Solid waste disposal

INTRODUCTION

Human development and health is greatly influenced by the environment in which they live in (Centre for Disease Control, 2009). Solid waste constitutes a major source of environmental hazard. Environmental hazards accounts for an estimated 25 % of the total burden of disease worldwide and nearly 35 % of ill-health in sub Saharan Africa is caused by environmental hazards (WHO, 2009). This dissertation is a report of a qualitative study done to find out the perceptions of Warri South Local Authority staff on solid waste and its disposal in Warri municipal. According to Beede and Bloom (2003), the perception and attitude of people towards waste can affect the way it is managed; hence it is essential to gain an insight and knowledge about the perception of Warri South Local Authority staff on solid waste and its disposal in Warri since they play a major role in the planning and running of Warri municipal. If they do not perceive waste disposal in Warri as a priority, little or no attention will be given to it. This first chapter starts by offering a background for the study. It will highlight the problem of municipal solid waste and depict its importance and public health consequences. The purpose of study, methodology adopted and potential benefits of this study are also discussed briefly. Overview of other chapters will also be discussed.

BACKGROUND FOR THE STUDY

The World Health Organization (WHO) constitution of 1964, defines health as a state of complete physical, mental and social well-being and not merely the absence of disease or infirmity (Naidoo and Williams, 2000). A clean environment is one of the prerequisite of a good health because there is a close relationship between the environment and people’s health. A high

quality environment allow people to live longer in good and positive health (ref) Solid waste constitutes a major source of environmental hazard if not properly managed. The activities of humans and animals produce waste and the way these wastes are handled, stored, collected and disposed of, can pose risks to the environment and to public health (Tchobanoglous et al, 1993; Baritone, 1995; Ofomata, 2001, Da Zhu et al, 2008).

Municipal solid waste (MSW) refers to non-air and non-sewage emissions created within and disposed of by a municipality this includes household garbage, commercial refuse, construction and demolition debris, dead animals, and abandoned vehicles (Cointreau, 1982; Walling et al., 2004). There are several classification of solid waste based on their origin, characteristics and risk potentials (Ofomata and Eze, 2001). They are broadly classified by their characteristic as biodegradable and non-biodegradable. This classification is based on the quality of solid waste generated from different sources. According to Department of Environment, Food and Rural Affairs (DEFRA, 2007), biodegradable waste consists of all organic wastes that decay naturally as the result of the action of micro organisms into useful or less polluting products. Non-biodegradable wastes consist of wastes that do not breakdown naturally and must be recycled, burnt or buried; a common example is the plastic shopping bag (Williams, 2005).

In the beginning of civilization, disposal of waste was not a significant problem because population was small and land available for assimilation of waste was abundant (Tchobanoglous et al, 1993; Ahmed and Ali, 2004). Solid waste generated by the traditional society were little and simple, mostly containing organic matter while those generated by today’s technological

societies are large and complex. Problems of waste disposal started from the time people began to assemble in clans, villages, and communities and the build up of waste became a consequence of life (Tchobanoglous et al, 1993) The rapid developments of cities across the globe have led to an increase in the amount of waste produced from human activities; this has posed a challenge of disposal to both developed and less developing nations (WHO, 2009).

According to United Nations Development Programme survey report of one hundred and fifty one mayors of different cities from around the world, inadequate solid waste disposal is the second most pressing problem facing city residents after unemployment (Da Zhu et al, 2008). This problem is further compounded as many nations continue to urbanize rapidly and to increase in population, making it difficult for most municipal authorities to provide most of the basic services (Ogbonna et al, 2002, Ayotamuno and Gobo, 2004). According to United Nation Statistic Division (UNSD, 2009) Nigeria has a population of about 140 million with an annual urban growth of 3. 8%. It is a developing country that has persistent solid waste management problems in addition to her growing population (Walling et al, 2004). An average Nigerian generates about 0. 49 kg of solid waste per day with households and commercial centres contributing almost 90% of total urban waste burden (Uguwh, 2009)

Developing countries spend as much as 20 to 40% of their municipal revenues on waste management (Thomas-Hope 1998, Schübeler 1996, Bartone 2000); yet they are often unable to solve the problem as one to two-thirds of the solid waste generated is not collected, while the uncollected

waste is dumped on the land in a more or less uncontrolled manner (Onwurah et al, 2003, Da Zhu et al, 2008). Even the collected waste is often disposed in an uncontrolled dump site or burnt, contributing to water and air pollution (Da Zhu et al, 2008).

Indiscriminate disposal and dumping of waste has become a common practice in Nigerian cities. Municipal solid waste heaps are found in several parts of major Nigerian cities like Warri, often blocking roads, alleys, and pavements (Ayotamuno and Gobo, 2004). Most of the waste dumps are located close to residential areas, Markets, farms, roadsides, and creeks; with many human activities close to the dump sites, there is an increase threat to public health (Ogbonna et al, 2002). Generally, the uncollected solid wastes are left to decay, and this produces foul odour thereby constituting a source of environmental nuisance (Ofomata and Eze, 2001). Uncontrolled burning, another common method of disposing waste in Nigeria and this have often led to fire outbreaks. Smoke arising from such fires can reduce visibility, and have been known to cause fatal vehicular accidents (Ofomata and Eze, 2001). Warri is a major oil city located in Delta state Nigeria, with a population of over a million. Its population is rapidly growing due to urbanization and oil exploration activities; the total waste load for Warri is about 66 721 tonnes per year (Ajao and Anurigwo , 2002).

