PROBLEMS AND PROSPECTS OF WASTE MANAGEMENT IN ENUGU STATE. A CASE STUDY OF ENUGU STATE WASTE MANAGEMENT AUTHORITY (ESWAMA).

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TITLE PAGE

PROBLEMS AND PROSPECTS OF WASTE MANAGEMENT IN ENUGU STATE. A CASE STUDY OF ENUGU STATE WASTE MANAGEMENT AUTHORITY (ESWAMA)
CERTIFICATION

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DEDICATION

The work is dedicated to my dear mother; Mrs Ifeoma Lucy Okafor. Mummy, you are truly a woman of noble character.
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This research work would not have been completed all by me. Some persons have in one way or the other assisted towards the actualization of this tasking feat.

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ABSTRACT

The generation and disposal of waste is an intrinsic part of any developing or industrial society. Studies have shown that the volume of waste does not actually constitute the problem but the ability or inability of governments, individuals and waste disposal firms to keep up with the task of managing waste and the environment. Past and present administrations in Enugu State have made several attempts to address the problems of waste management in the state. The establishment of the Enugu State Waste Management Authority (ESWAMA), in 2004, has not significantly addressed the menace of waste disposal as heaps of refuses are still seen all over the state on daily basis. Inadequate funding, incompetent staff, people’s attitudes and ineffective monitoring/control mechanism are variables posing challenges to ESWAMA and as such, prompted this research. The study investigated the extent to which fund affects the efficiency of ESWAMA and the professional training status of staff of ESWAMA. We also verified the impact of people’s attitudes towards ESWAMA’s mandate as well as the impact of monitoring and control on the management of waste in Enugu State. Primary and Secondary sources of data collection were employed using the simple percentage and chi square analytical tools. The study hinged its theoretical framework on the Functional Structural theory. Increment of the supplementary funds allocated to ESWAMA, regularization and staff wider participation in the training packages, merit and transparency in the recruitment exercises, among others, were recommended.
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CHAPTER ONE
INTRODUCTION

1.1 BACKGROUND TO THE STUDY

Historically, the amount of wastes generated by human population was insignificant mainly due to the low population densities, coupled with the fact that there was very little exploitation of natural resources. Common wastes produced during the early ages were mainly ashes and human & biodegradable wastes (Biodegradable waste is a type of waste, typically originating from plant or animal sources, which may be broken down by other living-organisms. Waste that cannot be broken down by other living organisms may be called non-biodegradable) and these were released back into the ground locally, with minimal environmental impact.

Before the widespread use of metals, wood was widely used for most applications. However, re-use of wood has been well documented. Nevertheless, it is once again well documented that reuse and recovery of such metals have been carried out by earlier humans.

With the advent of industrial revolution, waste management became a critical issue. This was due to the increase in population and the massive migration of people to industrial towns and cities from rural areas during the 18th century.
There was a consequent increase in industrial and domestic wastes posing threat to human health and environment.

The generation and disposal of waste is an intrinsic part of any developing or industrial society. Waste, both from domestic and commercial sources has grown significantly in Nigeria over the past decade. Every time a householder shops at the Store and open market, he contributes to the mountain of waste. It is possible to quote figures which show that the production of waste amounts to millions of tons. The percentage of Nigeria’s population living in cities and urban areas has more than doubled in the last 15 years (Jimoh, 2005). The cities and urban areas experience continuous growth which contributes to enormous in generation of solid and liquid waste.

The management of waste is a matter of national and international concern. Studies have shown that the volume of waste does not actually constitute the problem but the ability or inability of governments, individuals and waste disposal firms to keep up with the task of managing waste and the environment. There is no doubt that a dirty environment affects the standard of living, aesthetic sensibilities, health of the people and thus the quality of their lives. The corollary is that improper disposal or storage of this waste can constitute hazards to the society through the pollution of air, land and especially water.
Waste management especially in urban areas of Nigeria is still very problematic. Governments, non-governmental organizations and private individuals have been involved in waste management through various means. Waste management in urban areas has moved from solely public management to private management and presently to public-private participation. The problems associated with waste management are made more complex by the presence of non-degradable refuse (such as polythene materials).

Indiscriminate disposal and dumping of waste has become a common practice in Nigerian cities. Most of the waste dumps are located close to residential areas, markets, farms, roadsides, and creeks. The composition of waste dumps varies widely with many human activities located close to dump sites. Familiar examples include domestic and industrial wastes. Industrial wastes are generated from industrial activities such as chemicals, pesticides, paints, grease, inorganic materials, oil sludge, and so on. Domestic wastes are those generated from commercial establishments and household activities.

Enugu, like most other urban centers of the developing world is experiencing rapid and uncontrolled growth typified by poor planning, rapid population growth, inadequate amenities and poor sanitation (Hardoy and Satterhwaite, 1989). The rapid growth of Enugu urban has created waste management problems for the city.
Past and present administrations in Enugu state have made several attempts to address the problems of waste management in the state. The efforts culminated in the establishment of the Enugu State Waste Management Authority (ESWAMA) in 2004 by the administration of Dr. Chimaroke Nnamani. The authority was set up to replace the defunct Enugu State Environmental Protection Agency (ENSEPA), which failed to meet the challenges of modern day waste management.

When the incumbent Governor of Enugu State, Dr Sullivan Chime, unfolded his four cardinal objectives as he assumed office in 2007, one of them was aimed at ensuring the cleanliness of the major cities of the state, including Enugu, the state capital. He demonstrated his commitment towards ensuring the cleanliness of the state when he launched the 15 waste disposal compaction vehicles and 1,000 refuse bins at Okpara Square as part of plans to keep the environment clean. Furthermore, in an interview with the Insider weekly newspaper, the commissioner for Information and Culture, Mr. Chuks Ugwoke said the state government was making arrangements with the management of ESWAMA for sustainable refuse disposal and urban waste management in the state. He restated government’s determination and commitment to maintain a healthy and clean environment, as well as to ensure that the issue of waste disposal and management was taken care of and put to rest. But long after this assurance, waste management in Enugu state,
rather than improve, has degenerated to the lowest ebb, with the environment already feared to be contaminated and disease-borne.

Refuse heaps have taken over Enugu metropolis, a situation which generates fears of an outbreak of epidemic in the state. Residents of Enugu have expressed deep concern over the poor sanitary conditions of some parts of the state. The situation becomes unbearable as refuse heaps are littered in unauthorized places. Also, rubbish dumps, hitherto located at strategic locations, are found to overflow with refuse, a development believed to pose health risks for the masses. It is observed that, in many sections of the town, the rubbish dumps have not been evacuated for several weeks running.

For instance, residents of parts of Enugu metropolis like Ogui New Layout, Achara Layout, MaryLand, Uwani, Garki, Emene, Isieke junction and Ugbene in Abakpa Nike area respectively complained to an official of a Weekly newspaper (Klin Reports) that waste disposal officials of the state had, for inexplicable reasons, not visited for refuse evacuation for weeks now. Residents are, further, troubled over the stench that oozes out from the numerous abandoned refuse heaps across the capital city. The refuse heaps have, also, remained a breeding ground for mosquitoes which have greatly constituted a health hazard to the people. The Insider Weekly newspaper of August 2\textsuperscript{nd}, 2010 reported that findings have shown
that diarrhea (commonly called running stomach), especially, among the infant population, is on the increase in recent times. This is, often, accompanied by catarrh, cough, cold and fever. And some medical experts have attributed the outbreak of these diseases to the polluted air arising from waste mismanagement.

In another development, Vanguard newspaper reported that no fewer than 70 dump bins belonging to Enugu State Waste Management Authority, ESWAMA, have been set ablaze by some angry residents of the coal city, who are protesting the inability of the authority to evacuate refuse in their neighborhood. The report also says that residents of Abakpa in the Urban Enugu East Local Government Area had threatened to stop further payment of sanitation rate to the authority for failing to discharge its duties.

In his opinion, the present Managing Director of ESWAMA, Law Egwu, attributed the awful sight of stench-oozing refuse heaps in all the nooks and crannies of Enugu metropolis to the break-down of waste disposal trucks and equipments belonging to the authority.

1.2 STATEMENT OF THE PROBLEM

Solid Waste Management has become an area of major concern in Enugu state today. It appears to be a losing battle against the harmful consequences of unguided waste and the attainment of a clean healthy environment for all indigenes
of the state. It is common sight in Enugu today to see heaps / accumulation of festering waste dumps in parts of the state. All sides of residential apartments, the drains, the highways, corners of major or and minor streets, undeveloped plots of land have all become waste dumps for many households. As one writer puts it, waste increases in a geometrical progression while collection and disposal increases at an arithmetical progression (Akinwale, 2005).

The problem associated with the management of solid waste in most urban cities in Nigeria, like Enugu, does not completely appear to be a problem of absence of legislative framework for solid waste management owing to the fact that at Federal, States, and Local governments levels, there exist some form of sanitation legislations or the other, but some other factors have come to play with the crises experienced in the management of wastes in the Nigerian urban centre’s. From the background of this study, it appears that the Enugu State Waste Management Authority (ESWAMA) has not done well in the direction of tackling the menace of solid wastes in the state. This is even in the face of advanced management strategies existing today for solid waste management which have been adopted in many places. Thus, considering the efforts made by stakeholders in waste management, one would be wondering why heaps of refuses are still seen all over the state on daily basis.
Could it be that the Government of Enugu state lacks the political will needed to ascertain congruence of actions and promises as well as fails to be meeting up with its funding responsibilities? Meanwhile, waste management is by nature both capital and economic intensive; this simply means that it requires huge capital outlay if it must see the light of the day.

Or could it be that the authority in charge of waste management in the state cannot boast of competent waste managers. Competent waste managers/engineers are inevitable in waste management exercises and activities. Policies and technologies don’t function in isolation; they require personnel with technical know-how to man them for effectiveness and efficiency.

Absence of an effective monitoring/control mechanism can bring about in discriminatory refuse generation and disposal. This is true because no force is coordinating all the parts to guarantee order and conformity.

Modern technology used in implementing efficient waste management methods may be existing in papers and not in practical terms. This will make a mockery of the activities of the waste management agency as most methods are outdated; considering the rapid growth in population density in urban centers.

On the other hand, the people’s negative attitudes regarding waste disposal and its agency/agent could pose a very big challenge to waste management. And some
other yet to be identified factor(s) may be responsible for the challenges of managing waste in the state of Enugu.

Whatever constitutes the problem, the fact remains that the task of keeping the state clean is the responsibility of the state’s waste management authority (ESWAMA).

In this paper, our attention would be focused on ascertaining whether the aforementioned problems associated with waste management are responsible for the challenges of waste management in Enugu and proffer suggestions that may assist in addressing this issue that seems to be aborting most efforts of International organizations, the state government, waste management authority and professionals alike.

It is in view of these problems described above and in other to proffer possible ways of ameliorating them, that the following questions were posited:

1. To what extent does fund affects the efficiency of ESWAMA?
2. What is the professional training status of staff of ESWAMA?
3. What impact do people’s attitudes towards ESWAMA have on the Authority’s mandate of maintaining a clean environment?
4. What impact does monitoring and control have on the management of waste in Enugu State?
1.3 OBJECTIVES OF THE STUDY

The aim of this study generally will be to investigate the actual problems militating against effective and efficient waste management in Enugu State and as well provide solutions, insights and possible ways, by enlightening and empowering the stakeholders in the waste management sphere, of surmounting the quagmire.

The specific objectives of the study are to:

1. Investigate the extent to which fund affects the efficiency of ESWAMA.
2. Find out the professional training status of staff of ESWAMA.
3. Verify the impact of people’s attitudes towards the Authority’s mandate of maintaining a clean environment.
4. Find out the impact of monitoring and control on the management of waste in Enugu State.

1.4 SIGNIFICANCE OF THE STUDY

Any reasonable research work must be designed to be of significance to the society. Also, the significance of a study deals with the benefits that will be derived from it after it has been concluded. This goes further to signify that any research carried out without defining its significance may be regarded as a waste of time and resources.
Apart from the various diseases and toxic conditions inherent in and derivable from the indiscriminate disposal and dumping of wastes; which has become a common practice in Enugu state, the presence of waste degenerates the aesthetic value of the environment. The findings of this study will contribute it quota in the quest to making Enugu one of the cleanest 21st century city in the world. When this is achieved, the aesthetic attraction of the state will begin to boost her tourist industry, which is a source of revenue to the government and a job creator for her masses. Again, if the recommendations and suggestions of this study will be sincerely and adherently pursued, it will reduce, to the barest minimum, the adverse effect of such diseases like Malaria, diarrhea, cough, catarrh, cold, and fever. This will in turn cut down on the high rate of infant mortality and pregnant women mortality. Also, the money being spent by individuals/families on treating patience of waste induced diseases will be channeled to some other needs of theirs. Worthy to mention is the fact that when ESWAMA becomes effective and efficient in waste management, the heavy traffic congestions caused by spill over of refuse dumps along the major roads in Enugu will seize to be an issue.

