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EXAMINATION OF MEDIA COVERAGE ON WASTE MANAGEMENT PRACTICES

IN GHANA

BY

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CANDIDATE'S DECLARATION

I hereby affirm that the ideas in this research are mine towards attaining MA in Development Communication. This work to the best of my knowledge has not in any way been submitted and or contains no materials hitherto published in part or in whole by another person to any academic body or institution for the award of Degree or Certificate. The references made have been duly and formally acknowledged or cited.

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SUPERVISOR'S DECLARATION

I hereby declare that the preparation of this dissertation was supervised by me in accordance with the guidelines of supervision of dissertation laid down by School of Graduate Studies and Research, Ghana Institute of Journalism.

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.....

Dr. Richard Boateng

Date

(Supervisor)

DEDICATION

I dedicate this dissertation to God Almighty, my supervisor, my mom, my children Alexia, Alexis and Alex. The love and support you offered sustained me through it all.

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First, I would like to thank the Almighty God for guiding me and giving me the needed strength to finish this dissertation within the stipulated time. Secondly, I will like to thank Dr. Richard Boateng who painstakingly supervised my project work. God richly bless you for taking time off your busy schedules to assess and attempt at addressing any shortcomings in order for my dissertation to become exceptional. To Mr. Mathias Tibu also of Ghana Institute of Journalism, your constructive criticisms and input and selfless attention went a long way to shape this work.

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ABSTRACT

Managing waste has been one of the major conundrums facing Ghana. A lot of people including authorities do not know how to properly waste therefore waste has been causing harm to humans, animals and the environment. The media are of paramount importance because they inform, educate and entertain the masses. In view of this, the study sought to examine media coverage on waste management practices in Ghana. Moreover, the study focused on the state of media coverage on waste management in Ghana, types of waste reported by the media, repercussions of waste reported by the media, waste management practices reported by the media and sources cited by the media. Digital media, specifically news sites were selected for the study. Simple random sampling was used to select two of Ghana's reputable news sites, thus graphic.com.gh and myjoyonline.com. Waste management articles published by graphic.com.gh and myjoyonline.com from 1st January, 2020 to 15th September, 2020 were considered for the study. The content on the articles were analyzed using quantitative techniques. It was found out that the media have not really been paying attention waste and waste management. Their publication on waste management was extremely low. The type of waste the media reported on include solid waste, liquid waste, gaseous waste and radioactive waste. Moreover, the media reported that waste leads to health problems, contamination, floods and climate change. The study brought to the fore that the waste management practices reported by the media include landfill, incineration, recycling, mechanical biological treatment and composting. The study recommends that media should give waste management the maximum attention since managing waste is one of the cankers facing the country and must incessantly educate the public/readers on the harmful effects of waste as well as the proper ways of managing waste.

CHAPTER ONE

INTRODUCTION

1.1 Background to the Study

The incessant activities of humans generate tons of waste every day. This was not a canker when the human population was relatively small. The situation exacerbated on the back of urbanization and the growth of several conurbations (Giusti, 2009). One of the environmental challenges confronting developing countries is the insalubrious disposal of waste. It is a problem addressed by the United Nations at the 1992 Conference on Environment and Development in Rio de Janeiro and was recognized as a major obstacle in the sustainability of the environment (Ifegbesan, 2009). The aftermath of the conference on environment and development was that countries embraced and implemented Environmental Impact Assessment (EIA) policies, undated legislation, strategies as well as guidelines that required communicating of information and public consultation on projects for which development permits were required (Ifegbesan, 2009).

Principle 10 of the Rio Declaration indicates that “environmental issues are best handled with the participation of all concerned citizens, on a relevant level. On a national basis, each individual should have appropriate access to information concerning the environment that is held by public authorities, including information on hazardous materials and activities in their communities, and the opportunity to participate in decision-making processes. States should facilitate and encourage public awareness and participation by making information widely available. Effective access to judicial and administrative proceedings, including redress and remedy, should be provided” (Squires, 2006:1).

Poor waste management contaminates water, soil, and atmosphere and also harms the health of humans and animals. During the primitive era, pandemics as a result of water contaminated with pathogens decimated an overwhelming majority of people in Europe. Even in recent times, cholera has become one of the common diseases (Giusti, 2009). Poor waste management practices specifically the prevalent dumping of wastes in water bodies, uncontrolled dumpsites exacerbate the problems of low sanitation levels in Africa (United Nations Economic and Social Council, 2009). According to Kalantari & Asadi (2009), environmental problems as well as the changes in living conditions have become part of the world and conurbations.

Waste is an amalgam of diverse heterogeneous discarded materials. “Waste problems affect land, air and water not to mention its hazards to health and other natural resources of social and economic importance” (Agbede & Ajagbe, 2004: 92). A litany of environmental hazards is linked with the mismanagement of refuse. Solid wastes that are not properly stored, collected and disposed off lead to short term and long term health risks (Ajayan & Saharsh, 2004). In the long term, there may be dangers emanating from waste dumps specifically on ground and to the pollution of drinking water sources. Flies emanate due to uncovered piles of rotting refuse and the flies transmit faecal-oral diseases. Moreover, Anopheles mosquitoes live in these conditions and transmit malaria, yellow fever, and other diseases particular when it rains. Rats also live in these conditions because their main source of food is refuse and in dump yards. They multiply and move to neighbouring houses. They transmit a myriad of diseases such as diarrhoea, cholera, typhoid among others (Akpoghiran, 2015).

Furthermore refuse that are not managed properly can cause fire. Flammable waste materials dumped at dump yards cause fire when hot ashes are inadvertently added to wastes. Many a times,

the fire starts with resorting to open burning of refuse. When the open dumps are fired, toxic substances are released into the atmosphere. Burning of refuse leads to loss of valuable recyclable material and land degradation. Moreover burning of materials such as plastics, electronic components, tires, polythene and other substances produces harmful gases into the atmosphere causing pollution. Refuse that are not managed properly can lead to water pollution by rain washing debris out of piles and into surface water. The stench from the refuse is also unpleasant to the environment (Akpoghiran, 2015).

Proper dump sites and containers are not provided by the authorities which therefore triggers people to dump waste in open street drains and urban waterways. Waste dumped at water channels blocks running water causing flood (Ajayan & Saharsh, 2003). Even when the authorities provide proper dump sites and containers, poor public attitudes of improper waste disposal as well as utilization of waste containers and lack of self-consciousness of a clean environment are the challenges of waste management (Ifegbesan, 2009). In times past, environmental problems were regarded as technical and economic problems. However in recent times, the social dimensions of environmental problems such as public attention and people's attitudes towards the environment have become one of the areas of environmental sociology and environmental psychology (Kalantari & Asadi, 2009).

Here in Ghana, environmental conditions in a couple of conurbations are horrendous due to inadequate provision of services such as water supply, sanitation and waste disposal. These problems hinder the socio-economic development of the country as well as improvements in the lives of individuals (Songsore, 2004). According to Tamakloe (2006), lack of institutional capacity to plan and manage urban settlements and face the challenges associated with urbanization is a major contributing factor to the poor environmental conditions in Ghana. Waste

disposal is a menace that seems to overpower the authorities. In view of this, Tamakloe (2006) refer to it as a “nightmare”.

Communication is salient because it plays a vital role in shaping people’s understanding of the natural world. The media could be a potent force for public enlightenment and popular education (McQuail, 2010). Communication is the terrain whereby a plethora of viewpoints are negotiated (Carvalho, 2009). The media are of paramount importance in the sense that they can be used to amplify environmental issues and also influence the course of policy and behavioural change (Akpoghiran, 2015). The European Commission for Environment posits that the cause of environmental problems as well as possibilities for addressing them is heavily dependent on human perceptions and attitudes which are related to values, preferences and beliefs about the world. Akpoghiran & Okoro (2014) believe that mass enlightenment via the media can help influence and persuade people to alter their beliefs, promote their value and attitudes towards waste.