Municipal Solid Waste and Public Health Implication

The management of municipal solid waste is becoming a major public health and environmental concern in urban areas of many developing countries (Harris, 2004). The improper management of solid wastes represents a source of environmental pollution, and poses risks to human health (Puri et

al., 2008). Municipal waste in most cities contain human excreta, animal excreta, hazardous chemical pollutants and sharps which can facilitate the spread of diseases and injury particularly among children playing near waste dumpsites and employees in waste management sector (Da Zhu et al, 2008). Poor disposal of solid waste is associated with spread of vector borne-diseases like malaria and dengue fever (McKenzie et al., 2004; Puri et al., 2008). Infrequently disposed refuse tend to become breeding sites for mosquitoes, as pools of rain water collect in discarded cans, bottles and car tires (Ofomata and Eze, 2001) Mosquitoes are responsible for the transmission of malaria-a life threatening disease through their bites (Human Protection Agency, 2009). Malaria accounts for an estimated 300-500 million cases globally; which is an endemic disease in sub-Saharan Africa. It accounts for about 1. 5-2. 5 million deaths yearly, most of them among children under five years (WHO, 2009). Decomposing organic materials can become breeding sites for pests, rats, flies and vermin that enhance the likelihood of disease transmission like diarrhoea and Lassa fever (Simon, 2008). Lassa fever is a haemorrhagic fever common in four African countries: Guinea, Liberia, Nigeria and Sierra Leone. It is transmitted to humans from contacts with food or household items contaminated with rodent excreta (HPA, 2009; WHO, 2009).

Uncollected waste left to accumulate or dumped in the streets can block water drains and channels which can cause flooding, posing significant environmental and public health risks (Whiteman et al, 2008). Ground or surface water pollution can occur when rain water combines with decomposing waste and seep through permeable soil, finally contaminating

surface and ground water with both lethal materials and pathogenic organisms (Ofomata and Eze, 2001); this is extremely dangerous as ground water is the main source of drinking water for most cities in the developing world (Oluwasola, 2007). Incineration of municipal solid waste contributes to air pollution by the release of noxious materials into the air, which may cause ill-health (Ofomata and Eze, 2001). Uncontrolled incineration of solid waste can also cause fire outbreaks in nearby homes and farms. Other impacts of poor Municipal Solid Waste disposal include disgusting odour, unsightliness and general degradation of the environment (Dolk, 2002).

PURPOSE OF THE RESEARH

Many studies have been done on waste disposal and management in Nigeria but none has been done to explore the views of Warri south local authority staff. The aim of this research is to explore the views of the staff of Warri south local authority on municipal solid waste disposal system, and its public health implication in Warri.

RESEARCH QUESTION

The research question for this study is – What are the perceptions of Warri South Local Authority senior staff on municipal solid waste disposal in Warri? This will encompass the issues and problems of solid waste management in the municipal.

WHY PERCEPTION?

According to Collins school dictionary (2000) perception is your understanding of something or someone. Perception refers to the image or feelings formed in one’s mind about some perceived phenomenon or object (Okot- Uma et al, 2002). Perceptions vary from person to person, as they

perceive different things about the same situation. Perception is influenced by perceiver's value, beliefs, social economic circumstance and expectations (Okot- Uma et al, 2002). People's perception of issue influence the way they act, behave or respond to them. Decision makers working in any environment

base their decision on the environment as they see it and not as it is. The action resulting from their decision on the other hand is played out in the real environment (ref).

If the general perception of people who play a major role in the running of warri municipal on solid waste disposal in Warri is that it is of little importance, little or no attention will be given to it.

METHODOLOGY.

The study will adopt a qualitative research methodology because it aims to gain an insight and knowledge about peoples' perception on waste. Qualitative research concentrates on people's attitudes, experiences, beliefs and their perceptions of a situation (Polit et al., 2001). It aims to generate an understanding of what is going on in everyday setting and it can also be used to describe a point of view, illustrate meaning, sensitize readers or try to understand phenomena (Green and Britten, 1998). Hence qualitative research is the most appropriate approach that should be used for this study.

BENEFIT OF THE RESEARCH

The study will be beneficial, as it will provide an insight on how the staff in charge of daily planning of services in Warri south view waste disposal in the community. It may also help Warri south local authority in modifying and

improving waste disposal strategies and systems. I intend to publish the findings and recommendations of this study in a local paper. It will also contribute to the existing body of knowledge of waste management in Nigeria.

SYNOPSIS OF CHAPTERS

This chapter has presented an overview of municipal solid waste disposal problems and its public health implications as an introduction to the study. Chapter two will presents a review of current significant literature on waste disposal in Nigeria and other developing countries. A brief note on how the literature search was carried out will also be stated. Following the literature review chapter, will be the methodology of the research reported in chapter three; where different research methodologies and the justification for the method chosen are discussed. The research method, which includes; sampling method, data collection, data management/analysis and ethical issues also form sections of the methodology chapter. The findings of the study and discussion are reported in chapters four and five respectively. At the end of the dissertation, the recommendations based on the research findings are stated in chapter six.