Academically, findings of this study will serve as a platform for other research works and add to knowledge of scholars/academicians whom will in turn impact on the students and future assignments of state or national course.
To the bureaucrats, human resources managers, town planners, and the Lawmakers, the knowledge of the problems associated with waste management in Enugu state, and possible ways to solving them, will be a guide to them in making rational decisions and planning effectively.

To the people as well, the findings and recommendations of this work will assist in transforming their negatively perceived attitudes towards waste disposal, waste management authority and its agents.

1.5 SCOPE AND LIMITATIONS OF THE STUDY

The study is restricted to Enugu urban centre (the state capital) and since the Enugu State Waste Management Authority (ESWAMA) was established in the year 2004, the study will be covering the problems and challenges of waste management in the state starting from the year 2004 to 2010. The findings may not reflect the situation in the whole state, but by and large, there is a strong belief that what happens in Enugu urban centre can be said to apply to other urban centers in the state.

The study is affected by lack of time, material, and money resources to see to the whole of the State.
2.1 Literature Review

Certainly, it would be an incomplete work, or perhaps meaningless, if we fail to get ourselves acquainted with the subject matter of discourse—waste management. In order to describe, summarize, evaluate and clarify the related works of other scholars as related to this work and also to establish a fundamental basis for this research, the literature will be reviewed under the following sub-themes:

(i) The concept of waste
(ii) The concept of waste management
(iii) Waste Management Techniques

2.1.1. The Concept of Waste

The sixth edition of the Oxford Advanced Learners’ Dictionary categorizes the term “waste” into two broad perspectives. They are; waste as “Not use well” and “Not good use”. The former has to do with doing, using, giving, or saying something than its necessary or useful or perhaps where it is not valued in the way that it should be. Thus when one hears things like: why waste money on the clothes you don’t need? You’re wasting your time trying to explain it to him because he will not understand? You’re wasted as a sales manager- you should have been an
actor? One should bear in mind that the term is being used in the context of not-use-well category. On the other hand, the latter sees waste from the view of materials that are no longer needed and are thrown away. In this study, our discussions will take it base from the latter’s view point as it regards waste.

Nigel Bell in Akinwale (2005) defines wastes as rubbish or materials that are not needed and are economically unusable without further processing. Here, Nigel emphasis is that to ascertain something as a waste, it has to be economically unusable- in other words, it is unproductive since it has lost the economic value(s) therein. However, Nigel’s position can be questioned because recent practices have shown that what one party considers as unneeded materials, and of course economically unusable, may be the most needed and of economic importance to another party. This is to say, what is waste in a place may turn out to become non waste in another place. For example, after drinking the liquid contents of a bottle of champagne, the empty bottle is considered as a waste by the person who drank the liquid content and perhaps is thrown away. But, another person may pick it up from the point of disposal and either reuse or recycle the empty bottle for containing another liquid substance or some other item of economic importance. The bone of contention here is that it is not clear to say at what point an item constitutes a waste.
Defra in Ogwueleka (2009) succinctly posits that there is no definitive list of what is and is not waste. It goes further to state that whether or not a substance is discarded as waste- and when waste ceases to be waste- are matters that must be determined on the facts of the case and the interpretation of the law. Defra is of the opinion that whether or not a substance is discarded as waste rests, on one hand, with the producer or holder of such substance to decide whether it is being discarded as waste and, on the other hand, with regulations or laws stipulating such.

Contrary to Defra’s position that there is no definitive list of what is and is not waste, the Council of the European Communities had on the 26th of March, 1991, adopted that waste shall mean any substance or object in the categories set out below, which the holder discards or intends or is required to discard. The categories include:

- Production or consumption residues not otherwise specified below
- Off-specification products
- Products whose date for appropriate use has expired
- Materials spilled, lost or having undergone other mishap, including any materials, equipment, etc. contaminated as a result of the mishap
- Materials contaminated or soiled as a result of planned actions (e.g. residues from cleaning operations, packing materials, containers, etc.)
- Unusable parts (e.g. reject batteries, exhausted catalysts, etc.)
- Substances which no longer perform satisfactorily (e.g. contaminated acids, contaminated solvents, exhausted tempering salts, etc.)
- Residues of industrial process (e.g. slags, still bottoms, etc.)
- Residues from pollution abatement processes (e.g. scrubber sludge’s, bughouse dusts, spent filters, etc.)
- Machining/finishing residues (e.g. lathe turnings, mill scales, etc.)
- Residues from raw materials extraction and processing (e.g. mining residues, oil field slops, etc.)
- Adulterated materials (e.g. oils contaminated with PCBs, etc.)
- Any materials, substances or products whose use has been banned by law
- Products for which the holder has no further use (e.g. agricultural, household, office, commercial and shop discards, etc.)
- Contaminated materials, substances or products resulting from remedial action with respect to land
- Any materials, substances or products which are not contained in the above categories.

The holder, in this context, shall mean the producer (anyone whose activities produce waste and/or anyone who carries out pre-processing, mixing, or other operations resulting in a change in the nature or composition of this waste) of
waste or the natural or legal person who is in possession of it. It may worth our while to re-emphasize here that waste is sometimes a subjective concept, because items that some people discard may have value to others and as Wikipedia free Encyclopedia (2010) observes that on a global scale, it is difficult to report waste because countries have different definitions of waste and what falls into waste categories, as well as different ways reporting. In other words, what the Council of the European Communities listed as waste may differ from what constitutes waste in Nigeria or in any other territory.

The 2009 model Encarta soft dictionary, highlighted seven aspects of waste, they include waste as an (a):

- **Act of Wasting**: a failure to use something wisely, properly, fully, or to good effect. Example: a complete waste of money.

- **Unwanted Material**: unwanted or unusable items, remains, or byproducts, or household garbage. Example: chemical waste

- **Excrement**: the undigested remainder of food expelled from the body as excrement.

- **Used or Contaminated Water**: used or contaminated water from domestic, industrial, or mining applications.

- **Rock associated with mineral**: enclosing rock mined with a mineral, or ore with insufficient mineral content to justify further processing.
❖ **Wild area:** an uncultivated, desolate, or wild area (often used in the plural) as in the frozen wastes of Antarctica.

❖ **Destroyed area:** a place or region that has been destroyed or ruined.

Contributing to the subject matter, the Basel convention cast its vote to the school of thought that believes that wastes are “substances or objects which are disposed of or are intended to be disposed of or are required to be disposed of by the provisions of national law”. While the United Nations Statistics Division (UNSD) stated that “Wastes are materials that are not prime products (that is products produced for the market) for which the generator has no further use in terms of his/her own purposes of production, transformation or consumption, and of which he/she wants to dispose. Wastes may be generated during the extraction of raw materials, the processing of raw materials into intermediate and final products, the consumption of final products, and other human activities. Residuals recycled or reused at the place of generation are excluded”. Attah (2009) noted that the Federal Environmental Protection Agency Act of 1988 did not define waste. Only some state statues attempt to do so. For example, section 32 of the Lagos State Environmental Sanitation Edict has a definition similar to the UK Environmental Protection Act 1990, as any substance which constitutes a scrap material, an effluent or other unwanted surplus substance arising from the application of any process. He further states that waste is usually classified according to:
(a) its source,

(b) its harmful effect on humans and the environment, and

(c) The control which are appropriate to deal with it.

With regards to the source classification, it either comes out of the shop (market) or office - commercial waste or, out of the factory- industrial waste, or out of the home – household or domestic waste.

Pongracz and Pohjola (2004) proposed four perspectives by which wastes could be interpreted. To them, wastes are:

- Non-wanted things created, not intended, or not avoided, with no purpose.
- Things that were given a finite purpose thus destined to become useless after fulfilling it.
- Things with well-defined purpose, but their performance ceased being acceptable
- Things with well-defined purpose, and acceptable performance, but their users failed to use them for the intended purpose.

Talichi Ohno (Wikipedia encyclopedia: 2010) from Toyota production System describes waste as “Any human activity that absorbs resources but creates no value”. By implication, Ohno was of the view that whatsoever human activity that only receives without giving out value(s) could be termed as waste. At this point, the bone of contention as to the un-clarification of at what point an item constitutes
a waste could be balanced, drawing conclusion from the discussion so far. To be brief, we shall adopt our conclusion from the consensus of the Waste Framework Directive of the European Union (75/442/EC) that once a substance or object has become waste, it will remain waste until it has been fully recovered and no longer poses a potential threat to the environment or to human health. Therefore, anything which is discarded or otherwise dealt with as if it were waste shall be presumed to be waste unless the contrary is proved. Waste, as a concept, does not exist in abstraction but has impacts as well as costs on nature and human. The Wikipedia free Encyclopedia 2010 observes three different costs of waste. These costs include:

**Environmental Costs**

Waste can attract rodents and insects which cause gastrointestinal parasites, yellow fever, worms, the plague and other conditions for humans. Exposure to hazardous wastes, particularly when they are burned, can cause various other diseases including cancers. Waste can contaminate surface water, groundwater, soil, and air which cause more problems for humans, other species, and ecosystems. Waste treatment and disposal produces significant green house gas (GHG) emissions, notably methane, which is contributing significantly to global climate change.
Social costs

Waste management is a significant environmental justice issue. May of the environmental burdens cited above are more often borne by marginalized groups, such as racial minorities, women, and residents of developing nations. NIMBY (not-in-my-back-yard) is a popular term used to describe the opposition of residents to a proposal for a new development close to them. However, the need for expansion and sitting of waste treatment and disposal facilities is increasing worldwide. There is now a growing market in the trans-boundary movement of waste, and although most waste that flows, between countries goes between developed nations, a significant amount of waste is moved from developed to developing nations.

Economic costs

The economic costs of managing waste are high, and are often paid for by municipal governments. Money can often be saved with more efficiently designed collection routs, modifying vehicles, and with public education. Environmental policies such as pay as you throw can reduce the cost of management and reduce waste quantities. Waste recovery (that is, recycling, reuse) can curve economic costs because it avoids extracting raw materials and often cuts transportation costs.
The location of waste treatment and disposal facilities often has an impact on property values due to noise, dust, pollution, unsightliness, and negative stigma. The informal waste sector consists mostly of waste pickers who scavenge for metals, glass, plastic, textiles, and other materials and then trade them for a profit. This sector can significantly alter or reduce waste in a particular system, but other negative economic effects come with the disease, poverty, exploitation, and abuse of its workers. We shall now take a look at some of the waste types that are of interest to the study.

There are so many types of waste on the planet earth but a few shall be mentioned here for the purpose of the study, these are: biodegradable waste, biomedical waste, business (or commercial and industrial) waste, chemical waste, medical (clinical) waste, commercial waste, construction waste, municipal solid waste, controlled waste and hazardous waste. The Welsh Assembly Mechanical Biological Treatment, Environment Countryside and Planning Website (2005) defined Biodegradable Waste as a type of waste, typically originating from plant or animal sources, which may be broken down by other living organisms. Waste that cannot be broken down by other living organisms may be called non-biodegradable. Biodegradable waste can be commonly found in municipal solid waste (sometimes called biodegradable municipal waste, or BMW) as green waste, food waste, paper waste, and biodegradable plastics. Other biodegradable wastes
include human waste, manure, sewage, slaughterhouse waste. Then, **biomedical waste** consists of solids, liquids, sharps, and laboratory waste that are potentially infectious or dangerous and are considered bio-waste. It must be properly managed to protect the general public, specifically healthcare and sanitation workers who are regularly exposed to biomedical waste as an occupational hazards. Biomedical waste differs from other types of hazardous waste, such as industrial waste, in that it comes from biological sources or is used in the diagnosis, prevention, or treatment of diseases. Common producers of biomedical waste include hospitals, health clinics, nursing homes, medical research laboratories, offices of physicians, dentists, and veterinarians, home health care, and funeral homes.

**Business (or Commercial and Industrial) waste** – cover the commercial waste and industrial waste types. Generally, businesses are expected to make their own arrangements for the collection, treatment and disposal of their wastes. Waste from smaller shops and trading estate where local authority waste collection agreements are in place will generally be treated as municipal waste.

**Chemical waste** is a waste that is made from harmful chemicals (mostly produced by large factories). Chemical waste may or may not be classed as hazardous waste.
Medical waste, also known as Clinical waste, normally refers to waste products that cannot be considered general waste, produced from healthcare premises, such as hospitals, clinics, doctor’s offices, labs and nursing homes.

Commercial waste consists of waste from premises used wholly mainly for the purposes of a trade or business or for the purpose of sport, recreation, education or entertainment but not including household; agricultural or industrial waste.

Construction waste consists of unwanted material produced directly or incidentally by the construction or industries. This includes building materials such as insulation, nails, electrical wiring, and rebar, as well as waste originating from site preparation such as dredging materials, tree stumps, and rubble construction waste may contain lead, asbestos, or other hazardous substances.

Controlled waste is a waste type composed of domestic, commercial and/or industrial waste. They are regulated by governmental institutions or acts, because of their toxicity or imminent hazardous nature, either in themselves, obtained during biodegradation or biochemical degradation.