1.2 Problem Statement

Waste disposal and management is a conundrum affecting our conurbations and environment. Everybody is considered to be a generator of waste hence a contributor to this conundrum. The problem of waste management is due to people’s attention and attitudes towards the environment or on the level of concern to the environment which could be affected by environmental awareness, attitudes and behaviours, values, and actions (Kalantari & Asadi, 2010). Goal 5, goal 6, and goal 7 of the United Nations Millenium Development Goals (MDGs) are to improve maternal health, to combat HIV/AIDS, malaria and other diseases and to ensure environmental sustainability respectively. All three goals relate to a healthy environment. Proper management or protection of the environment is still a major challenge confronting governments at all levels

(Akpoghiran & Okoro, 2014). The concentration of population and business activities in cities in Ghana is perpetually accompanied by an upsurge in the volume of solid waste generated from production and consumption activities. Those at the helm of affairs are struggling to organize adequate collection and safe disposal of waste in the various jurisdictions (Baabereyir, 2009). Urban settlements in Ghana overburdened with persistent waste problems which threatens public health and environment. Accumulation of garbage, heavy street litter, waste-clogged drains and water bodies and stinking gutters have become the order of the day (Baabereyir, 2009). The role of the media is to inform, educate and entertain. The media play an important role in the society because they provide the public with news on a daily basis that leads to the development of the society. The news the media provide are very informative because they help the public keep up with the pace of events around them and across the globe. However with regards to information and education on waste management, the media have been failing the general public. Rukeh & Ogbemi (2007) conducted a study on communication as a tool for the management of waste. They revealed that poor environmental reporting on the part of the media is also a conundrum. It is therefore prudent to examine media coverage on waste management practices in Ghana.

1.3 Research Objectives

1.3.1 General Objective

The study sought to examine media coverage on waste management practices in Ghana.

1.3.2 Specific Objectives

1. To determine the state of media coverage on waste management in Ghana.
2. To examine the types of waste reported by the media.
3. To ascertain the repercussions of waste reported by the media.

4. To assess the waste management practices reported by the media.
5. To determine the sources of new stories.

1.4 Research Questions

1. What is the state of media coverage on waste management in Ghana?
2. What are the types of waste reported by the media?
3. What are the repercussions of waste reported by the media?
4. What waste management practices are reported by the media?
5. Who are the sources cited in the news stories?

1.5 Significance of the Study

The study will be meritorious to a couple stakeholders such as government, media outlets, general public and academicians.

First and foremost, the government of Ghana would get to know the real situation on the ground with regards to waste and its repercussions on humans and the environment. This will help the government come up with policies to deal with the canker.

Secondly, the media outlets will get to know the lacuna in their reportage on waste management. In ascertaining this, they will give their all when reporting on waste management.

The study will also inform the general public on how to properly manage waste in their respective vicinities to avoid diseases, pollution and land degradation.

The study will also serve as a literature for other researchers who will be willing to research on the same area of study.

1.6 Scope of the Study

The scope of the study is limited to media coverage on waste management practices in Ghana. Digital media was chosen for the study, specifically news websites of some media outlets. The news websites were selected for the study because data was easily accessible compared to traditional media. Two news websites were selected for the study and they were graphic.com.gh and myjoyonline.com. News stories published on waste management by the selected news websites from 1st January, 2020 to 15th September, 2020 were used for the study. The content of the news stories were analyzed using quantitative techniques.

1.7 Organization of the Study

The study were organized into five chapters.

Chapter one which depicts the introductory chapter emphasizes on the background to the study, statement of the problem, research objectives, research questions, significance of the study, scope of the study and the organization of the study. Chapter two reviews relevant literature, both theoretical and empirical. The theoretical literature focuses on definitions, concepts, and ideologies regarding waste management whiles the empirical literature highlights studies by other researchers in the area of study. Chapter three also presents the methodology used in the research which includes the research design, sampling, source of data, coding parameters and statistical analysis. Chapter four consists of data analysis and discussions of findings. Chapter five which is the concluding chapter contains the key findings of the study, recommendations and conclusion.

CHAPTER TWO

LITERATURE REVIEW

2.1 Introduction

This chapter focuses on both theoretical and empirical literature. The theoretical literature focuses on theories on waste management, concepts in waste management, environmental concern, waste hierarchy, waste management practices as well as communication and waste management. The empirical literature focuses on similar studies done in this area of study.

2.2 Theoretical Literature

2.2.1 Theories on Waste Management

The theories used to analyze the concept of waste management include Waste Management Theory and Value Change Theory.

2.2.1.1 Waste Management Theory

Waste management theory was propounded by Pongrácz, Philips & Keiski (2004) and has been introduced into environment sciences. Waste management theory is an amalgamated body of knowledge about waste and waste management. The theory was propounded on the expectation that waste management is to prevent waste that cause harm to human health and the environment and also promote resource use optimization. In other words, the fundamental cardinal goal of waste management theory is to integrate the minimization of waste and/or resource use optimization goals and values. It is an effort to organize various variables of waste management system as it stands today. Moreover, waste management theory is within the paradigm of industrial

ecology and also built side by side with other pertinent theories particularly Design Theory (Pongrácz et al, 2004).

2.2.1.2 Value Change Theory

The value change theory makes use of the technique of comparative feedback to encourage attitudinal and behavioural change (Folarin, 2005). It indicates that other than informing people regarding the harmful or positive effects of certain kinds of behaviour, methods based on value change theory pushes the people to test their own values against others, which are assumed to be socially acceptable. The hypothesis is that since values trigger attitudes which also trigger behaviour, it is presumed that a change in value will result in corresponding changes in attitude and behaviour (Folarin, 2005).

Individuals must have clear information regarding the ranking of their present value. This is the juncture where the role of the media with regards to informing and educating becomes more important. It is expected of the media to inform or educate the general public about their behaviours and attitudes that might be inimical and detrimental to the environment. Harmful attitudes and behaviours of individuals towards to the environment are regarded as value-action gap. This term is used to describe the gap that occurs when the values or attitudes of people do not correlate with their actions. Media campaigns on waste management can help change the values of people as well as promote environmental values (Akpoghiran, 2015).

2.2.2 Concepts in Waste Management

2.2.2.1 Definition of Waste

A significant number of literature has centered on waste problem however the definition of the term “waste” has rarely been written about. According to Palmer (2005), “the term is frequently

left as an undefined primitive in spite of its critical importance and frequently, a list of types of waste is substituted for the underlying definition”. Definitions of “waste” are rather seen in documents such as encyclopaedia, dictionaries and technical reports of governments and organizations. The Longman Dictionary of Contemporary English (p.162) defines waste as “the unwanted material or substance that is left after you have used something”. Moreover the New Shorter Oxford English Dictionary on Historical defines waste as “the unusable material left over from a process of manufacture, the use of consumer goods etc, or the useless by-products of a process”. According to Davies (2008:4), wastes are “unwanted or unusable materials that emanate from numerous sources from industry and agriculture as well as businesses and households ... and can be liquid, solid or gaseous in nature, and hazardous or non-hazardous depending on its location and concentration”. Davies (2008:5) in addition indicates that “what some people consider to be waste materials or substances are considered a source of value by others”.

2.2.2.2 Classification of waste

A plethora of criteria are normally used to classify wastes into various types and they include their sources, physical state, material composition as well as the level of risk associated with waste substances. The classification of waste provides a ground for development of right waste management practices (World Bank, 1999).

Table 2.1 Classification of Waste

Criteria for waste classification	Examples of waste types
Sources or premises of generation	Residential, commercial, industrial, municipal services, building and construction, agricultural
Physical state of waste materials	Liquid, solid, gaseous, radioactive
Material composition of waste	Organic food waste, paper and card, plastic, inert, metal, glass, textile
Level of risk	Hazardous, non-hazardous

Source: World Bank (1999)

The source classification of waste is based on the premise that waste generated comes from various sectors of society such as residential, commercial and industrial sources. The source classification of waste was by World Bank (1999) based on a study in Asia. The classifications include residential, commercial, industrial, municipal services, construction and demolition, processing and agricultural sources.

Table 2.2 Sources and Types of Waste

Sources	Typical waste generators	Types of solid waste
Residential	Single and multifamily dwellings	Food wastes, paper, cardboard, plastics, textiles, glass, metals, ashes, special wastes (bulky items, consumer electronics, batteries, oil, tires) and household hazardous wastes
Commercial	Stores, hotels, restaurants, markets, office buildings	Paper, cardboard, plastics, wood, food wastes, glass, metals, special wastes, hazardous wastes
Institutional	Schools, government center, hospitals, prisons	Paper, cardboard, plastics, wood, food wastes, glass, metals, special wastes, hazardous wastes
Municipal services	Street cleaning, landscaping, parks, beaches, recreational areas	Street sweepings, landscape and tree trimmings, general wastes from parks, beaches, and other recreational areas
Construction and demolition	New construction sites, road repairs, renovation sites, demolition of buildings	Wood, steel, concrete, dirt
Process(manufacturing, etc)	Heavy and light manufacturing, refineries, chemical plants, power plants, mineral extraction and processing	Industrial process wastes, scrap materials, off-specification products, slay, tailings
Agriculture	Crops, orchards, vineyards, dairies, feedlots, farms	Spoilt food wastes, agricultural wastes, hazardous wastes (e.g. pesticides).

Source: World Bank (1999)

Many a times, the material composition of waste is used to classify wastes into organic waste, paper and cardboard, plastic, glass, ceramics, textiles metal and inert waste. Classification of waste on the back of material composition was brought to light by the Surrey County, UK in 2002/2003.

