkunkuma esayithini	3

9. Ngaba uyayazi iinzuzo zokunciphisa inkunkuma?

Ewe ₁ Hayi ₂

Ukuba uthi ewe chaza

.....
.....

ICANDELO D: IMITHETHO NGOKUPHATHWA KWEENKQUBO ZENKUNKUMA

Nceda uphawule okanye ubhale impendulo efanelekileyo

10. Ngaba kukho umgaqo-nkqubo wokulawulwa kwenkunkuma kwindawo yakho yokusebenza?

Ewe ₁ Hayi ₂

11. Ngaba uqeqeshiwe kwimithetho yolawulo lwenkunkuma?

Ewe ₁ Hayi ₂

Ukuba uthi ewe chaza.....

.....

Enkosi ngexesha lakho