Municipal solid waste (MSW), also called urban solid waste, is a waste type that includes predominantly household waste (domestic waste) with sometimes the addition of commercial wastes collected by a municipality within a given area. They are in either solid or semisolid form and generally exclude
industrial hazardous wastes. The term residual waste relates to waste left from household sources containing materials that have not been separated out or sent for reprocessing. Having talked about some of the waste types, this study would be incomplete if we fail to bring to the fore what hazardous waste is all about.

The 2009 Encarta Encyclopedia observed that **Hazardous Wastes** are solid, liquid, or gas wastes that can cause death, illness, or injury to people or destruction of the environment if improperly treated, stored, transported, or discarded. Substances are considered hazardous wastes if they are ignitable (capable of burning or causing a fire), corrosive (able to corrode steel or harm organisms because of extreme acidic or basic properties), reactive (able to explode or produce toxic cyanide or sulfide gas), or toxic (containing substances that are poisonous). Mixtures, residues, or materials containing hazardous wastes are also considered hazardous wastes. Many dangerous substances can be used only with special precautions that decrease their risks. When discarded, these substances are no longer under the direct control of the user and may pose special hazards to people or other organisms that come in contact with them. The encyclopedia further enunciated for main sources of hazardous waste, these are;

**Industrial Wastes**
Hazardous wastes are generated by nearly every industry; those industries that themselves generate few hazardous wastes nonetheless use products from hazardous waste generating industries. For example, in the computer software industry, writing software generates little hazardous waste, but the manufacture of computers involves many industries processes. Making a computer circuit board generates spent electroplating baths that contain metal salts, and the production of computer chips uses acids, other caustic chemicals, and solvents. Other hazardous wastes are generated in the manufacture of fiber optics and copper wire used in election transmission, as well as magnetic disks, paper for technical manuals, photographs for packaging and publicity, and trucks for the transportation of the finished product.

**Agricultural Wastes**

Industry is not alone in generating hazardous wastes. Agriculture produces such wastes as pesticides and herbicides and the materials used in their application. Fluoride wastes are by-products of phosphate fertilizer production. Even soluble nitrates from manure may dissolve into groundwater and contaminated drinking-water wells; high levels of nitrates may cause health problems.

**Household Wastes**
Household sources of hazardous wastes include toxic paints, flammable solvents, caustic cleaners, toxic batteries, pesticides, drugs, and mercury from broken fever thermometers. Local waste-disposal systems may refuse these items. If they are accepted, careful monitoring may be required to make sure soil or groundwater is not contaminated. The householder may be asked to recycle or dispose of these items separately.

Renovations of older homes may cause toxic lead paint to flake off from walls. Insulation material on furnace pipes may contain asbestos particles, which can break off and hang suspended in air; when inhaled, they can cause lung disease and cancer.

Medical Wastes

Hospitals use special care in disposing of wastes contaminated with blood and tissue, separating these hazardous wastes from ordinary waste. Hospitals and doctor’s offices must be especially careful with needles, scalpels, and glassware, called “sharps”. Pharmacies discard outdated and unused drugs; testing laboratories dispose of chemical wastes. Medicine also makes use of significant amounts of radioactive isotopes for diagnosis and treatment, and these substances must be tracked and disposed of carefully.
Hazardous wastes may pollute soil, air, surface water, or underground water. Pollution of soil may affect people who live on it, plants that put roots into it, and animals that move over it. Toxic substances that do not break down or bind tightly to the soil may be taken up by growing plants; the toxic substances may later appear in animals that eat crops grown there and possibly in people who do so. Air may become contaminated by direct emission of hazardous wastes. The air above hazardous waste may become dangerously contaminated by escaping gas, as can occur in houses built on mine tailings or old dump sites. River and lake pollution, if it is toxic enough, may kill animal and plant life immediately, or it may injure slowly. For example, fluoride concentrates in teeth and bone, and too much fluoride in water may cause dental and bone problems. Compounds such as dichlorodiphenyltrichloroethane (DDT), PCBs, and dioxins are more soluble in fats than in water and therefore tend to build up in the fats within plants and animals. These substances may be present in very low concentrations in water but accumulate to higher concentrations within algae and insects, and build up to even higher levels in fish. Birds or people that feed on these fish are then exposed to very high levels of hazardous substance. In birds, these substances can interfere with egg production and bone formation. Even pollution that is not toxic can kill. Phosphates and nitrates, usually harmless, can fertilize the algae that grow in lakes or rivers. When algae grow, in the presence of sunlight, they produce oxygen. But
if algae grow too much or too fast, they consume great amounts of oxygen, both when the sun is not shining and when the algae die and begin to decay. Lack of oxygen eventually suffocates other life; some living things may be poisoned by toxins contained in the algae. This process of algal overgrowth, called eutrophication, can kill life in lakes and rivers. In some cases, particular algae can also poison the drinking water of people and livestock. Irrespective of the category or type of wastes involved, the need for an effective and efficient management of wastes in the society becomes inevitable. According to Mowoe (1990:177) the management of waste is a matter of national and international concern. The volume of waste does not actually constitute the problem but the ability or inability of governments, individuals and waste disposal firms to keep up with the task of managing waste and the environment. There is no doubt that a dirty environment affects the standard of living, aesthetic sensibilities, health of the people and thus the quality of their lives. The corollary is that improper disposal or storage of this waste can constitute hazards to the society through the pollution of air, land and especially water as already noted above. But, what actually is waste management? Let’s take a look at what constitutes waste management and what’s not.

### 2.1.2 Waste Management

Literally, waste management is the process of managing waste materials (normally those produced as a result of human activities). In order to define waste
management, we need to include several different processes such as collection, transport, processing, recycling, disposing, and monitoring of waste. Along this line, the Wikipedia Web Encyclopedia 2010 defines waste management as the collection, transport, processing, recycling or disposal and monitoring of waste materials. According to Atsegbua L.A & et al (2003:104), waste management does not just end at collection, transporting processing, recycling or disposal and monitoring of wastes materials but refers to the collection, keeping, treatment and disposal of wastes in such a way as to render then harmless to human and animal life, the ecology and environment generally. In other words, the primary aim of managing wastes is for the safety of human, animal, ecology and environment. We could as well add here that any other aim that goes in contrary to the aims mentioned above does not constitutes waste management. Attah (2009) added that waste management could also be said to be the organized and systematic dumping and channeling of waste through or into landfills or pathways to ensure that they are disposed of with attention to acceptable public health and environmental safeguard and that a proper waste management will result in the abatement or total elimination of pollution. Attah’s contribution raises some critical concerns with regards to the situation in Nigeria (generally) and Enugu State (in particular). Perhaps one would be tempted to ask questions like;

- Is dumping of wastes organized and systematic in Enugu State?
• Is attention given to acceptable public health and environmental safeguard when it comes to waste disposal in Enugu State?

• Have the activities ESWAMA resulted in the abatement or total elimination of pollution in Enugu state? Judging by sight, we can argue unequivocally that waste management in Enugu state does not conform to Attah’s definition of what waste management is. Whatever the perspective, the term waste management, in all its ramifications encompasses all steps taken in controlling the production, storage, collection, transportation, processing and disposal or utilization of wastes, in a sanitary manner (Taiwo: 2010).

2.1.3 Methods of Waste disposal

Practically, there are just two methods- those that are environmentally friendly e.g. sanitary or engineered landfill and composting, and those that are not, including incineration, stream dumping and open burning. Other existing methods include: petrification, bailing, land burial and pyrolysis, just to mention a few. Also of all the listed methods above only the sanitary landfill, stream dumping and land burial are permanent waste disposal systems while the others are just waste treatment i.e. meant to reduce the waste volume.

Landfill method
Disposing of waste in a landfill involves burying the waste, and this remains a common practice in most countries. Landfills were often established in abandoned or unused quarries, mining voids or borrow pits. A properly designed and well-managed landfill can be a hygienic and relatively inexpensive method of disposing of waste materials. Older, poorly designed or poorly managed landfills can create a number of adverse environmental impacts such as wind-blown litter, attraction of vermin, and generation of liquid leachate. Another common byproduct of landfills is gas (mostly composed of methane and carbon dioxide), which is produced as organic waste breaks down anaerobically. This gas can create odour problems, kill surface vegetation, and is a greenhouse gas.

Design characteristics of a modern landfill include methods to contain leachate such as clay or plastic lining material. Deposited waste is normally compacted to increase its density and stability, and covered to prevent attracting vermin (such as mice or rats). Many landfills also have landfill gas extraction systems installed to extract the landfill gas. Gas is pumped out of the landfill using perforated pipes and flared off or burnt in a gas engine to generate electricity.

**Incineration method**

Incineration is a disposal method that involves combustion of waste material. Incineration and other high temperature waste treatment systems are
sometimes described as “thermal treatment”. Incinerators convert waste materials into heat, gas, steam and ash. Incineration is carried out both on a small scale by individuals and on a large scale by industry. It is used to dispose of solid, liquid and gaseous waste. It is recognized as a practical method of disposing of certain hazardous waste materials (such as biological medical waste). Incineration is a controversial method of waste disposal, due to issues such as emission of gaseous pollutants. Incineration is common in countries such as Japan where land is scarcer, as these facilities generally do not require as much area as landfills. Waste-to-energy (WTE) or energy-form-waste (EFW) is broad terms for facilities that burn waste in a furnace or boiler to generate heat, steam and/or electricity. Combustion in an incinerator is not always perfect and there have been concerns about micro-pollutants in gaseous emissions from incinerator stacks. Particular concern has focused on some very persistent organics such as dioxins, furans, PAHs, which may be created within the incinerator and afterwards in the incinerator plume which may have serious environmental consequences in the area immediately around the incinerator. On the other hand this method or the more benign anaerobic digestion produces heat that can be used as energy.

**Plasma gasification method**

Plasma is a highly ionized or electrically charged gas. An example in nature is lightning, capable of producing temperatures exceeding 12,600°F (6,980°C). A
gasifier vessel utilizes proprietary plasma torches operating at +10,000°F (5,540°C) (the surface temperature of the sun) in order to create a gasification zone of up to 3,000°F (1,650°C) to convert solid or liquid wastes into a syngas. When municipal solid waste is subjected to this intense heat within the vessel, the waste’s molecular bonds break down into elemental components. The process results in elemental destruction of waste and hazardous materials. Plasma gasification offers states new opportunities for waste disposal, and more importantly for renewable power generation in an environmental sustainable manner (Alliance Federated Energy).

**Recycling Method**

The popular meaning of ‘recycling’ in most developed countries refers to the widespread collection and reuse of everyday waste materials such as empty beverage containers. These are collected and sorted into common types so that the raw materials from which the items are made can be reprocessed into new products. Material for recycling may be collected separately from general waste using dedicated bins and collection vehicles, or sorted directly from mixed waste streams.

The most common consumer products recycled include aluminum beverage cans, steel food and aerosol cans, HDPE and PET bottles, glass bottles and jars, paperboard cartons, newspapers, magazines, and corrugated fiberboard boxes.
PVC, LDPE, PP, and PS (see resin identification code) are also recyclable, although these are not commonly collected. These items are usually composed of a single type of material, making them relatively easy to recycle into new products. The recycling of complex products (such as computers and electronic equipment) is more difficult, due to the additional dismantling and separation required. Critics dispute the net economic and environmental benefits or recycling over its costs, and suggest that proponents of recycling often make matters worse and suffer from confirmation bias. Specifically, critics argue that the costs and energy used in collection and transportation detract from (and outweigh) the costs and energy saved in the production process; also that the jobs produced by the recycling industry can be a poor trade for the jobs lost in logging, mining, and other industries associated with virgin production; and that materials such as paper pulp can only be recycled a few times before material degradation prevents further recycling. Proponents of recycling dispute each of these claims, and the validity of arguments from both sides has led to enduring controversy.

2.1.4 Waste management in Nigeria

In Nigeria, especially in major urban centres, solid waste management is a critical problem. In fact, Nigerian Government has taken different steps in the past to combat the problem without success. You don’t need to look far before you see mountain of refuse in most of urban centres. Earlier on, the step taken was based
on waste disposal on some designated landfills (that were not sanitary because they were not constructed with underlain (LDPE) to prevent leachate problem). This system i.e. one-fits-all does not work again because of increase in population and urbanization that effect the land use pattern. Then, when and where the municipal government cannot cope with waste collection and disposal successfully, people resolve into waste dumping into storm water, during the rainfall, open dumping and stream dumping. Based on observation, as Taiwo (2010) noted, waste management problem in most of Nigerian communities is multidimensional in nature. It is associated with lack of community participation in solid waste management. Most of policies concern this issue are made without considering the community people who are the waste generators. For instance, in a study conducted at Orita-Aperin communities in the year 2004, it was found out that attitudes and belief of community people affected their waste management practices. Furthermore, Taiwo stated that in Nigeria context, waste disposal is normally seen by the municipal government as a venture without any financial gain. That is the issues of environmental protection and healthful living are not very important to some health planners. In addition to this, the question of whose responsibility is to take care of waste generated in a community has not been clearly answered. Unless in some civilized areas, many people do not realized that
they are liable to the disposal of wastes generated by them as they dump them by the road side for government workers to pick up!