Table 2.3: Material classification of waste

Waste type	Examples
Paper	Newspapers, cardboards, office waste paper, magazine/glossy
Plastics	Bottles, expanded polystyrene, film plastic, other rigid plastics
Glass	Clear glass, green glass, amber glass, non-recyclable glass
Metals	Steel cans, aluminum cans, other ferrous, other aluminum
Organics	Yard waste-grass, yard waste-other, wood, textiles, diapers, fines, other organics
Inorganic	Electronics, carpets, drywall, other construction and demolition, other inorganic

Source: Surrey Country (2002/2003)

On the back of the physical state of waste substances, the materials in the waste stream can be categorized into liquid, solid, gaseous and radioactive wastes (World Bank, 1999).

Table 2.4: Classification of waste based on physical state of waste substances

Waste type	Examples
Liquid waste	Sewage sludge, waste water from bath house and kitchens
Solid waste	Food waste, paper, plastic, metal, debris
Gaseous waste	Factory smoke, vehicle exhaust smoke, fumes from burning waste dumps
Radioactive waste	Radiation, uranium, plutonium, excess energy

Source: World Bank (1999)

The potential health or pollution risk of waste materials is also used to classify waste materials into hazardous and non-hazardous waste. US EPA (2008) defines hazardous waste as wastes with properties that make them potentially harmful to human health and environment. Hazardous wastes can be in the form of solids, liquids, contained gases or sludge. Moreover hazardous waste can be the by-products of manufacturing processes or discarded commercial products such as cleaning fluids or pesticides. Due to the potential pollution danger hazardous wastes pose, they require rigorous and cautious methods of disposal (US EPA, 2008). Making inferences from the EPA's Hazardous Waste Listings (2008), the categories of hazardous waste entail corrosive waste, ignitable waste, reactive waste, toxicity characteristic waste, acute hazardous waste and toxic

waste. Special waste is a type of hazardous waste is very dangerous to treat, keep or dispose of. This type of waste requires special disposal arrangements. An example of special waste is hard clinical waste such as contaminated swabs, sharps and human parts (US EPA, 2008). Non-hazardous waste on the hand is not that dangerous and can effortlessly be dealt with. Examples of non-hazardous waste include inert materials such as uncontaminated earth and excavated waste such as gravels, concrete slates, bricks and sand (US EPA, 2008).

In addition, waste can also be classified into biodegradable and non-biodegradable waste. Biodegradable waste comes from plant or animal sources and can be broken down by bacterial action or other living organisms. In view of this, the lifespan of biodegradable waste in the environment is short. Moreover biodegradable waste can be found in municipal solid waste such as food waste, yard waste and paper. Human excreta, sewage, slaughterhouse waste and droppings of animals are all part of biodegradable waste materials (Lapidos, 2007). On the other hand, non-biodegradable waste is a type of waste substance that cannot be broken down by natural processes or living organisms. Examples of non-biodegradable waste include ceramics, plastics and metals (Lapidos, 2007).

2.2.3 Environmental Concern

Environmental concern is regarded as one of the first steps with regards to environmental management. It integrates a compendium of dimensions in the sense that attitude reflects diverse aspects about humans and nature such as awareness of ecological problems, exhibition of eco-conscious behaviour, green movement and support for environmental regulation. Environmental concern basically has to do with a person's attitude towards the environment or the nexus between humans and the ecosystem (Bao, 2009). A significant number of research has been conducted on

environmental concern. The results of some research revealed that people who tended to be environmental conscious were likely to be young and well educated (Dietz & Kalof, 2003). It was later realized that demographic variables are not sufficient in elucidating environmental consciousness and eco-friendly behaviour however the willingness to embrace a responsible environmental behaviour is key (Haytko & Matulich, 2009).

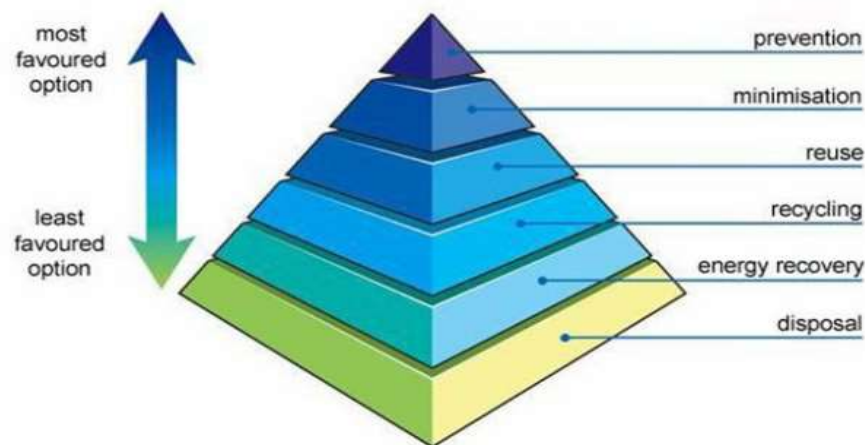
Environmental consciousness is the first step towards solid waste management. A significant number of research also indicates that environmental consciousness is key and essential to pro-environmental behavioural change (Haytko & Matulich, 2009). One of the studies recommended that “personal attachment to the environment can encourage pro-environmental behaviours, ranging from environmental such as ecological relevant petition for pro-environmental laws and regulations, membership in anti-pollution organizations to energy conservation and responsible use of resources” (Bao, 2009:6). According to Post (2007), environmental concern has the tendency of having a bearing on people’s propensity to behave in a manner favourable to the environment like solid waste management. Post (2007:21) “investigated whether general environmental attitudes and concern are strong predictors of behaviour when the amount of effort required for the behaviour is high. The research showed that environmental concern predicted recycling behaviour only when the amount of effort required for action was high. Instead, behaviours have proven to be more significantly influenced by specific attitudes about recycling, like knowledge of waste reduction methods, access to programmes, time, effort, and convenience”.

2.2.4 Waste Hierarchy

Appropriate waste management practices are explained with the waste management hierarchy. The waste management hierarchy has wholly been embraced as a national and international guide for

prioritizing waste management practices with the aim of achieving the best environmental results (Mariwah, 2012). The hierarchy sets the preferred order of waste management practices, from most preferred to least preferred. Energy recovery is a favourable form of disposing off waste. This method works by recycling some forms of waste into a fuel source for heating, powering turbines and cooking. Recycling is referred to as the method of extracting resources or value from waste, thus recovering or reusing a certain material (Adu-Boahen, Atampugre, Antwi, Osman, Osei, Mensah & Adu-Boahen, 2014). There are a plethora of methods of recycling materials and they include extracting and reprocessing raw materials, converting the calorific content of waste into electricity, physical and biological reprocessing etc. Reuse requires less energy compared to recycling. Factors such as the consumer desire for “newness” can conspire against reuse. There are a number of methods clothes, books, buildings, cars and other materials are reused (Adu-Boahen et al., 2014).

Figure 2.1 Ideal Waste Management Pyramid



It is not reasonable to pay financial and energy/greenhouse costs for waste two times, first to create it and secondly to dispose it off. Prevention is the apex zero waste challenge, in other words the highest point on the waste management hierarchy is prevention. The volume as well as the rate at

which resources are channeled via the human economy should decelerated. In order to effectively address the zero waste and climate change agenda, there must be a move beyond recycling into the uncharted territory of the higher end of the hierarchy, to reuse and prevent with emphasis on eco-efficiency (Adu-Boahen et al., 2014).

2.2.5 Waste Management Practices

2.2.5.1 Landfill

Landfill is a method of disposing waste on land devoid of creating nuisances or hazards to public health or safety. It is done by making use of the principles of engineering to confine the waste to the smallest practical volume as well as covering it with a layer of earth at the end of each day's operation or incessant intervals (Ukpong, 2006). A more modern engineered landfill comprises a waste containment liner system which isolates waste from the subsurface environment, systems for collecting and managing leachate and gas and placing a final cover after waste deposition is done (Laner, Sharff, Morris & Barlaz, 2012).

One of the major outputs of landfill is methane and it is produced via the decomposition of organic wastes under anaerobic conditions. Landfill gas that comes from the landfill operation can be used in a gas engine to generate electricity. It can also be used into a natural gas grid or for direct utilization as transport fuel (UNEP, 2015). According to Eunomia (2015), a known technique to pre-treat waste before it can be disposed in landfill is mechanical biological treatment. This can lead to the material to be landfilled being relatively harmless and not so strong to generate methane and leachate.

2.2.5.2 Incineration

Incineration is the combustion of waste for recovering energy. Under conditions of high temperature, these waste treatments are seen as thermal treatments. Incineration reduces the form of waste from 96% to 95% and this reduction is heavily dependent on the recovery degree and composition of materials. This clearly indicates that incineration does not supersede landfilling but minimizes the amount to be disposed in that manner (Waste Management Resources, 2009). Incinerators convert waste materials into heat, gas, steam and ash. Incineration is done on a small scale by individuals and on a large scale by industries. This method is used to dispose of solid, liquid and gaseous waste. It is seen as a practical method of disposing of some hazardous waste materials. Moreover, incineration is a controversial method of waste disposal basically because of issues such as emission of gaseous pollutants (Bacinschi, Rizescu, Stoian & Necula, 2015).

2.2.5.3 Recycling

Halkos (2013) defines recycling as the systematic collection, processing and reuse of materials. The materials include paper, iron, glass, plastic, aluminium products and wood. Akpoghiran (2015) also defines recycling as the conversion of a useless material into a valuable material. Recycling entails the collection of recyclable materials, sorting the material out into generic type, processing into densified form for sale to reclaimer and modifying the densified material into a marketable product (Akpoghiran, 2015). Recycling comes with a plethora of benefits hence it has become a very important aspect of waste management. Recycling reduces the amount of waste sent to landfills and incinerators, conserves natural resources such as timber, water and minerals, saves energy, minimizes greenhouse gas emissions that contribute to global climate change, prevents pollution by reducing the need to collect new raw materials, helps sustain the

environment for future generations and also helps create new well-paying jobs in the recycling and manufacturing industries (Environmental Protection Agency, 2016).

2.2.5.4 Mechanical Biological Treatment

Eunomia (2015) defines mechanical biological treatment (MBT) as a process designed to optimize the use of resources by recovering materials for one or several purpose and stabilizing the organic fraction of residual waste. Defra (2013) indicates that mechanical biological treatment is a residual waste treatment process which is an amalgam of mechanical and biological treatment. Mechanical biological treatment comes with some benefits and the benefits are that materials and energy can be recovered and space requirements are minimized. Moreover gas and leachate emissions from landfill are minimized (Eunomia, 2015).

There are two basic ideas behind the systems of mechanical biological treatment thus separate the waste and then treat or to treat the waste and then separate (Defra, 2013). Processes of aerobic biological unit are utilized to stabilize the organic fraction in order to curtail its biodegradability and therefore its ability to generate methane whiles processes of anaerobic biological unit help produce biogas from the organic portion of municipal solid waste (UNEP, 2015).

2.2.5.5 Composting

Composting refers to the biodegradation of organic matter through an aerobic process which converts organic matter into a stable humic substance (Eunomia, 2015). In an overwhelming majority of developing countries, 50% to 70% of the municipal solid waste are organic materials. They are suitable for composting so the process can be furthered via separation at a source (UNEP, 2015). With regard to this process, the micro-organisms employed are part of the three main categories, thus bacteria, fungi and actinomycetes. The fundamental factors needed to achieve

effective composting are air supply, moisture content, temperature, the porosity of the material and its carbon to nitrogen ratio (Eunomia, 2015). According to UNEP (2015), waste composts can be used for land reclamation and as a soil remover in landscaping, agriculture and horticulture due to its ability to better the biological and physical properties of soil in particular of use in arid regions.

2.2.6 Communication and Waste Management

A number of studies have revealed that communication has aided in the promotion of environmental behaviour. Rim-Rukeh & Ogbemi (2007:493) indicate that “communication can help individuals to understand the interaction between resources (natural) and the environment”. Nwabueze (2007:47) defines environmental communication as a “conscious communicative effort to bring people to the knowledge of environmental problems around them; encourage to desist from actions that are harmful the environment and sensitize them to show greater commitment to activities aimed at safeguarding the environment”. Nwabueze (2007:45) indicates that “communication is an integral part of environmental management because it is central to every activity and as such would be used in coordinating the resources for a synergistic approach to management of the environment. Therefore environment communication consists of all forms of communication to keep the public enlightened about and aware of environmental issues and trends. It is based on this reason that the role of communication in solid waste management becomes imperative”.

According to Akpoghiran (2015), the roles highlighted by Rim Rukeh & Ogbemi (2007) are to raise awareness in environmental issues and it can be used in the promotion of responsible environmental behaviour, particularly solid waste management. This aids government and its agencies ascertain areas where waste management needs urgent attention (Akpoghiran, 2015).

Macawile & Sia Su (2009:64) believe that effort through communication is needed in order to “incorporate the interests of both the community leaders and the public in understanding their roles, relationships and contributions through their perceptions and attitudes as all are recognized as important stakeholders in attaining a sustainable environmentally oriented effort”.

Agbanu & Nwabueze (2007) spearheaded that application of traditional media in environmental management. They were of the belief that traditional media are powerful tools for channeling environmental management communication with the aim of convincing the masses, specifically rural masses to embrace a participatory approach to environmental management. Communication is one of the salient means by which people in any environment could relate (Akpoghiran, 2015). In buttressing the importance of communication, Nwubeze (2007:46) indicates that “communication is a fundamental process of socialization of people in any given environment”. Communication goes beyond just the sharing of information but as a way of having an impact on the beliefs, views and perceptions of people and also to persuade behavioural and attitudinal change. The public holds the media in high esteem hence they rely on them for information (Akpoghiran, 2015).

McQuail (2010) is of the belief that the media causes a change in the environment anytime they set an agenda. Communication influences the perceptions of the general public on diverse issues. In buttressing this stance, Alabi (2010:220) indicates that “messages received from the media affect our thoughts and beliefs formation as well as responses to attitude”. According to Akpoghiran (2015), mass communication messages may not change existing deep rooted attitudes but will rather influence it. The primary objective is to activate public efforts towards behavioural change in environmental management. Behavioural change for environmental management may require constant and systematic set of applications or activities to achieve desired objectives. This can be

achieved via incessant public enlightenment campaign. Nwabueze (2007:56) defines campaign as “the planning and coordination of series of consistent activities aimed at achieving a central objective”. McQuail (2010:550) also defines a campaign as “the planned attempt to influence public opinion, behaviour, attitudes and knowledge on behalf of some cause, person, institution or topic, using different media over a specific period of time”. McQuail (2010) further states that public campaigns are normally directed towards socially approved objectives. Environmental communication campaigns comprises the adoption of steps towards an environmental goal. Environmental campaigns can be pursued using diverse media.

2.3 Empirical Literature

Akpoghiran (2015) conducted a study on the influence of broadcast media enlightenment campaigns on solid waste management in South-South of Nigeria. In determining the relationship between public awareness of the broadcast media and attitudinal change towards solid waste management campaigns, both content analysis and survey was adopted for the study. The research instrument used for the study were programs schedule of broadcast media, interviews and questionnaires. The sampling techniques used for the study were purposive and cluster sampling. The study found that there were irregular and poor enlightenment campaigns by the broadcast media on solid waste management in all the states. On the back of this, the inhabitants exhibited poor attitude towards waste management. The study further revealed that positive attitude towards solid waste management was heavily dependent on regular broadcast media enlightenment campaigns.

Akpoghiran & Okoro (2014) conducted a study on adopting broadcast media sensitization campaigns for solid waste management. The study focused on media sensitization campaigns for

solid waste management in two cities and states in Nigeria. The research instrument used to elicit data from the respondents was questionnaire. They found out that the broadcast media have been engaging in sensitization campaigns on solid waste management. However the inhabitants exhibited poor attitude towards solid waste management.

Mugweri, Oonyu & Sentongo (2018) investigated the influence of public education on solid waste management in Kampala City. The study made use of cross sectional survey research design due to the heterogeneous nature of the study population. Moreover, the study made use of mixed methods. The researchers selected 289 respondents per division using multistage sampling. They found out that organizations that have been educating the public on solid waste management are Kampala Capital City Authority (KCAA), Village Health Teams (VHTs), NGOs and the private sector companies. Public meetings, use of mass media, community demonstrations and instruction to individual heads of households are the strategies mapped up to educate the communities in the city on waste management. They concluded that public education is improving waste management in Kampala City.

Garang (2015) explored the role of national radio in solid waste management in Juba. The study further established the extent and form of public participation in solid waste management, effectiveness of the communication methodology adapted by South Sudan Radio towards solid waste management and also how radio impacts on people's beliefs, attitudes and behaviours towards solid waste management. The study also made use of the mixed methods which is an amalgam of quantitative and qualitative methods. The research instruments used for the study were questionnaires and interviews. The study revealed that overcrowding, manufacturers and

industries operating in Juba were the main causes of solid waste. Irrespective of South Sudan radio in the fight against waste in Juba, “my waste my responsibility” was the conclusion.