Atsegba (2003:104) observes that the problem associated with waste management in Nigeria does not appear to be a problem of absence of legislative framework for waste management but other factors have been identified as being responsible for penetrating the crises experienced in the management of waste in Nigeria. He highlighted these other factors as:

- **Lack of Adequate Funding and Excessive Population:** waste management is by nature both capital and economic intensive. This requires huge capital outlay. Many state governments spend a good percentage of their funds on domestic waste management. For examples Lagos state Government spend between 2-25% of its funds on waste management. But what this amount could accomplish is dwarfed by the population it caters for. Lagos state, for instance, has a projected population of 12-18 million persons. It is estimated that the average individual in such mega cities as Lagos generates an average of 0.115kg of waste daily. It is that the funds available or at least earmarked for domestic waste management is grossly inadequate, to fund the public agencies and other private sector participants (PSP) involved in collection and disposal of domestic waste; to fund the procurement of equipment and materials required for effective domestic waste disposal.
Lack of Trained/Professional Waste Managers: There are just a few sanitation and environment Engineers in Nigeria. In fact most private sector operators in waste management are mainly party stalwarts; know little or nothing about waste management.

Lack of Effective Monitoring and Control: The Waste regime in the UK provides a quintessence of a system that makes for effective monitoring of domestic waste prior to disposal and the steps to be taken on disposal. The regime distinguishes between controlled and special waste. Under section 30 of the EPA, 1990, waste authorities in charge of waste administration have three basic functions: regulation, collection and disposal. Waste disposal authorities are to award waste disposal contracts through competitive tendering and are to make contracts with waste disposal contractors who may be private sector companies or companies set up by the local authority which must be at arm’s length from the waste authority. The waste regulation authority is responsible for issuing a waste management license. Under the regime, controlled waste may not be deposited, treated, kept or disposed of without a license. The licensing method issued as a means of controlling waste. Section 33(1)(a) of the EPA provides that it is an offence of “treat, keep or dispose of controlled waste in a manner likely to cause pollution of the environment or harm to human health” The offence in
notable for its breath. “pollution of the environment” is defined in section 29 to mean the release or escape of the waste into any medium so as to cause harm to man or any other living organisms supported by the health of living organisms or other interference with the ecological systems of which they form part and in the case of man includes offence to any of his sense or harm to his property”. Thus the offensive smell of a waste tip would be covered, as presumably would its unattractive appearance. The offence can be committed whether or not the offender has a license. So the offence focuses on environmental protection, not with enforcing the licensing regime. The penalties are quite prohibitive. Again the duty of care principle under the EPA, designed to satisfy the European ideology on the environment that the polluter pays is an important form of liability on producers of domestic waste. The producer is responsible for the proper disposal of the waste. This means that the producer must ensure it is transferred to a responsible carrier. The producer cannot escape liability simply by passing the waste onto anyone else who could include the fly-tipper. This unbroken chain of waste transmission ensures that indiscriminate dumping and disposal is eliminated. The waste management regime in Nigeria is far from what is described above, so that the house-holder-producer of domestic waste is not deterred by any form of sanctions, because mostly, waste management agencies or
contractors hardly exist in many places in Nigeria nor is monitoring and monitoring authorities effective.

❖ **Peculiarity of the Nigerians’ Attitude:** The “government-does-everything” philosophy of many Nigerians contributes to the domestic waste management problems in Nigeria. A careless attitude permeates the thinking especially, those living in cities and towns. Self-help methods of domestic waste disposal are available and could be explored by individuals and institutions. Domestic incineration, landfill system is practicable, but most Nigerian’s would take to the easy way of depositing waste along the highway and corners of street for “government” to pick up. Some have founded this attitude on illiteracy but this would be a fallacy. Traditionally, as is still apparent in some of our villages, where a good number of individuals is still illiterate, residents are very conscious of the importance of having a clean environment and this is evidenced by the sanitation arrangements in force in these societies.

In its paper 74 of 2006, collaborative working Group on Solid Waste Management in Low- and middle-income Countries WASH workshop at India stated that following the failure of the pilot project in Enugu state Environmental Protection Agency), it was quickly realized that the institutional arrangements for waste management had to be changed if the Solid Waste Management (SWM)
service sector was to develop. At a meeting of the major stakeholders a new strategic approach to SWM was developed and focused on the need for institutional and financial reform in the sector, establishing a sound service delivery model and promoting public awareness. Legislation was prepared to clarify these new institutional arrangements, provide an enabling framework for private sector participation in SWM services, and establish tariffs and fines for different types of premises. The legal process through which disputes would be resolved also had to be specified. In relation to the overall purpose of the programme (Government reform), it became apparent that State Government would be required to step back from day-to-day delivery of services, and focus instead on its regulatory function. In short, less but more focused government. This would inevitably demand the ‘right sizing’ of the staffing levels in the public sector, and involve some redundancies. The new law was adopted by the Enugu House of Assembly dissolving ENSEPA, and creating a new regulatory body, the Enugu State Waste Management Authority (ESWAMA). The paper further emphasized for the first time in Nigeria, the law contained a stipulation that the executive and senior managerial posts in the Authority be competitively tendered, and given on the basis of performance based contracts and clearly defined job descriptions. This was perceived as a major step forward and the elimination of patronage in senior staff appointments was seen as a vital step forward in getting
suitably qualified personnel into key positions and a major driving force in the introduction of transparent government. Thus, in late 2004 a new raft of senior managers was appointed to the newly established ESWAMA, including a newly created post of Managing Director, with the view to running this government department more along the lines of the private sector. The posts were advertised and candidates interviewed in a completely open and transparent process. The same process was used to appoint SWM contractors for various parts of the city. The simple act of changing a name did not bring about the changes necessary to provide a good service. The organization needed a workforce fit for purpose. Once the senior staff had been appointed and a new institutional structure designed, the next phase focused on populating the new structure designed, the next phase focused on populating the new structure with appropriately qualified personnel. According to the results of work conducted within the programme, it was viewed as necessary to halve the existing staff number. Inevitably this meant redundancies. Again, for the first time in Nigeria, this delicate issue was addressed and, with support from SLGP, ESWAMA emerged with a much reduced work-force, better qualified people in key positions and a general feeling among those that remained that they had a role within a dynamic and respectable organization. Added to this, there was a clear issue concerning the ability of those that remained to carry out the new duties that lay before them. No institutional reform can be effective without a
programme of re-training. This training was required not only to provide the necessary knowledge and skills, but to explain why the new system of operation was important and the logic of the changes. With this, there became a greater ‘buy in’ to the new infrastructure and means of operation.

The online Daily independent news of 20th October, 2010 reported that Gov. Sullivan Chime’s administration however repositioned ESWAMA by bringing a new management and procuring equipment including 15 waste disposal trucks and 1,000 dumpsters for waste management in Enugu metropolis. It would be recalled that Chime’s government had, at the end of the first meeting of the State Executive Council (SEC) in January, 2010, assured indigenes and residents that necessary machinery had been put in motion for tackling problems of waste management in the state. But long after this assurance, waste management in Enugu state, rather than improve, has degenerated to the lowest ebb, with the environment already feared to be contaminated and disease-borne (Klin Reports of 2nd August, 2010). The report concludes that the consensus is that all the environment-related agencies in the state, including ESWAMA, Enugu state Environmental Protection Agency (ENSEPA), Enugu State Ministry of Environment and, indeed, the government of Barrister Sullivan Iheanacho Chime have failed in the environmental sanitation of Enugu city. This study targets to investigate the extent to which fund affect the efficiency of ESWAMA, and find out the professional training status of its staff.
Again, verify the impact of people’s attitudes towards the Authority’s mandate of maintaining a clean environment and find out the impact of monitoring and control on the management of waste in state.

2.2 Hypotheses

The study will examine the following hypotheses;

- Inadequate funding of ESWAMA affects its efficiency.

- Incompetent workforce and poor monitoring and control leave ESWAMA below average line of its responsibilities.

- People’s attitudes toward ESWAMA can impair its performance.

2.3 Operationalization of Key Concepts

It is usually the practice in researches for the researcher to present the meaning of the key concepts used in the study as they relate to the research in question. This is to avoid a situation, where for example, the researcher will be giving a concept one meaning, while the reader will be attaching a different meaning to the same concept. This is the whole ideal about operationalization of the key concepts, and in this work, the following key concepts in the hypotheses have been operationalized as thus:
a. **Incompetent**: The term incompetent means incapable. It is not being qualified or suited for something or somebody. Incompetent is a word used to described the lack of skill or aptitude for a purpose. It is act of not doing a good job or bungling it. It is also a relative term. A man who is incompetents of doing something might be very good at something else. It always doesn’t mean inefficiency or incapability. We say that a good man is incompetent to do anything that would hurt or harm others. Here being incompetent means being good. However, incompetent workforce implies workforce that lacks the skill or aptitude for a purpose. Inept, ineffectual, inadequate, unskilled etc are the synonyms of this word. It is an adjective.

b. **Inadequate**: this simply means not enough or not good enough. It’s failure to reach an expected or required level or standard. It also mean not adequate to fulfill a need or meet a requirement. Perhaps, when an agency, organization, project, or programme is inadequately funded, the possibility of not meeting up with objectives is high.

c. **Efficiency**: the term, in physical and engineering, refers to ratio of the amount of power produced by a machine to the amount of power put into it. A machine is any device used to change the size or direction of an applied force. A machine’s efficiency is usually expressed as a percentage. Accomplishment of or ability to accomplish a job with a minimum
expenditure of time and effort is also another meaning of the term. In the study, the term signifies the ability of ESWAMA to accomplish the task of waste management with minimum resources available to it.

d. **Agency:** there is a notable variety of types of agency, although usage differs, in the study, we are concerned with a government agency which is a permanent or semi-permanent organization in the machinery of government that is responsible for the oversight and administration of specific functions. A government agency is normally distinct both from a Department or Ministry, and other types of public body established by government. The functions of an agency are normally execution in character since different types of organization (such as commissions) are normally used for advisory functions, but this distinction is often blurred in practice. A government or a state government within a federal system. (The term is not normally used for an organization created by the powers of a local government body.) Agencies can be established by legislation or by executive powers. The autonomy, independence and accountability of government agencies also vary widely.

e. **Workforce:** this refers to all workers in a company or industry i.e. all of the people who are employed or able to work in an establishment. Here, we talk of all the staff of ESWAMA.
f. Monitoring: it means to check on something at regular intervals in order to find out how it is progressing or developing. It also refers to watching over somebody or something, especially in order to ensure that good order or proper conduct is maintained. Thus, an agency should be mentoring its activities (both within and without) so as to ensure that good order or proper conduct is maintained.

g. Controlling: to control means to exercise power or authority over something. Control is one of the managerial functions like planning, organizing, staffing and directing. It is an important function because it helps to check the errors and to take the corrective action so that deviation from standards are minimized and stated goals of the organization are achieved in desired manner.

According to modern concepts, control is a foreseeing action whereas earlier concept of control was used only when errors were detected. Control in management means setting standards, measuring actual performance and taking corrective action. Thus, control comprises these three main activities. It is the ability to manage or direct something. Controlling means all that but in the context of the study, we shall consider Robert’s (1970:14) comprehensive definition of control as a systematic effort by business management to compare performance to predetermined standards, plans, or objectives in order to determine whether
performance is in line with these standards and presumably in order to take any remedial action required to see that human and other corporate resources are being used in the most effective and efficient way possible in achieving corporate objectives. It’s continuous and management processes, embedded in each level of organizational hierarchy, forward looking, closely linked with planning and a tool for achieving organizational activities.

**h. Average:** an average means the level, amount, or degree of something that is typical of a group or class of people or thing. For something to below average, it implies that the thing didn’t meet up with what it should, at least, be.

**i. Attitude:** an attitude is a hypothetical construct that represents an individual’s degree or like or dislike for an item. Attitudes are generally positive or negative views of a person, place, thing, or event – this is often referred to as the attitude object. People can also be conflicted or ambivalent toward an object, meaning that they simultaneously possess both positive and negative attitudes toward the item in question. Attitudes are judgments. They develop on the **ABC** model (affect, behavior, and cognition) [(van den Berg et al., 2006; Eagly & Chaiken, 1998). The effective response is an emotional response that expresses an individual’s degree of preference for an entity. The behavioral intention is a verbal indication or typical
behavioral tendency of an individual. The cognitive response is a cognitive evaluation of the entity that constitutes an individual’s beliefs about the object. Most attitudes are the result of either direct experience or observational learning from the environment.

**j. Expectancy:** Expectancy is a psychoactive effect that happens in response to a person’s expectation that an effect will occur. It is a function of probability of win times average win minus probability of loss times average loss (i.e. \( PW \times AW \) less \( PL \times AL \)). The expectancy of both government, ESWAMA and Enugu residents is that the wastes produced within the state would be properly managed, leading to a cleaner environment.