Baabereyir (2009) also conducted a study on the nature of solid waste problem in two cities in Ghana, thus Accra and Sekondi-Takoradi. The study adopted both qualitative and quantitative methods. The research instruments used for the study were questionnaires, interviews, documentary and observation. Baabereyir (2009) found out that both Accra and Sekondi-Takoradi are experiencing worsening solid waste situations however the municipal governments lack the capacities with regards to finance, logistics and human resources to face the menace. Moreover, the study revealed that the main cause of waste problem is due to lack of political commitment to urban environmental management.

CHAPTER THREE

METHODOLOGY

3.1 Introduction

The research methodology represents the methods or procedures that were used by the researcher to conduct the study. The methodology involves research design, media, time frame, unit of analysis, data source, coding parameters, and statistical analysis. Furthermore, the methodology also provides justification for any method that was utilized by the researcher for the study.

3.2 Research Design

According to Creswell (2014), there are three approaches to research namely quantitative, qualitative and mixed methods which is an amalgam of quantitative and qualitative methods. Creswell (2014) indicated that in choosing an approach for a study, one must take into consideration the nature of the research problem, personal experience and audience. The study sought to examine media coverage on waste management practices in Ghana hence the researcher deemed it appropriate to use content analysis. Content analysis is defined as “a method of studying and analyzing communication in a systematic, objective and quantitative manner for the purpose of measuring variables” (Wimmer & Dominick, 2011). Content analysis also means making valid inferences from content in the form of texts, films, pictures, written or verbal communication using qualitative methods and/or quantitative methods. Taking into consideration the nature of the research problem, personal experience, and objectives of the study, the researcher gravitated towards quantitative content analysis. The quantitative method was used in quantifying the articles on the news sites selected for the study. Content analysis is not expensive, it does not require

contact with people and it is useful in analyzing historical materials. However, content analysis is purely descriptive hence it may fail to unearth motives for the observed pattern.

3.3 Sampling Design

3.3.1 Media

Traditional media and digital media are both used to educate, inform, and entertain the general public. However, in recent times, digital media has gained more eminence because a lot of people are using the internet as well as social media to ascertain what is going on around them and in the world. In view of this, the study utilized digital media, specifically news sites. Secondly, with regards to the news sites, data were easily accessible compared to the traditional media.

3.3.2 Time Frame

The study focused on waste management articles published on the Ghanaian news sites from 1st January, 2020 to 15th September, 2020. The researcher wanted to gather a significant number of data for the study hence the selected time frame.

3.3.3 News Site

Simple random sampling technique was used by the researcher to select two Ghanaian news sites namely graphic.com.gh and myjoyonline.com. Simple random sampling is one of the simplest forms of collecting data from the total population. With simple random sampling, each member of the subset has an equal chance of being selected as part of the sampling process. A sample chosen randomly is meant to be an unbiased representation of the entire population. Graphic.com.gh is owned by Graphic Communications Group Limited whereas myjoyonline.com is owned by Multimedia Group. These news sites are credible and also appeal to a large audience.

3.4 Unit of Analysis

According to Trochim (2006), the first step to take in analyzing data is to define a unit of analysis. Wimmer & Dominick (2006) also indicated that unit of analysis might be a single word or symbol, a theme or entire article or story. The unit of analysis utilized for the study was the articles on waste management that were published by the two selected news sites from 1st January, 2020 to 15th September, 2020.

3.5 Source of Data

There are two sources of data in research thus, primary and secondary data but for the purpose of this study, secondary data was used. The secondary data consisted of articles on waste management published by both graphic.com.gh and myjoyonline.com.

3.6 Coding Parameters

Coding defined by Wimmer & Dominick (2011) is putting the unit of analysis into content categories. The authors added that there are two forms of coding namely *a priori* coding and emergent coding. With *a priori* coding, categories are established before data are collected. With regards to emergent coding, categories are established after examination of data (Ibid). The study made use of both *a priori* coding and emergent coding. After coming up with the objectives, the researcher created some categories. After the first categorization, the researcher proceeded to collect data, examined the data multiple times and then added more categories to the previous ones. The categories were operationalized as follows:

- **Name of News Site:** This referred to the Ghanaian news site that made publications on waste management.

- **Title of Article:** This referred to the headline of the articles published on the news sites. The headline informs the readers what the whole article is about.
- **Date of Publication:** This referred to the date the articles on waste management were published by the news sites.
- **Number of Articles:** This referred to the total number of waste management articles published by the news sites from 1st January, 2020 to 15th September, 2020.
- **Length of Article:** This referred to how long or short articles on waste management were and they were measured with the number of words contained in the articles.
- **Purpose of Article:** This referred to whether the article on waste management were meant to inform the general public, educate the general public or both.
- **Number of photographs:** This referred to the photograph that accompanied that title of the article likewise the photograph(s) that was attached to the content of the article.
- **Framing of Article:** This referred to how the news sites represented the various waste management articles. The two frames employed for the study were episodic and thematic. Episodic frames focused on individuals and events without context whereas thematic frames focused on trends over time and presented a wider background to the article.
- **Type of Waste:** This referred to the types of wastes reported in the articles published by the news sites.
- **Effects of Waste:** This referred to the effects of waste on humans, animals and environment published by the news sites.
- **Waste Management Practices:** This referred to the waste management practices reported by the news sites.

- **Sources cited:** This referred to the person(s) or agency from whom or where the reporter/writer received the information for the article.

3.7 Statistical Analysis

After the collection of data, coding which is simply the transformation of data was done using Statistical Package for Social Sciences (SPSS). Descriptive statistics were used to analyze data collected in the form of frequency tables and graphs such as histograms, bar charts, and pie charts. These were done with the help of both Microsoft Excel and SPSS.

CHAPTER FOUR

DATA PRESENTATION AND ANALYSIS

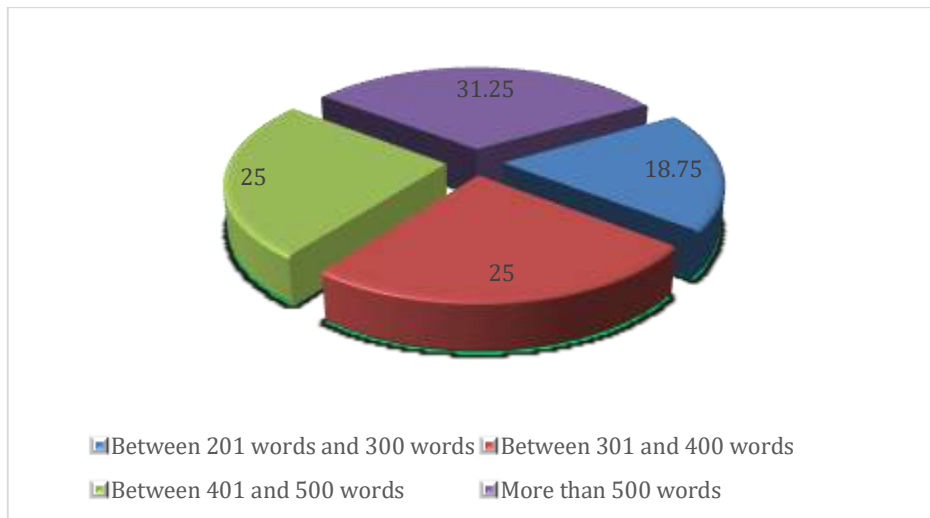
4.1 Introduction

This chapter entails data analysis and discussion of the findings. The presentation of the findings is in accordance with the objectives of the study. The findings also answer the research questions and they have been presented in a chronological order. The results of the analysis are presented with the help of frequency distribution tables and graphs.

4.2 State of Media Coverage on Waste Management in Ghana

The first objective of the study was to determine the state of media coverage on waste management in Ghana. In bringing this objective to the fore, the study focused on the number of waste management articles published by both graphic.com.gh and myjoyonline.com from 1st January, 2020 to 15th September, 2020, length of the articles, purpose of the articles, number of photographs used in the articles and framing of the articles.

Figure 4.1: Length of Waste Management Articles



Source: Content Analysis of News Sites (January, 2020 – September, 2020)

Figure 4.1 shows results on the length of waste management articles published by both graphic.com.gh and myjoyonline.com. The length of the articles were measured by the number of words contained in the articles published by the news sites. From Figure 4.1, 18.75% of the articles contained between 201 words and 300 words, 25% contained between 301 and 400 words, 25% contained between 401 words and 500 words and the remaining 31.25% contained more than 500 words.

From the above the statistics, it can be seen that the length of the articles varied however most of the articles were long. The lengthy articles contained detailed information with little or no lacuna in the information. Moreover the articles with few words were concise and precise.

Table 4.1: Cross Tabulation on the Length of Waste Management Articles Reported by the News Sites

Length of Articles	News Websites		Total
	Graphic.com.gh	Myjoyonline.com	
Between 201 words and 300 words	1 11.1	2 28.6	3 18.75
Between 301 and 400 words	2 22.2	2 28.6	4 25
Between 401 and 500 words	2 22.2	2 28.6	4 25
More than 500 words	4 44.4	1 14.3	5 31.25
Total	9 100	7 100	16 100

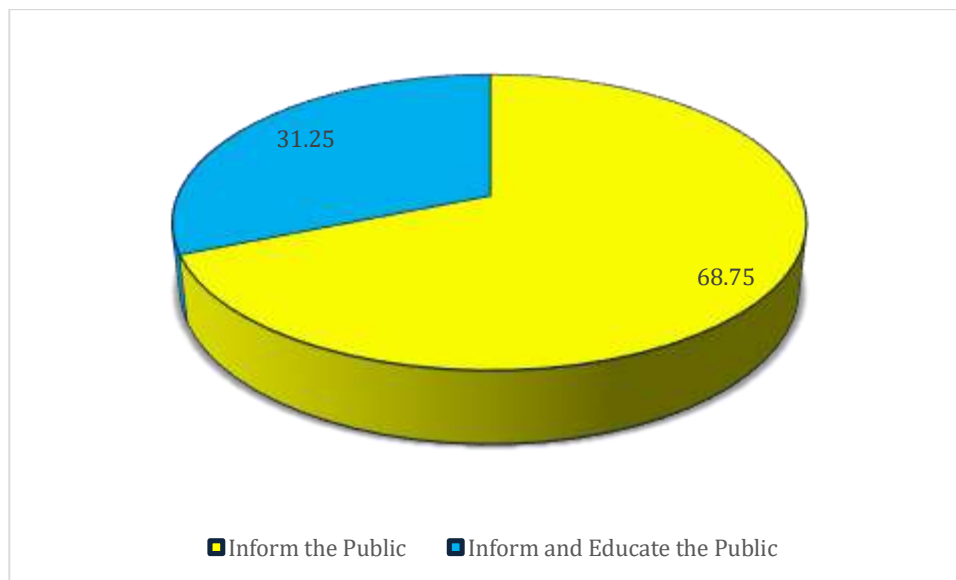
Source: Content Analysis of News Sites (January, 2020 – September, 2020)

Out of the entire articles published by the news sites from 1st January 2020 to 15th September, 2020, only 16 articles focused on waste management. Within the specified period, the waste management articles published by graphic.com.gh were 9 whereas that of myjoyonline.com was 7. It can be concluded that graphic.com.gh had more waste management articles than myjoyonline.com.

From Table 4.1, only 1 of the articles published by graphic.com.gh contained between 201 words and 300 words whereas 2 of the articles published myjoyonline.com contained between 201 words and 300 words. 2 of the articles by graphic.com.gh contained between 301 words and the same number of articles by myjoyonline.com contained 301 words and 400 words. Moreover, both news sites had 2 of their articles having between 401 words and 500 words. 4 of the articles published graphic.com.gh had more than 500 words whereas myjoyonline.com had 1 article with more than 500 words.

It has been established in Figure 4.1 that most of the waste management articles published by the news sites were lengthy. However with regards to the lengthy articles, graphic.com.gh had more than myjoyonline.com.

Figure 4.2: Purpose of the Waste Management Articles



Source: Content Analysis of News Sites (January, 2020 – September, 2020)

The fundamental cardinal function of the media is to inform, educate and entertain. In view of this, the study sought to ascertain the purpose of the waste management articles published by the news sites. From Figure 4.2, 68.75% of the articles informed the public on issues regarding waste and

waste management whereas the remaining 31.25% informed and educated the public on waste and waste management. It can be concluded on the back of the statistics that most of the articles published by the news sites only informed their readers on issues regarding waste and waste management without any education however a few of them did both.

Table 4.2: Cross Tabulation on the Purpose of Waste Management Articles Reported by the News Sites

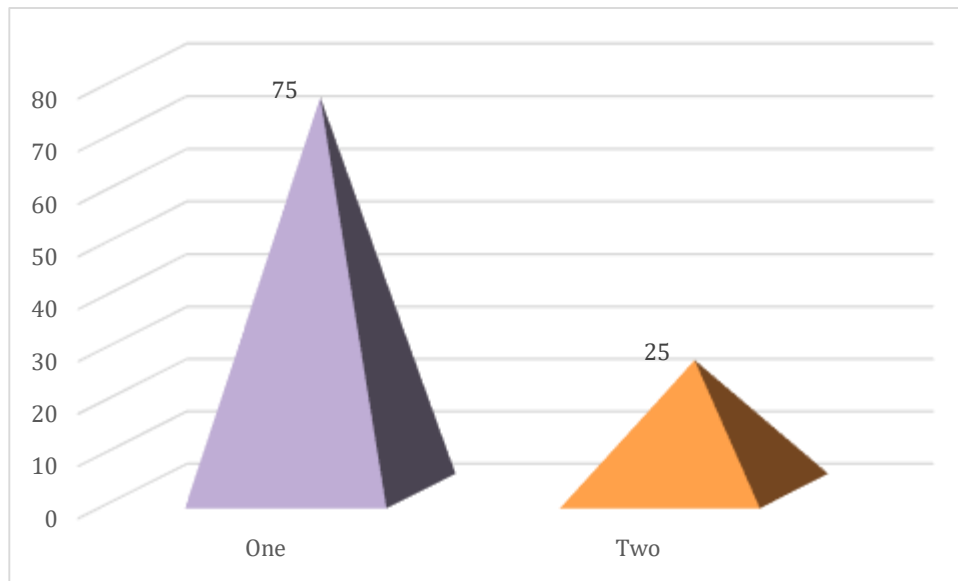
Purpose of Articles	News Websites		Total
	Graphic.com.gh	Myjoyonline.com	
Inform the Public	5 55.6	6 85.7	11 68.75
Inform and Educate the Public	4 44.4	1 14.3	5 31.25
Total	9 100	7 100	16 100

Source: Content Analysis of News Sites (January, 2020 – September, 2020)

From Table 4.2, 5 of the articles published by graphic.com.gh only informed the public on waste and waste management issues while 6 of the articles by myjoyonline.com also moved on the same trajectory. Moreover, 4 of the articles informed and educated the public on waste and waste management issues whereas only 1 article by myjoyonline.com informed and educated the public on waste and waste management.

From the figures above, it can be concluded that both news sites informed and educated the public with their articles. However most of the articles only informed the public on waste and waste management and on that tangent, myjoyonline.com had more. With regards to the articles that informed and educated the public on waste and waste management, graphic.com.gh had more.

Figure 4.3 Number of Photographs in the Waste Management Articles



Source: Content Analysis of News Sites (January, 2020 – September, 2020)

Figure 4.3 shows results on the number of photographs used in the waste management articles. The number includes the photographs that accompanied the title of articles and the photographs in the content of the articles. From Figure 4.3, 75% of the waste management articles published by graphic.com.gh and myjoyonline.com had only one photograph whereas the remaining 25% had two photographs.

Inferring from the statistics, majority of the waste management articles contained only photograph. This means that most of the articles aside having photographs that accompanied the title did not have photographs in the content. The few waste management articles with two photographs shows that they had another photograph in the content.

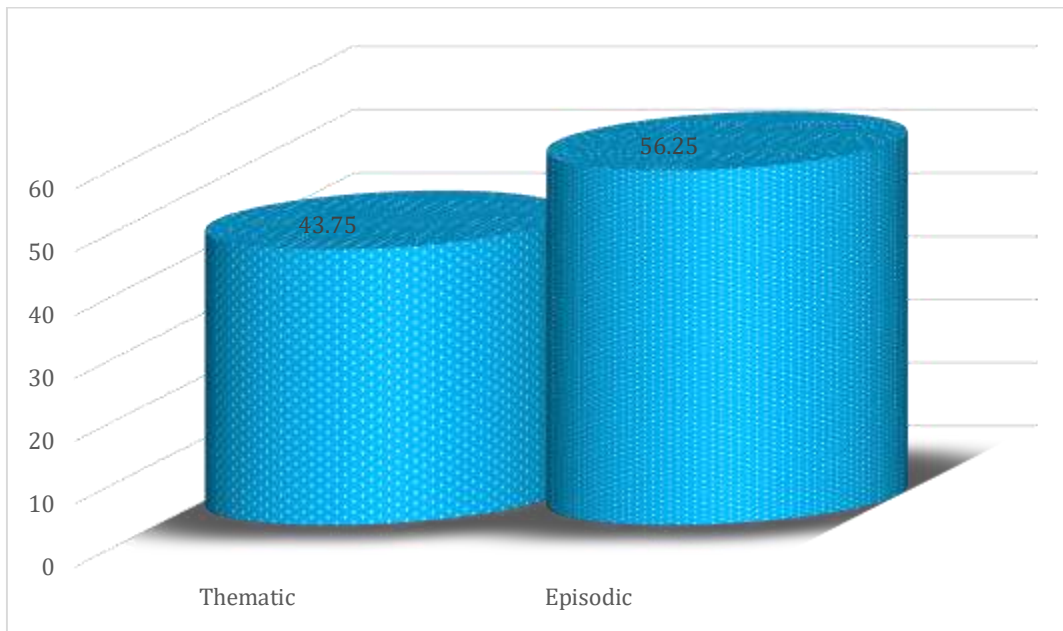
Table 4.3: Cross Tabulation on the Number of Photographs in the Waste Management Articles Reported by the News Sites