**k. Performance:** This simply refers to the effectiveness and efficiency or otherwise with which an organization performs its functions. In other words it is the quality of the output of an organization which could be in the form of tangible goods or services. It comes to the limelight when the output of an organization is assessed side by side with the intended output (functions) of such an organization.

### 2.4 Research Methodology

#### 2.4.1 Type of Study

The researcher used descriptive survey method for the study in which questionnaires were carefully administered to the employees of ESWAMA.
2.4.2 Methods of Data Collection

The methods of data collection for this study were grouped into two. These are primary and secondary data. Both sources of data were extensively used for the purpose of drawing an empirical conclusion for proper analysis of the study so as to come up with objective findings.

Primary Data

The primary data for this study were obtained through the distribution of questionnaires and data from direct responses to interviews which were designed for the staff of Enugu State Waste Management Authority (ESWAMA), traders, residents of some selected areas, corporate and other establishments within Enugu metropolis. This is to enable the researcher obtain a wider detailed, reliable and up-to-date information on the topic. The data gathering instruments for this study involves the following instruments.

(i) Questionnaire Instrument

The questionnaire was prepared and personally administered by the researcher. In order to ensure that accurate information was obtained and to ensure that the questionnaire covers the entire population, its distribution cut across the 20 respondents from ESWAMA and the 200 respondents from the sampled 12 streets.
(ii) Personal Interview

The researcher also made use of personal interview so as to obtain first hand information on the topic. It is a data gathering instrument that enables the researcher to have in-depth knowledge of the topic of the research through face to face interaction. This instrument was used because it gives opportunity for in-depth investigation or deeper probing into an issue under study. 50 respondents were interviewed by the researcher on issues that concerns the topic of this research.

Secondary Data

The principal sources of the secondary data for this study were obtained through the review of relevant literature or use of materials from text books, website pages and journals, and also going through relevant official administrative documents of Enugu State Waste Management Authority (ESWAMA).

2.4.3 Population of Study

This study covers the population of 50 staff which constitutes 38 junior staff and 12 senior/management staff of ESWAMA, and about 722,664 residents of the Enugu metropolis. This number makes the population of the study but since it will be difficult, if not totally impossible to reach every member of the population, and in order to ensure manageability and accurate empirical conclusion, a sample will be drawn from the population.
2.4.4 Sample and Sampling Procedure

Sample of Study

Enugu, the capital of Enugu State was stratified into the three (3) Local Government Areas that made up the metropolis namely: Enugu South, Enugu North and Enugu East. Two (2) layouts were randomly selected from each Local Government area. These layouts are: trans-Ekulu and Abakpa Nike (for Enugu East LGA), Achara layout and Uwani (for Enugu South LGA), and New Heaven Layout and Asata (for Enugu North LGA). Two (2) streets from each layout were further selected randomly. These streets include:

1. Phase six and second avenue streets (Trans-Ekulu)
2. Ugbene and Nnaji Streets (Abakpa)
3. awkunanaw and Jonah Agbo streets (New-Haven)
4. Zik’s avenue and Amawbia streets (Uwani)
5. Upper Chime and Nanka streets (New-Haven)
6. Owerri road and O’ connor streets (Asata)

From each of the streets, twenty (20) respondents were sampled and twenty (20) staff ESHWAMA was sampled as well. Therefore, out of the twelve (12) streets sampled, a total of 240 respondents and the 30 staffs sampled from ESWAMA...
constitute the target population of the study. In other words, the sample size of the study was 270

**Sampling procedure**

The need for a representative sample in this study cannot be doubted when one takes the size of the target population in consideration. As Nwana (1981; 48) noted, the problem of a study is not only how to minimize large sample errors but also how to reach at the most relevant members of our representative samples.

In order to ensure this, out of the two sampling techniques that can be employed in the social sciences, namely, the probability and the non-probability sampling, both were adopted for this study and within the probability sampling technique, stratified random sampling technique and judgmental sampling technique (within the Non-probability sampling technique) were adopted by the researcher so as to pave way for easy calculation of the sampling errors and also to make good estimation of the characteristics of the target population.

**2.4.5 Validity and Reliability of Instruments**

The success of any research fervently lies on the validity and reliability of its data gathering instruments. Validity means the appropriateness of an instrument in measuring what it is intended to measure. No wonder why Goode and Hart (1952; 217) avowed that a measuring instrument or a scale possesses validity when it
actually measures what it claims to measure. Also, Hour et al (2000;666) stated that validity means the degree to which a research instrument serves the purpose for which it was constructed.

In order to effectively ensure the validity of the instruments used for this study, the instruments were subjected to content validity measurement which involves face validity and predictive validity. The primary aim of adopting this method is to ensure that the instruments measure what they were designed to measure.

Furthermore, we shall ensure the validity of the instruments by ensuring that the contents of the instruments (such as the questions in the questionnaire) provide the needed information for the research topic, worded in simple terms by avoiding technical terms for easy understanding by the respondents and are also logically and systematically arranged.

The researcher will also ensure the validity of the instruments by ensuring that the contents of the instruments are consistent with both the objectives and the hypotheses of the study.

We shall also ensure the validity of the instruments by making sure all aspects considered relevant to the study are adequately covered.
On the other hand, reliability means the ability of an instrument to produce the same results credibly, dependably and consistently over some time when applied to the same sample (Good and Hart, 1952; 218)

Therefore, in order to ensure that the instruments are reliable and pave way for accurate testing of hypotheses of the study which will in turn enable a dependable and objective deduction, inferences and conclusions, internal consistency method will be effectively adopted. This will be achieved by cross-checking our information alongside/against other source of data collection and by ensuring that the facts and figures collected from other sources mentioned earlier are accurate and would remain the same if the collection is repeated over and over again.

Also, the reliability of this study will be ensured by making use of the pretest method which entail piloting the instruments on a small group of respondents, different from the target group (Oguonu and Anugwom, 2006;42), but in the same organization. This was done several times so as to compare whether there will be consistency between their former responses and the later.

To also ensure that the instruments have high reliability, the questionnaire was structurally constructed in a simple, concise and unambiguous manner so as to
allow easy understanding of the questions by the respondents and so as to ensure consistency in their answers.

Finally, in order to ensure this research possesses high validity, external criterion method will be adopted which will be achieved by checking how correct the findings of a particular instrument is by comparing the results with existing knowledge as well as the findings of the research gotten from questionnaire. These methods described above will be carefully employed so as to ensure the study is highly reliable and valid.

### 2.4.6 Method of Data Analysis

Since multi-data gathering instruments were used in the course of this research, it then signifies that different types of statistical tools will be employed so as to ensure accurate analysis of the data collected.

Hence, the data collected from the respondents will be analyzed using statistical tables. With these tables, it will be very easy to see the opinion of respondents at a glance and conclusions easily drawn.

Simply percentages will also be used to analyze the data generated from the study, while Chi-square ($X^2$) method will be used to test the hypothesis formulated for this research. The Chi-square method is one of the commonest nonparametric statistical methods which is used to test the level of significance of data where we
have data that are expressed as frequencies or in terms of percentages. It indicates whether or not a set of expected frequencies differ significantly from the corresponding set of observed frequencies.

By definition, the Chi-square is given by the formula;

\[ \text{Chi-square (X}^2\text{)} = \sum (o-e)^2 \\]

Where \( O \) = Observed frequency

\( e \) = expected frequency

\( \Sigma \) = summation sign

2.5 **Theoretical Framework**

In this research, the Structural Functional theory by Emile Durkheim (1858-1917) was adopted to guide our study on the problems and prospects of waste management in Enugu state, using the Enugu State Waste Management Authority (ESWAMA) as a case study.

Structural functionalism, or in many contexts simply functionalism, is a broad perspective in sociology and anthropology which sets out to interpret society as a structure with interrelated parts. Functionalism addresses society as a whole in terms of the function of its constituent elements;
namely norms, customs, traditions and institutions. A common analogy, popularized by Herbert Spencer, presents these parts of society as "organs" that work toward the proper functioning of the "body" as a whole. In the most basic terms, it simply emphasizes "the effort to impute, as rigorously as possible, to each feature, custom, or practice, its effect on the functioning of a supposedly stable, cohesive system (Talcott Parsons: 1975). Structural-functionalism takes the view that society consists of parts (e.g. police, hospitals, schools, and farms), each of which have their own functions and work together to promote social stability.

**The prominent proponents of the structural functional theory include:**

- Herbert Spencer (1820-1903)
- Talcott Parsons (1902-1979)
- Emile Durkheim (1815 - 1917)
- Almond and Powell
- Radcliffe-Brown (1881 – 1955)

Emile Durkheim one of the leading proponents of the theory was concerned with the question of how certain societies maintain internal stability and survives over time. Thus, he proposed that such societies tend to be
segmented, with equivalent parts held together by shared values, common symbols or systems of exchange. In modern complicated societies, members perform very different tasks, resulting to a strong interdependence. Based on the metaphor above of an organism in which many parts function together to sustain the whole, Durkheim argued that complicated societies are held together by organic solidarity (Philip; 1993:88).

Radcliffe-Brown following Comte and Durkheim’s views, believed that society constitutes a separate level of reality, distinct from both functionalism explains the apparent stability and internal cohesion needed by societies to endure overtime. Societies, according to him, are seen as coherent, bounded and fundamentally relational constructs that function like organisms, with their various parts (or social institutions) working together in an unconscious, quasi-automatic fashion toward achieving an overall social equilibrium. All social and cultural phenomena are therefore seen as functional in the sense of working together, and are effectively deemed to have “lives” of their own. They are primary, and analyzed in terms of this function. The individual is significant not in and or himself but rather in terms of his status, his position in patterns of social relations, and the behaviours associated with his status. The social structure, then, is the network of statuses connected by associated roles. (www.wikipedia.org/wiki/Radciffe-Brown).
Though, the theory declined in the 1940s through to the 1980s the works of Herbert Spencer a British Philosopher influenced the advent of the contemporary structural-functional theorists notably Talcott parsons was heavily influenced by the works of Emile Durkheim.

Parson held that “the social system is made up of the actions of individuals and institutions which he called actors. He further argued that the interaction between two individuals faced with a variety of choices about how they might act, are influenced and contained by a member of physical and social factor” (parsons and shills; 1976: 190). He posits that;

“Each individual has expectations of the other’s action and reaction to his own behaviour, and these expectations would be derived from the accepted norms and values of the society they inhabit. As the behaviours are repeated in more interactions and these expectations are entrenched or institutionalized, a role is created (parson; 1961: 41)

According to Craib (1992; 40) parsons defined these roles created as the normatively-regulated participation of a person in concrete process of social interaction with specific, concrete role partners. Though any individual can fulfill
any role, the individual is expected to conform to the norms governing the nature of the role they fulfill. As also argued that a society that there is no conflict is in a state of perfect state of equilibrium, which is a state where these expectations are consistently met (Ritzer, 1983:193).

Robert Merton agreeing fundamentally with parsons, contributed immensely to structural-functional theory. He argues that the roles are divided into two, which are Manifest and latent functions: Manifest functions are referred to the conscious intentions of actors, while latent functions are the objective consequences of their actions, which are often unintended (Holmwood; 2005: 90-107).

Gabriel Almond and Bingham Powell both political scientists introduced the structural-functional theory in political science in the 1070; they argued that in order to understand a political system, it is necessary to understand not only its institutions or structures but also their respective functions (Ezeani; 2010: 83-85).

Marshall (1994:190-191) argued that social institutions are functionally integrated to form a stable system and that a change in one institution will precipitate a change in other institutions; it takes the view that society consists of parts, each of which have their own functions and work together to promote social stability.
Igwe (2007:429) following the positions of the above theorists defined structural-functionalism as “essentially consists in viewing society as a system made up of a certain arrangement of parts (structures), which behave (functions) in coordinated and interdependent manner to achieve the objectives intended for them by society, these being the only means by equilibrium and peace can be maintained within it”.

The Structural-functional theory was heavily criticized by conflict theory and Marxism for not being able to accounts for social change, contradictions and conflicts. It is criticized epistemologically that it describes social institutions solely through effects and does not explain the cause of effects. It was also criticized ontologically that society cannot have needs as human beings do, and even if society does have needs they need not to do met (political Dictionary online).

**Uses of structural Functional Theory**

The following main tenets of the theory are outlined to enable us use the theory to analyze our study, i.e. the problems of waste management in Enugu State, with focus on the challenges faced by the Enugu State Waste Management Authority (ESWAMA) in meeting up with its responsibilities—which have resulted in ineffectiveness and inefficiency regarding waste management in the state:

1. Structures exist in society as interrelated parts.
2. Structures that exist in the society are bounded together by or based on functions and “organic solidarity”,

3. These structures that are segmented parts are equivalently held together by shared norms, values, common symbols and systems of exchange.

4. These interrelated parts or structures perform different tasks together resulting in a strong inter dependence and stability, which sustains the whole.

5. A social system is made up of actions by individuals or institutions called actors.

6. The behaviour of each individual or institution is based on expectations from the action and reaction of the other.

7. These expectations and behaviours are based upon the accepted and agreed norms and values.

8. The continuous interaction of expectation and behavior, based on accepted and agreed norms and values, creates a role which concretizes role-partners.

9. Individual or institutions, in fulfillment of their roles, must conform to the norms and values governing the nature of the role they fulfill.

10. An Individual or institution is aware that the other expects it to perform its role in order to have “a perfect state or equilibrium, a society with no conflict”.
11. The understanding of the functions of a structure, institution or individual is quite necessary because it makes it easier to understand a societal phenomenon or problem.

**Application of the structural functional theory to the study**

Based on the above outlined main tenets/uses of the theory, as theoretical perspectives the following perspectives are derived to analyze our work:

1) The Enugu State Waste Management Authority (ESWAMA) is an interrelated part of the ministry of Environment, which is a social system that carries out waste management activities. Whereas, residents of Enugu State, where the waste management activities of ESWAMA take place, are the clients of ESWAMA. The inabilities of ESWAMA to perform its role effectively impacts negatively on the aesthetics of the metropolis and on the health of the people. The people react negatively towards ESWAMA’s failure to perform its role.

2) Assuming ESWAMA is equipped financially, competent staff, mechanisms and technology to carry out its activities, it is expected that ESWAMA maintains a clean and healthy
environment in line with its mandate. If ESWAMA experiences shortages in funding. Competent staff, technological ability, it may not perform its obligations as stated.

3) The expectations and behaviour of ESWAMA and the residents of Enugu are guarded by the main responsibility of ESWAMA, on one side and that of the people (clients), on the other hand.

4) These responsibilities create roles for both ESWAMA and the residents (clients) of Enugu, and concretized them as role partners, ESWAMA on the one hand, and the residents (clients) on the other hand.

5) Based on the tenet that individuals or institutions, in fulfillment their roles, must conform to the norms governing the nature of the roles to be fulfilled. It is argued that ESWAMA’s fulfilled obligations would be to maintain a clean and healthy environment in the state, anything short of this is assumed that the obligations of ESWAMA are unfulfilled, i.e. they have failed to fulfill their own roles as expected.

6) Following the tenet that everybody (individuals or institutions) knows that the other expects it to perform its role in order to have a perfect state of equilibrium, as society of no conflict.
ESWAMA knows that the residents play their part in order for ESWAMA to maintain a clean and healthy environment in the state. So, in as much as ESWAMA has the residents support, it must perform its obligations. The residents of Enugu, on the other hand, know that ESWAMA maintains a clean and healthy environment through its activities; therefore, the residents must perform their own obligations. Therefore, if one party fails to perform its role, the other party too will fail to perform its own role. Seems the success of one party depends on the success of the other party.

Thus, this work wishes to adopt the discussed theoretical perspectives and propositions to explore and investigate our research question.
CHAPTER THREE

BACKGROUND INFORMATION OF THE ENUGU STATE WASTE MANAGEMENT AUTHORITY (ESWAMA)

3.1 ORIGIN OF ESWAMA

In its paper 74 of 2006, Collaborative Working Group on Solid Waste Management in Low- and Middle-income Countries WASH workshop at India stated that following the failure of the pilot project in Enugu (of the defunct ENSEPA i.e. Enugu State Environmental Protection Agency), it was quickly realized that the institutional arrangements for waste management had to be changed if the solid waste management (SWM) service sector was to develop. At a meeting of the major stakeholders a new strategic approach to SWM was developed and focused on the need for institutional and financial reform in the sector, establishing a sound service delivery model and promoting public awareness. Legislation was prepared to clarify these new institutional arrangements, provide an enabling framework for private sector participation in SWM services, and establish tariffs and fines for different types of premises. The legal process through which disputes would be resolved also had to be specified. In relation to the overall purpose of the programme (Governance reform), it became apparent that State Government would be required to step back from day-to-day
delivery of services, and focus instead on its regulatory function. In short, less but more focused government. This would inevitably demand the ‘right sizing’ of the staffing levels in the public sector, and involve some redundancies. The new Law was adopted by the Enugu House of Assembly dissolving ENSEPA, and creating a new regulatory body, the Enugu State Waste Management Authority (ESWAMA). ESWAMA was established through Law No 8 of 2004 as the regulatory body charged with responsibility for management of solid and liquid waste in Enugu State. The paper further emphasized for the first time in Nigeria, the Law contained a stipulation that the executive and senior managerial posts in the Authority be competitively tendered, and given on the basis of performance based contracts and clearly defined job descriptions. This was perceived as a major step forward and the elimination of patronage in senior staff appointments was seen as a vital step forward in getting suitably qualified personnel into key positions and a major driving force in the introduction of transparent government. Thus, in late 2004 a new raft of senior managers was appointed to the newly established ESWAMA, including a newly created post of Managing Director, with the view to running this government department more along the lines of the private sector. The posts were advertised and candidates interviewed in a completely open and transparent process. The same process was used to appoint SWM contractors for various parts of the city. The simple act of changing a name did not bring about the
changes necessary to provide a good service. The organization needed a workforce fit for purpose. Once the senior staff had been appointed and a new institutional structure designed, the next phase focused on populating the new structure with appropriately qualified personnel. According to the results of work conducted within the programme, it was viewed as necessary to halve the existing staff number. Inevitably this meant redundancies. Again, for the first time in Nigeria, this delicate issue was addressed and, with support from SLGP, ESWAMA emerged with a much reduced work-force, better qualified people in key positions and a general feeling among those that remained that they had a role within a dynamic and respectable organization. Added to this, there was a clear issue concerning the ability of those that remained to carry out the new duties that lay before them. No institutional reform can be effective without a programme of re-training. This training was required not only to provide the necessary knowledge and skills, but to explain why the new system of operation was important and the logic of the changes. With this, there became a greater ‘buy in’ to the new infrastructure and means of operation.

3.2 LOCATION OF ESWAMA

The Enugu State Waste Management Authority (ESWAMA) has its Head Office situated at No. 7 Ridgeway, Secretariat Complex, G.R.A Enugu.
3.3 VISION

The vision of ESWAMA is to restore Enugu State back to its past glory in Environmental cleanliness through sustainable waste management in Enugu State.

3.4 MISSION STATEMENT

As part of Enugu State Ministry of Environment and mineral Resources, the mission of ESWAMA is to develop and implement Government policies on the management of solid and liquid wastes in Enugu State through ensuring a clean and sustainable environment for the good health and well-being of the people of Enugu State. To achieve this mission, the Authority’s commitment to the people of Enugu State is to ensure the following:

1. Effective and efficient of collection, removal, treatment and safe disposal of all classes of wastes.
2. Prevention of illegal dumping of wastes along roadside closures, adjoining streams in neighbour-hoods and gutters.
3. Daily monitoring of the activities of waste service providers in the State.
4. Creation of public awareness, offering advice, receipt of complaints and providing solutions to problems emanating from managing wastes, and prosecutions of defaulters within the ambit of the law.
5. Provision of waste management facilities.
3.5 CLIENTS

The Enugu State Waste Management Authority’s clients are the general Public and the organized institutions, as long as they generate and handle waste materials.

3.6 WHAT ESWAMA EXPECTS FROM THE CLIENTS

The expectations of ESWAMA from its clients are to cooperate and participate fully in its efforts in managing solid waste in the state. In other words, ESWAMA expectations from its clients include:

1. Full cooperation and participation in keeping their environment clean at all times.
2. Help bag their wastes and dispose them inside the Dumpster nearest to them.
3. Pay approved sanitation rates through designated banks in various zones in the State, when presented with a demand notice (Failure to comply is offence if convicted is punishable by fine or both.
4. Desist from littering the streets and dumping refuse into drainages; and ensure proper use of waste bins in commercial vehicles, as well as the refuse dumpsters positioned strategic points around their neighbour-hoods.
5. Encourage constructive feedback through the means of ESWAMA complaint handling procedures or call its hotline- **0803-732-6662.**
6. Trim their over-grown grasses and hedges within 8 meters of their premises.
7. Clear dirty or stagnant water and all form of debris from the drainage systems running through or by their house.
8. Cooperate with us on Sanitation Days.

3.7 COMPLAINT HANDLING PROCEDURES AND DISPUTE HANDLING MECHANISM

ESWAMA expects its clients to follow the laid down procedures and mechanisms when disputes or differences arouse. Thus, clients should:

(a) Complain to their service provider or PSP (Private Sector Participant) in the first place and then to ESWAMA if they do not get the service they expected. Then the following contact details for external dispute handling mechanisms are offered for conflict resolution.

I. ESWAMA Complaints Desk located at the Head office, and open to all.
II. Use of ESWAMA Hotline: 08037326662.
   a. The Managing Director’s lines: (042) 305454.
   b. The Commissioner and the Permanent Secretary in the ministry of Environment.
   c. The Head of Administration.
   d. Others: (080) 4489248 and (042) 487489.
III Uses of suggestion box in the office
IV Written Complaint.
3.8 TYPES OF COMPLAINTS ENTERTAINED BY ESWAMA

- Service delivery gap
- Poor standard in performance of service by ESWAMA Staff/PSP/agents.
- Abuse of office in the process of delivery service.
- Abuse of right and privileges by individual staff of ESWAMA

3.9 ESWAMA’s BROAD RANGE OF MARKETING METHODS.

- Holding meeting and consultations/sensitization with:
  a. Staff and Management
  b. Labour Unions and Management
  c. Neighbour-hood, Associations/Churches/Schools
  d. Media coverage’s and Press Release.
  e. Production of feature materials and hand bills
  f. Production of service delivery handbook
  g. Interviews, Seminars and workshops.
  h. Open air campaigns and sensitization
  i. Newspapers and Research aids for students
  j. Consultations with relevant Agencies and Organization.
  k. Mounting of billboard etc.

3.10 ORGANISATIONAL STRUCTURE

Below is a chart showing the chain of command and divisions of the Enugu State Waste Management (ESWAMA):
MANAGING DIRECTOR

↓

HEADS OF DEPARTMENTS

<table>
<thead>
<tr>
<th>FINANCE/ ACCOUNTS</th>
<th>PERSONNEL</th>
<th>OPERATIONS</th>
<th>INTERNAL AUDIT</th>
<th>SOLID WASTE MGT</th>
</tr>
</thead>
</table>

↓

HEADS OF UNITS

<table>
<thead>
<tr>
<th>REVENUE</th>
<th>PAY-ROLL</th>
<th>CASHIER</th>
<th>BUDGET</th>
</tr>
</thead>
</table>

FINANCE CONTROLLER

Financial Management of ESWAMA and General Administration of the Accounts Department, its features include:

- Budget preparation and monitoring in conjunction with the planning, research and statistic division
- Final Account
- General Accounts
• Revenue Accounts: Debtors Ledger
• Budget and Stock Accounts and
• Preparation of the Analysis of Daily, Weekly and Monthly home and Expenditure
• Coordinating of the Annual stock exercise
• Preparation of the Trial Balance on a monthly basis
• Check and approved payroll monthly
• Cross checking the accuracy of the monthly:
  (a) Salaries Analysis
• Checking and approves monthly returns accordingly
• Ensuring at all times proper internal control are in place to forestall any loopholes
• Ensuring prompt preparation of monthly salaries
• General administration of both the wages personnel and its entire operation

FEATURE OF THE INTERNAL AUDIT

Expenditures
Auditing of payment vouchers
Vouching, inspection of cash and purchase of materials
Checking the arithmetic accuracy of the wages preparation and ensure that salary is prepared for staff.

**Revenue**

Inspection of cash and cheque received to the organization by the cash office.

Ensure that same is lodged to the bank daily.

Check the arithmetic accuracy of the cheque and cash intake.

Confirm same in the bank reconciliation monthly Preparation of revenue analysis.

**Store**

Inspection of goods received to store.

Inspection of issue out of store to user department.

Random inspection of bin cards.

**PERSONNEL**

The Personnel department serves as the orb that coordinates the activities of the other Departments and Units in the Organization. It is an integral force for the execution of organizational goals and objectives. Its features are:

- Coordination of the activities of all the Departments and Units
- Human resources management
- Human capital development
• Staff welfare and motivation
• Industrial/Labour Relations
• Security matters
• Health and related matters
• Stores and procurement management
• Office management
• Pension Administration.

OPERATIONS

The Operations department is charged with the responsibility of ensuring regular monitoring of the State of the Environment, enforcing Environmental Laws on defaulters/violators and promotes strict compliance by the citizenry of Enugu State. It is also charged with the responsibility of enlightening the public especially market men and women on the best environmental practices in their areas.

The Department is divided into 3 Units, namely; Monitoring, Enforcement and Compliance.