Number of Photographs	News Websites		Total
	Graphic.com.gh	Myjoyonline.com	
One	7 77.8	5 71.4	12 75
Two	2 22.2	2 28.6	4 25
Total	9 100	7 100	16 100

Source: Content Analysis of News Sites (January, 2020 – September, 2020)

7 of the waste management articles published graphic.com.gh had one photograph whereas 5 of the articles published by myjoyonline.com had one photograph. Moreover, both news sites had 2 of their waste management articles containing two photographs. It can be concluded that with regards to articles having one photograph, graphic.com.gh more. With regards to articles having two photographs, both news sites had the same number.

Figure 4.4 Framing of Waste Management Articles



Source: Content Analysis of News Sites (January, 2020 – September, 2020)

The manner in which the media frame articles is of paramount importance therefore in ascertaining the state of media coverage on waste management, the study also focused on how both graphic.com.gh and myjoyonline.com framed waste management articles. 43.75% of the articles were thematic and the remaining 56.25% were episodic. It can be concluded on the back of the statistics that, most of the waste management articles were episodic. In other words, most of the articles on waste management centered on individuals and events other giving a wider background on waste management as well as trends on the issue over time.

Table 4.4: Cross Tabulation on the Framing of the Waste Management Articles Reported by the News Sites

Frame of Article	News Websites		Total
	Graphic.com.gh	Myjoyonline.com	
Thematic	5 55.6	2 28.6	7 43.75
Episodic	4 44.4	5 71.4	9 56.25
Total	9 100	7 100	16 100

Source: Content Analysis of News Sites (January, 2020 – September, 2020)

From Table 4.4, graphic.com.gh published 5 articles that were thematic whereas 2 of the articles by myjoyonline.com were thematic. Moreover, 4 of the articles by graphic.com.gh were episodic whereas 5 of the articles by myjoyonline.com were episodic. From the figures, most of the articles published by the news sites in entirety were episodic. However, most of the articles by graphic.com.gh were thematic and on the other hand, most of the articles by myjoyonline.com were episodic. Albeit the study being dominated by episodic articles, myjoyonline.com had more than graphic.com.gh.

4.3 Types of Waste Reported by the Media

The study sought to examine the types of waste reported by graphic.com.gh and myjoyonline.com. Both news sites classified waste based on the physical state of the waste substances. The results have been presented in Table 4.5 and Table 4.6.

Table 4.5 Types of Waste Reported by Graphic.com.gh

Types of Waste	N	Mean	Std. Deviation
Solid Waste	9	.67	.500
Liquid Waste	9	.22	.441
Gaseous Waste	9	.22	.441
Radioactive Waste	9	.22	.441

Source: Content Analysis of News Sites (January, 2020 – September, 2020)

From, Table 4.5, the type of waste reported by graphic.com.gh include solid waste, liquid waste, gaseous state and radioactive waste. Solid waste has a mean of 0.67 and the remaining thus liquid waste, gaseous waste and radioactive waste have mean values of 0.22 each. This means that the type of waste that was mostly reported by graphic.com.gh was solid waste.

Table 4.6 Types of Waste Reported by Myjoyonline.com

Types of Waste	N	Mean	Std. Deviation
Solid Waste	7	.71	.488
Gaseous Waste	7	.14	.378
Radioactive Waste	7	.14	.378

Source: Content Analysis of News Sites (January, 2020 – September, 2020)

From Table 4.6, the types of waste reported by myjoyonline.com include solid waste, gaseous waste and radioactive waste. Solid waste has a mean of 0.71 and both gaseous waste and radioactive waste have mean values of 0.14 each. This means that the type of waste mostly

reported by myjoyonline.com was solid waste just like graphic.com.gh. However myjoyonline.com did not have any article that reported on liquid waste.

4.4 Repercussions of Waste Reported by the Media

Waste has a litany of negative effect on humans, animals and the environment as a whole therefore the study sought to ascertain the effects reported by the media. Table 4.7 and Table 4.8 display results on the repercussions.

Table 4.7 Effects of Waste Reported by Grpahic.com.gh

Effects of Waste	N	Mean	Std. Deviation
Health Problem	9	.33	.500
Contamination	9	.78	.667
Flood	9	.11	.333

Source: Content Analysis of News Sites (January, 2020 – September, 2020)

From Table 4.7, the effects of waste reported by graphic.com.gh include health problem, contamination and floods. Health problem has a mean of 0.33, contamination has a mean of 0.78 and flood has a mean of 0.11. It can be concluded that contamination was the most reported effect of waste by graphic.com.gh.

Table 4.8 Effects of Waste Reported by Myjoyonline.com

Effects of Waste	N	Mean	Std. Deviation
Health Problem	7	.43	.535
Contamination	7	.43	.535
Climate Change	7	.14	.378

Source: Content Analysis of News Sites (January, 2020 – September, 2020)

From Table 4.8, the effect of waste reported by myjoyonline.com include health problem, contamination and climate change. Health problem has a mean of 0.43, contamination has a mean of 0.43 and climate change has a mean of 0.14. It can be concluded that health problem and contamination were the effects of waste mostly reported by myjoyonline.com.

4.5 Waste Management Practices Reported by the Media

The study also sought to assess the waste management practices reported by both graphic.com.gh and myjoyonline.com. The results can be found in Table 4.9 and Table 4.10.

Table 4.9 Waste Management Practices Reported by Graphic.com.gh

Waste Management Practices	N	Mean	Std. Deviation
Incineration	9	.11	.333
Recycling	9	.33	.500

Source: Content Analysis of News Sites (January, 2020 – September, 2020)

From Table 4.9, the waste management practices reported by graphic.com.gh comprise incineration and recycling. Incineration has a mean of 0.11 and recycling has a mean of 0.33. This implies that recycling as a waste management practice received more reportage in graphic.com.gh than incineration.

Table 4.10 Waste Management Practices Reported by Myjoyonline.com

Waste Management Practices	N	Mean	Std. Deviation
Landfill	7	.14	.378
Incineration	7	.14	.378
Recycling	7	.29	.488
Mechanical Biological Treatment	7	.14	.378
Composting	7	.29	.488

Source: Content Analysis of News Sites (January, 2020 – September, 2020)

From Table 4.10, waste management practices reported by myjoyonline.com include landfill, incineration, recycling, mechanical biological treatment and composting. This shows that myjoyonline.com reported more waste management practices than graphic.com.gh. Landfill, incineration and mechanical biological treatment have the same mean value, thus 0.14. Both recycling and composting have the same mean value, thus 0.29. Based on the mean values, a definite conclusion that can be drawn is that the waste management practices that were mostly reported by myjoyonline.com are recycling and composting.

4.6 Sources Cited by the Media

The study was interested in the agencies/organizations or individuals the reporters/writers received information for the articles on waste management. Table 4.11 and Table 4.12 showcase results on the sources cited.

Table 4.11 Sources Cited by Graphic.com.gh

Sources	N	Mean	Std. Deviation
Government Officials	9	.67	.500
Companies	9	.44	.527
Interest Groups/NGOs/CSOs	9	.22	.441
Health Professionals	9	.11	.333
Residents	9	.11	.333

Source: Content Analysis of News Sites (January, 2020 – September, 2020)

Graphic.com.gh in their publications cited sources such as government officials, companies, interest groups/NGOs/CSOs, health professionals and residents. Government officials have a mean of 0.67, companies have a mean of 0.44, interest groups/NGOs/CSOs have a mean of 0.22, health professionals have a mean of 0.11 and residents have a mean of 0.11. Deducing from the mean values, government officials were the most source cited in the waste management articles published by graphic.com.gh followed by companies.

Table 4.12 Sources Cited by Myjoyonline.com

Sources	N	Mean	Std. Deviation
Government Officials	7	.43	.535
Companies	7	.43	.535
Interest Groups/NGOs/CSOs	7	.14	.378

Source: Content Analysis of News Sites (January, 2020 – September, 2020)

The sources cited by myjoyonline.com comprise government officials, companies and interest groups/NGOs/CSOs. The news site did not cite health professionals and residents like graphic.com.gh did. Government officials have a mean of 0.43, companies have a mean of 0.43 and interest groups/NGOs/CSOs have a mean of 0.14. Inferring from the individual mean values, both government officials and companies were the most cited sources in the waste management articles published by myjoyonline.com.

4.7 Discussion of Findings

The study sought to determine the state of media coverage on waste management in Ghana. A plethora of variables were used to measure the state of media coverage and they include the total number of waste management articles published from 1st January 2020 to 15th September 2020, length of articles, purpose of the articles, number of photographs in the articles and the framing of the articles. The study revealed that the total number of waste management articles published by graphic.com.gh and myjoyonline.com within the specified time period was 16. This clearly shows that media coverage on waste management was extremely low. Factoring in the period of time even makes it worse. Ghana as a country has been struggling to properly manage waste however the media have not been interminably reporting on it. With regards to the length of articles on waste management published by the media, most of them were lengthy. The articles contained

detailed information with little or no lacuna in the reportage. The articles covered the areas they were supposed to cover making the reader understand the situation on the ground.

The study further revealed that majority of the articles published by the media only informed the public about issues relating waste and waste management. However a few of the articles informed and educated the public on waste and waste management. Moreover, most of the articles on waste management published by the news sites had only one photograph. Only a few articles had photographs in the content of the articles aside the photos that accompanied the title. It was also found out that the framing of the waste management articles by the news sites were both thematic and episodic however most of the articles published within the specified time period were episodic. They focused on individuals and events other wider background of the issue.

The study also focused on the types of waste reported by the media. Waste can be classified based on the sources or premises of generation, physical state of the waste substances, material composition of waste and level of risk (World Bank, 1999). It was found out that the media in their reportage classified waste based on the physical state of the waste substances. The types of waste reported by the media include solid waste, liquid waste, gaseous waste and radioactive waste however the solid waste received the most coverage. These types of waste reported by the media conforms to the types of waste given by World Bank (1999) on the back of the physical state of the waste substances.

The study also sought to ascertain the repercussions of waste reported by the media. The repercussions of waste reported by the media include health problems, contamination, floods and climate change. The media reported that waste can lead to health problems such as malaria, cholera, typhoid etc. This finding agrees with Akpoghiran (2005) who indicates that flies emanate due to uncovered piles of rotting refuse and the flies transmit faecal-oral diseases. Moreover,

anopheles mosquitoes live in these conditions and transmit malaria, yellow fever and other diseases. The media also reported that waste leads to air contamination, soil contamination as well as water contamination. This finding also agrees with Akpoghiran (2005) who indicates that in the long term, there may be dangers emanating from waste dumps specifically on ground and to the pollution of drinking water sources. It was also reported in some of the articles that waste brings about floods. This finding confirms to the position held by (Ajayan & Saharsh, 2003) which indicates that was waste dumped at water channels blocks running water causing flood. The media reported that waste can bring about climate change.

The study also had an interest in the waste management practices reported by the media. It was unearthed that the waste management practices reported by the media include landfill, incineration, recycling, mechanical biological treatment and composting. However the most reported waste management practice by the media was recycling. Moreover the study aimed at ascertaining the sources cited in the articles published by the media. The sources cited in the waste management articles include government officials, interest groups/NGOs/CSOs, companies, health professionals and residents. The most cited source in the waste management articles by the media was government officials.

CHAPTER FIVE

SUMMARY, CONCLUSION, AND RECOMMENDATION

5.1 Introduction

This is the concluding chapter of the study and it entails a summary of the study and major findings. Furthermore, this chapter presents the conclusion drawn, recommendations based on the findings and conclusion drawn, limitations, and areas for further studies.

5.2 Summary of the Study

Generally, the study examined media coverage of waste management practices in Ghana. Specifically, the study focused on the state of media coverage on waste management in Ghana, types of waste reported by the media, repercussions of waste reported by the media, waste management practices reported by the media and sources cited by the media. Digital media, specifically news sites were selected for the study. Simple random sampling was used to select two of Ghana's reputable news sites, thus graphic.com.gh and myjoyonline.com. Waste management articles published by graphic.com.gh and myjoyonline.com from 1st January, 2020 to 15th September, 2020 were considered for the study. The content on the articles were analyzed using quantitative techniques, particularly descriptive statistics. The analysis were done with SPSS and Microsoft Excel. The results have been encapsulated below.

The study revealed that media coverage on waste management over the 9 months period was extremely low however most of the articles published were lengthy. Most of the articles published informed the public on issues regarding waste and waste management. The study further brought to light that most of the articles aside having photographs accompanying the title did not have

photographs in the content. The media in publishing the waste management articles made use of both episodic and thematic frames however most of the articles were episodic.

The study brought to light that the type of waste reported by the media include solid waste, liquid waste, gaseous waste and radioactive waste.

Moreover, the media reported that waste leads to health problems, contamination, floods and climate change.

The study brought to the fore that the waste management practices reported by the media include landfill, incineration, recycling, mechanical biological treatment and composting.

Lastly, the study revealed that the sources cited by the media in their reportage were government officials, companies, residents, health professionals and interest groups/NGOs/CSOs.

5.3 Conclusion

Waste is generated day in day out due to the activities of humans and animals. Industries generate waste, traders generate waste as well as residents however managing the waste generated is a major challenge in the country. Unable to properly management waste has brought about harmful effects on humans, animals and the environment as a whole. The media are of paramount importance to society because they educate, inform and entertain. The media have a role to play in issues relating to waste management. On the contrary, they do not incessantly report on issues regarding waste and waste management. Their reportage on waste management is extremely low. This is really bad because managing waste has always been a conundrum. Albeit the situation at hand, they have not been paying much attention to it. A campaign by the media will minimize improper ways of disposing of waste because the general public hold them in high esteem and will adhere to every information they churn out. The few reportage by media touched on the type of

waste generated and they include solid waste, liquid waste, gaseous waste and radioactive waste. However, they failed to educate the readers on what constitutes each type of waste. Moreover the media reported on some waste management practices such as recycling, composting, landfill, incineration and mechanical biological treatment. The media can do better with regards to reports on waste and waste management because they have failed in that area.

5.4 Recommendations

The following recommendations are proposed based on the findings and conclusion drawn.

1. The study revealed that reportage on waste management is extremely low therefore the media should give waste management the maximum attention since managing waste is one of the cankers facing the country. The media should constantly report on issues relating to waste and waste management.
2. The media in their reportage must incessantly educate the public/readers on the harmful effects of waste as well as the proper ways of managing waste.
3. The media in educating the readers should keep their articles lucid and straightforward in order not to bore the readers.

5.5 Limitations of the Study

1. The study was limited to only news sites basically because of availability and accessibility of data.
2. The study was limited to only two news sites therefore the findings of the study cannot be generalized.
3. The time frame of the articles was limited to 9 months, thus from 1st January, 2020 to 15th September, 2020.

5.6 Areas for Further Studies

The current study focused on waste management articles by graphic.com.gh and myjoyonline.com therefore further studies should look at waste management articles published other news sites in Ghana. Moreover, the study made use of publications by news sites therefore further studies should use of news stories on waste management by the traditional media. Lastly, future studies can investigate the role of the media in waste management in Ghana.

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APPENDIX

CODING SHEET

1. Name of News Site

- a) Graphic.com.gh
- b) Myjoyonline.com

2. Title of Article

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.....

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.....

3. Date of Publication

...../...../.....

4. Length of Article

- a) Less than 100 words
- b) Between 100 words and 200 words
- c) Between 201 words and 300 words
- d) Between 301 words and 400 words
- e) Between 401 words and 500 words
- f) More than 500 words

5. Purpose of Article

- a) Inform the public
- b) Educate the public
- c) Both

6. Number of Photographs

- a) 1
- b) 2
- c) 3
- d) 4

7. Frame of Article

- a) Thematic

- b) Episodic
- 8. Type of Waste Reported
 - a) Solid Waste
 - b) Liquid Waste
 - c) Gaseous Waste
 - d) Radioactive Waste
- 9. Effect of Waste
 - a) Health Problems
 - b) Contamination
 - c) Extreme climate changes
 - d) Flooding
 - e) Breeds disease-carrying pests
- 10. Waste Management Practices
 - a) Landfill
 - b) Incineration
 - c) Recycling
 - d) Mechanical Biological Treatment (MBT)
 - e) Composting
- 11. Sources Cited
 - a) Government Officials
 - b) Philanthropists
 - c) Companies
 - d) Interest Groups/NGOs/CSOs
 - e) Health Professionals
 - f) Residents