Monitoring of the State of the Environment;

Preparation of daily monitoring reports;
Monitoring of the State Approved PSP Operators;

Issuance of Sanitation Alarms to Government Agencies, Public Communities and other Stakeholders;

Market Monitoring;

ESWAMA Monitoring;

Investigations on received Public Complaints relating to issues affecting the State of the environment;

Issuance of Abatement Notices;

Enforcement of Sanitation Laws of the State;

Weekly enforcement report and pictorial representations;

Holding mediation meetings between aggrieved parties from public and private sectors;

Document and data generation.

Monitoring Unit

(A) This Unit ensures daily monitoring of highways and roads for

Illegal Refuse dumps

Illegal Refuse littering

Illegal shanties on road setback

Illegal street trading
Blocked drains
Overgrown weeds
Dead bodies
Road accidents
Burst water pipes
All other nuisances

(ii) Preparation of daily monitoring report and pictorial representation.

(iii) Weekly collation of reports and pictorial representation

(iv) Issuance of Sanitation Alarm on the Authority, Government Agencies, Public Communities and other Stakeholders.

(B) Market Monitoring

Monitoring of various markets within the State on weekly basis to enlighten market men and women on how to sanitize their environment and also monitoring of Market Environmental Sanitation exercise in line with the State regulations.

(C) Documentation and Data Generation;

Covering of meetings and preparation of minutes.

Raising memos for the MD’s approval on matters in the Department.
**Enforcement**

This Unit is charged with the following duties:

- Enforcement of Sanitation Laws on:
  
  Individuals
  
  Corporate Bodies
  
  Organizations
  
  All other categories of people who failed to obey the Environmental Sanitation Laws of the State.

- Weekly enforcement report and pictorial representation.

**Compliance Unit**

- Investigations on public complaints relating to issues affecting the state of the environment received from:
  
  Managing Director
  
  The public
  
  Private Organizations
  
  Other Stakeholders

- Holding of mediation meetings between aggrieved parties from the public and private sectors.

- Issuance of Abatement Notices.
• Daily collation of reports on investigations with pictorial representation.

• Documentation and data representation

WASTE MANAGEMENT SERVICE

The responsibilities of this department include:

• Evacuation and prevention of refuse backlog

• Clearance of Public and Markets Wastes

• Sanitation of Major highways and street sweeping activities

• Management of Transfer Loading Station

• Management of Existing Landfill Sites

• Development of policy initiative for future Waste Management activities

• Provision of Counseling to Private Refuse Operators on Waste Management

• Provide back-up services to Private Sectors Participants (PSP) on Waste Collection & Transportation

• Provide Emergency Services to the State Government where necessary

• Appraisal of proposal on Establishment of Waste Management facilities

• Establishment of performance standards on Waste Management activities

• Identification of sites for development of waste Management facilities

• Monitoring of Contractors activities and verification of service contracts
CHAPTER FOUR

DATA PRESENTATION AND ANALYSIS

4.0 INTRODUCTION

The main objective of this chapter is to examine and analyze the information gathered from the respondents.

The researcher used five point likert scale to design the questionnaire so as to pave way for easy understanding of the questions.

A total of two hundred and sixty (260) questionnaires were issued to the respondents. Twelve (12) out of the questionnaires were issued to the senior staffs of ESWAMA, eighteen (18) were issued to the junior staffs of ESWAMA. Then, the remaining two hundred and thirty (230) were issued to non staffs of ESWAMA (traders, households, business outlets, etc).

Out of the two hundred and thirty (260) questionnaires that were issued out by the researcher to the respondents, 245 were returned. This is stated in the table below.

Table 4.1 Total no. of questionnaires issued and returned.

<table>
<thead>
<tr>
<th>Staff Cadre</th>
<th>Issued Questionnaires</th>
<th>Returned Questionnaires</th>
</tr>
</thead>
<tbody>
<tr>
<td>Senior Staff</td>
<td>12</td>
<td>12</td>
</tr>
</tbody>
</table>
4.1 DATA PRESENTATION AND ANALYSIS

The data presentation and analysis of this research work will be divided into three, which are: (i) analysis and presentation of the personal data of the respondents, (ii) analysis and presentation of the substantive data or the answers from the questionnaires, and (iii) analysis and presentation of the substantive responds from the personal interviews. These are done separately below;

4.1.1 Presentation and Analysis of Personal Data of Respondents.

* Presentation and Analysis of Data based on Gender Distribution.

Table 4.2: Gender Distribution

<table>
<thead>
<tr>
<th>Sex</th>
<th>No of Respondents</th>
<th>Percentage (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Male</td>
<td>143</td>
<td>58.4</td>
</tr>
<tr>
<td>Female</td>
<td>102</td>
<td>41.6</td>
</tr>
<tr>
<td>Total</td>
<td>245</td>
<td>100</td>
</tr>
</tbody>
</table>

Source: Research, 2011.
Table 4.2 above indicates that 143 respondents with the percentage of 58.4 are males while 102 respondents with the percentage of 41.6 are females. This shows that majority of the respondents are males.

* Presentation and Analysis of Data on Marital Status of Respondents.

Table 4.3: Marital Status Distribution of Respondents.

<table>
<thead>
<tr>
<th>Marital Status</th>
<th>No of Respondents</th>
<th>Percentage (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Single</td>
<td>157</td>
<td>64.1</td>
</tr>
<tr>
<td>Married</td>
<td>62</td>
<td>25.3</td>
</tr>
<tr>
<td>Divorced</td>
<td>05</td>
<td>2</td>
</tr>
<tr>
<td>Widow</td>
<td>14</td>
<td>5.7</td>
</tr>
<tr>
<td>Widower</td>
<td>7</td>
<td>2.9</td>
</tr>
<tr>
<td>Total</td>
<td>245</td>
<td>100</td>
</tr>
</tbody>
</table>

Source: Research, 2011.

Analysis

The table above apparently shows that 62 of the respondents with the percentage of 25.3% are married while 157 respondents with the percentage of 64.1% are single. Then 5 of the respondents with the percentage of 2% are divorced; while 5.7% representing 14 respondents are widows, and 7 of the respondents with the percentage of 2.9% are widowers. This shows that majority of our respondents are single.
*Presentation and Analysis of data from the Age Distribution of Respondents.

**Table 4.4:** Age Distribution of Respondents.

<table>
<thead>
<tr>
<th>Age</th>
<th>No of Respondents</th>
<th>Percentage (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Under 20</td>
<td>27</td>
<td>11</td>
</tr>
<tr>
<td>20-29</td>
<td>76</td>
<td>31</td>
</tr>
<tr>
<td>30-39</td>
<td>82</td>
<td>33.5</td>
</tr>
<tr>
<td>40-49</td>
<td>39</td>
<td>15.9</td>
</tr>
<tr>
<td>50 &amp; Above</td>
<td>21</td>
<td>8.6</td>
</tr>
<tr>
<td>Total</td>
<td>245</td>
<td>100</td>
</tr>
</tbody>
</table>

Source: Research, 2011.

**Analysis**

The above table comprises the age distribution of respondents. The table indicates that 27 respondents with 11% were under the age of 20 years and 76 of the respondents with 31% were within the age bracket of 20-29 years. It also shows that 82 of the respondents with 33.5% were within the age range of 30-39; while 39 of the respondents with 15.9% were within the age bracket of 40-49 and 21 of the respondents with 8.6% were within the age range of 50 years and above. From the table above, one can deduce that the age compositions of the respondents represent a mature and responsible set of individuals that are capable of giving information out of experience.
*Presentation and Analysis of data from the Length of service of respondents.*

Table 4.5: Length of Service of Respondents.

<table>
<thead>
<tr>
<th>Length of Service</th>
<th>No of Respondents</th>
<th>Percentage (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>0-1</td>
<td>6</td>
<td>2.4</td>
</tr>
<tr>
<td>2-3</td>
<td>13</td>
<td>5.3</td>
</tr>
<tr>
<td>4-5</td>
<td>7</td>
<td>2.9</td>
</tr>
<tr>
<td>6</td>
<td>4</td>
<td>1.6</td>
</tr>
<tr>
<td>Client</td>
<td>215</td>
<td>87.8</td>
</tr>
<tr>
<td>Total</td>
<td>245</td>
<td>100</td>
</tr>
</tbody>
</table>

Source: Research, 2011.

Analysis

Table 4.5 shows the length of service of respondents in ESWAMA. 6 of the respondents with 2.4% were within the length of service range of 0-1 year, 13 of them with 5.3% were within the length of service range of 2-3 years. Also, 7 of the respondents with 2.9% were within the length of service range of 4-5 and 4 of them with 1.6% were within the length of service range of 6 and above. The majority of the respondents are non staff of ESWAMA, otherwise referred to as “Client” in this work, and they are 215 in number representing 87.8% of the entire respondents.
* Presentation and Analysis of data based on educational qualification of respondents.

Table 4.6: Educational Qualification of Respondents.

<table>
<thead>
<tr>
<th>Highest Educational Qualification</th>
<th>No of Respondents</th>
<th>Percentage (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>WASCE/GCE, O/L</td>
<td>20</td>
<td>8.2</td>
</tr>
<tr>
<td>OND</td>
<td>44</td>
<td>18</td>
</tr>
<tr>
<td>HND</td>
<td>86</td>
<td>35.1</td>
</tr>
<tr>
<td>Bachelors Degree</td>
<td>55</td>
<td>22.4</td>
</tr>
<tr>
<td>Masters Degree</td>
<td>31</td>
<td>12.6</td>
</tr>
<tr>
<td>Others</td>
<td>09</td>
<td>3.7</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>245</strong></td>
<td><strong>100</strong></td>
</tr>
</tbody>
</table>

Source: Research, 2011.

Analysis

Table 4.6 above depicts that 20 of the respondents with 8.2% has WASCE/GCE or O/L certificates, 44 of them with 18% possessed OND certificates and 86 of them with 35.1% possessed HND certificates respectively. The Bachelors Degree holders were 55 respondents with 22.4%, the Masters Degree holders were 31 with 12.6% while 9 of the respondents with 3.7% possessed other certificates. This shows that a greater number of the respondents (86 respondents) possessed HND certificates with 35.1% of the total population.
* Presentation and Analysis of Data based on Category of Respondents.

Table 4.7: Category of Respondents

<table>
<thead>
<tr>
<th>Category of Respondents</th>
<th>No of Respondents</th>
<th>Percentage (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Senior Staff</td>
<td>12</td>
<td>4.9</td>
</tr>
<tr>
<td>Junior Staff</td>
<td>18</td>
<td>7.3</td>
</tr>
<tr>
<td>Client</td>
<td>215</td>
<td>87.8</td>
</tr>
<tr>
<td>Total</td>
<td>245</td>
<td>100</td>
</tr>
</tbody>
</table>

Source: Research, 2011.

Analysis

Table 4.7 above shows that the Senior Staff of ESWAMA are 12 with 4.9%, the junior Staff are 18 with 7.3% while the Client (Non-Staff of ESWAMA) are 215 with 87.8 and that signifies that the respondents constitute more of the client, i.e. Non-Staff members of ESWAMA since they possess the highest percentage.

4.1.2 PRESENTATION AND ANALYSIS OF THE SUBSTANTIVE DATA:

Question 7: ESWAMA is being funded by the state government.

Table 4.8: Response on whether ESWAMA is being funded by the state government

<table>
<thead>
<tr>
<th>Response</th>
<th>Frequency</th>
<th>Percentage (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Strongly Agree</td>
<td>136</td>
<td>55.5</td>
</tr>
<tr>
<td>Agree</td>
<td>31</td>
<td>12.7</td>
</tr>
</tbody>
</table>
### Table

<p>| | | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Disagree</td>
<td>17</td>
<td>6.9</td>
</tr>
<tr>
<td>Strongly Disagree</td>
<td>48</td>
<td>19.6</td>
</tr>
<tr>
<td>Undecided</td>
<td>13</td>
<td>5.3</td>
</tr>
<tr>
<td>Total</td>
<td>245</td>
<td>100</td>
</tr>
</tbody>
</table>

Source: Research, 2011.

**Analysis**

Inherent in the above table are the responds of the respondents on the question whether ESWAMA is being funded by the state government. Out of 245 respondents, 136 of them with 55.5% strongly agreed that ESWAMA is being funded by the state government, 31 of them agreed, 17 of the respondents disagreed, 48 of them strongly disagreed while 13 of them were undecided.

This apparently signifies that majority of the respondents agreed that ESWAMA is being funded by the state government but the researcher has a different view on this issue, considering the information generated during the field work (where the researcher interviewed some of the respondents). The staff of ESWAMA interviewed made it clear that the State Government only supplements the fund of the Authority by less than 20% of the total revenue available for ESWAMA. This therefore, made the researcher to disagree with the respondents.

**Question 8:** The funds are always available for ESWAMA to utilize
Table 4.9: Response on whether the funds are always available for ESWAMA to utilize

<table>
<thead>
<tr>
<th>Response</th>
<th>Frequency</th>
<th>Percentage (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Strongly Agree</td>
<td>99</td>
<td>40.4</td>
</tr>
<tr>
<td>Agree</td>
<td>45</td>
<td>18.4</td>
</tr>
<tr>
<td>Disagree</td>
<td>54</td>
<td>22</td>
</tr>
<tr>
<td>Strongly Disagree</td>
<td>28</td>
<td>11.4</td>
</tr>
<tr>
<td>Undecided</td>
<td>19</td>
<td>7.8</td>
</tr>
<tr>
<td>Total</td>
<td>245</td>
<td>100</td>
</tr>
</tbody>
</table>

Source: Research, 2011.

Analysis:

Table 4.9 glaringly shows that the respondents strongly agreed that the funds are always available for ESWAMA to utilize, since that option in the questionnaire attracted 99 responses, with 40.4% of the total population of 245 respondents. 45 of the respondents with 18.4% agreed, 54 of the respondents disagreed and 28 of them strongly disagreed while 19 of the respondents were undecided. This shows that majority of the respondents agreed that the funds are always available for ESWAMA to utilize.

Considering the findings from personal interview and official documents of ESWAMA, the researcher discovered that in as much as the supplementary fund from the State Government to ESWAMA is of lower rate (below 20%), the funds
are not frequently available for accessibility. This is true as the monthly supplementary fund/grant, sometimes, spills over the subsequent months and affects its accessibility for the purpose it was meant for that particular month or period.

**Question 9:** ESWAMA also generates internal revenue to augment the fund from the government.

**Table 4.10:** Response on whether ESWAMA also generates internal revenue to augment the fund from the government

<table>
<thead>
<tr>
<th>Response</th>
<th>Frequency</th>
<th>Percentage (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Strongly Agree</td>
<td>145</td>
<td>59.2</td>
</tr>
<tr>
<td>Agree</td>
<td>69</td>
<td>28.2</td>
</tr>
<tr>
<td>Disagree</td>
<td>11</td>
<td>4.5</td>
</tr>
<tr>
<td>Strongly Disagree</td>
<td>14</td>
<td>5.7</td>
</tr>
<tr>
<td>Undecided</td>
<td>06</td>
<td>2.4</td>
</tr>
<tr>
<td>Total</td>
<td>245</td>
<td>100</td>
</tr>
</tbody>
</table>

Source: Research, 2011.

Analysis:

Table 4.10 above apparently shows the response of the respondents on whether ESWAMA also generates internal revenue to augment the fund from the government. It shows that 145 of the employees strongly agreed with 59.2% of the
population under study, 69 respondents with 28.2% agreed, 11 of them disagreed while 14 of them strongly disagreed and 6 were undecided. This signifies that majority of our respondents agreed that ESWAMA also generates internal revenue to augment the fund from the government.

Our findings from the interview conducted and the official documents of ESWAMA affirms the response from majority of our respondents. But the findings showed that ESWAMA’s main source of fund is from the internally generated revenue through the instrument of “Sanitation rate” payable by the clients.

**Question 10:** These funds it receives and generates are adequate to enable ESWAMA carry out its duties effectively.

**Table 4.11:** Response on whether these funds it receives and generates are adequate to enable ESWAMA carry out its duties effectively

<table>
<thead>
<tr>
<th>Response</th>
<th>Frequency</th>
<th>Percentage (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Strongly Agree</td>
<td>40</td>
<td>16.3</td>
</tr>
<tr>
<td>Agree</td>
<td>56</td>
<td>22.9</td>
</tr>
<tr>
<td>Disagree</td>
<td>55</td>
<td>22.4</td>
</tr>
<tr>
<td>Strongly Disagree</td>
<td>84</td>
<td>34.3</td>
</tr>
<tr>
<td>Undecided</td>
<td>10</td>
<td>4.1</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>245</strong></td>
<td><strong>100</strong></td>
</tr>
</tbody>
</table>

Source: Research, 2011.
Analysis

Table 4.11 above depicts that 40 respondents with 16.3% strongly agreed that the funds ESWAMA receives and generates are adequate to enable ESWAMA carry out its duties effectively, 56 of them with 22.8% agreed, 55 of them with 22.4% disagreed, 84 respondents with 34.3% strongly disagreed while 10 respondents with 4.1% were undecided. This signifies that majority of our respondents agreed that the funds ESWAMA receives and generates are not adequate to enable ESWAMA carry out its duties effectively.

The findings during field work support the response from majority of our respondents. The findings signified that the clients of ESWAMA evade paying sanitation rates and as such hinders ESWAMA from carrying out its duties effectively.

Question 11: Inconsistent funding of ESWAMA can hinder its waste management responsibilities.

Table 12: Response on whether inconsistent funding of ESWAMA can hinder its waste management responsibilities

<table>
<thead>
<tr>
<th>Response</th>
<th>Frequency</th>
<th>Percentage (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Strongly Agree</td>
<td>171</td>
<td>69.8</td>
</tr>
<tr>
<td>Agree</td>
<td>63</td>
<td>25.7</td>
</tr>
<tr>
<td>Disagree</td>
<td>04</td>
<td>1.6</td>
</tr>
<tr>
<td>----------</td>
<td>----</td>
<td>-----</td>
</tr>
<tr>
<td>Strongly Disagree</td>
<td>05</td>
<td>2.1</td>
</tr>
<tr>
<td>Undecided</td>
<td>02</td>
<td>0.8</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>245</strong></td>
<td><strong>100</strong></td>
</tr>
</tbody>
</table>

Source: Research, 2011.

Analysis

Explicit in the above table 4.12 is the fact that majority of the respondents agreed that inconsistent funding of ESWAMA can hinder its waste management responsibilities. 171 respondents with 69.8% strongly agreed, 63 of them with 25.7% agreed, 4 respondents with 1.6% disagreed, 5 of them with 2.1% strongly disagreed while 2 of them with 0.8% were undecided on the issue as stake.

However, results generated from the official documents, personal interview and materials from text books shows that when funding fluctuates, it can hinder ESWAMA’s waste management activities or responsibility. These results signified that when funding (such as State government’s grant and sanitation rates) is inconsistent, evacuation and transportation of wastes from waste dumps, maintenance of equipment and payment of worker’s salaries suffer which in turn hinder ESWAMA from carrying out its waste management responsibilities.

**Question 12**: Inadequate funding of ESWAMA has a negative impact on its staff performance.
Table 13: Response on whether inadequate funding of ESWAMA has a negative impact on its staff performance

<table>
<thead>
<tr>
<th>Response</th>
<th>Frequency</th>
<th>Percentage (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Strongly Agree</td>
<td>208</td>
<td>84.9</td>
</tr>
<tr>
<td>Agree</td>
<td>28</td>
<td>11.4</td>
</tr>
<tr>
<td>Disagree</td>
<td>02</td>
<td>0.8</td>
</tr>
<tr>
<td>Strongly Disagree</td>
<td>05</td>
<td>2.1</td>
</tr>
<tr>
<td>Undecided</td>
<td>02</td>
<td>0.8</td>
</tr>
<tr>
<td>Total</td>
<td>245</td>
<td>100</td>
</tr>
</tbody>
</table>

Source: Research, 2011.

Analysis:

Table 4.13 shows that 208 respondents with 84.9% strongly agreed that inadequate funding of ESWAMA has a negative impact on its staff performance, 28 respondents with 11.4% agreed, 2 of them with 0.8% disagreed, 5 respondents with 2.1% strongly disagreed while 2 respondents with 0.8% were undecided. This show that majority of the respondents agreed that inadequate funding of ESWAMA has a negative impact on its staff performance.

Information generated from our findings during the field work however, supports the views of our respondents. Facts from the official documents of ESWAMA and some materials gotten from text books and the website write ups on ESWAMA depict that inadequate funding of ESWAMA has a negative impact on
its staff performance. This is true because inadequate funding of ESWAMA tends to reduce virtually all the intensive capable of motivating workers into performing better or carrying out their duties effectively. When workers are not paid good enough, vehicles for transporting wastes are immobilized, working environment tends to be boring and unproductive. At such situations, ESWAMA’s staff is seen discussing in groups or reading papers in offices and under trees.

**Question 13:** ESWAMA has a competent workforce that can meet up with the challenges of waste management.

**Table 4.14:** Response on whether ESWAMA has a competent workforce that can meet up with the challenges of waste management

<table>
<thead>
<tr>
<th>Response</th>
<th>Frequency</th>
<th>Percentage (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Strongly Agree</td>
<td>49</td>
<td>20.1</td>
</tr>
<tr>
<td>Agree</td>
<td>42</td>
<td>17.1</td>
</tr>
<tr>
<td>Disagree</td>
<td>109</td>
<td>44.5</td>
</tr>
<tr>
<td>Strongly Disagree</td>
<td>30</td>
<td>12.2</td>
</tr>
<tr>
<td>Undecided</td>
<td>15</td>
<td>6.1</td>
</tr>
<tr>
<td>Total</td>
<td>245</td>
<td>100</td>
</tr>
</tbody>
</table>

Source: Research, 2011.

Analysis:

Table 4.14 depicts that 49 respondents with 20.1% strongly agreed that ESWAMA has a competent workforce that can meet up with the challenges of
waste management. 42 respondents with 17.1% agreed, 109 of them disagreed with 44.5%, 30 respondents strongly disagreed while 15 respondents were undecided. This means that majority of our respondents believe that ESWAMA does not have a competent workforce that can meet up with the challenges of waste management.

Considering the researcher’s findings from the official documents of the company and also during the interview, it was also confirmed that ESWAMA does not have a competent workforce that can meet up with the challenges of waste management. Facts on ground showed that recruitment into the workforce of ESWAMA was not based on merit, transparency and equal opportunity but on private relationship with the top state government officials. This mode of recruitment tends to produce workforce with little or no expertise in waste management. Again, there are just a few sanitation and environment Engineers in Nigeria. In fact most private sector operators in waste management are mainly party stalwarts; know little or nothing about waste management.

**Question 14:** ESWAMA can boast of a functional monitoring & control unit in its organization.

**Table 4.15:** Response on whether ESWAMA can boast of a functional monitoring & control unit in its organization
<table>
<thead>
<tr>
<th>Response</th>
<th>Frequency</th>
<th>Percentage (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Strongly Agree</td>
<td>156</td>
<td>63.7</td>
</tr>
<tr>
<td>Agree</td>
<td>38</td>
<td>15.5</td>
</tr>
<tr>
<td>Disagree</td>
<td>31</td>
<td>12.7</td>
</tr>
<tr>
<td>Strongly Disagree</td>
<td>12</td>
<td>4.9</td>
</tr>
<tr>
<td>Undecided</td>
<td>08</td>
<td>3.2</td>
</tr>
<tr>
<td>Total</td>
<td>245</td>
<td>100</td>
</tr>
</tbody>
</table>

Source: Research, 2011.

Analysis:

Table 4.15 shows the response of the respondents on the question whether ESWAMA can boast of a functional monitoring & control unit in its organization. 156 respondents with 63.7 strongly agreed, 38 respondents with 15.5% of the study population agreed, 31 respondents with 12.7% disagreed, 12 respondents strongly disagreed while 8 respondents were undecided. This however shows that majority of the respondents agreed that ESWAMA can boast of a functional monitoring & control unit in its organization.

The results generated from our findings during the field work signified that ESWAMA has a functional monitoring & control unit that operates on daily basis. According to the Managing Director of ESWAMA, Mrs. Chinyere Ogakwu, ESWAMA’s monitoring and control unit moves round the metropolis and environs twice daily (morning and evening) to monitor waste disposal and evacuation.
**Question 15:** ESWAMA’s staff undergoes series of training and re-training consistently.

**Table 4.16:** Response on whether ESWAMA’s staff undergoes series of training and re-training consistently

<table>
<thead>
<tr>
<th>Response</th>
<th>Frequency</th>
<th>Percentage (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Strongly Agree</td>
<td>78</td>
<td>31.8</td>
</tr>
<tr>
<td>Agree</td>
<td>47</td>
<td>19.2</td>
</tr>
<tr>
<td>Disagree</td>
<td>34</td>
<td>13.9</td>
</tr>
<tr>
<td>Strongly Disagree</td>
<td>56</td>
<td>22.9</td>
</tr>
<tr>
<td>Undecided</td>
<td>30</td>
<td>12.2</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>245</strong></td>
<td><strong>100</strong></td>
</tr>
</tbody>
</table>

Source: Research, 2011.

**Analysis:**

Table 4.16 presents the responses of respondents on the question whether ESWAMA’s staff undergoes series of training and re-training consistently. In order to do justice to this question, 78 respondents with 31.8% of the study population strongly agreed, 47 respondents agreed. 34 respondents with 13.9% disagree and 56 strongly disagreed with 22.9% while 30 respondents were undecided on the accurate response to give. The table above shows that majority of the respondents agreed that ESWAMA’s staff undergoes series of training and re-training consistently.
Despite the glaring fact that majority of our respondents agreed, findings from the interview conducted by the researcher apparently signified that ESWAMA does carry out training and re-training of its staff but such training and re-training exercise does not come up regularly. At times when training exercises are conducted at ESWAMA, the eligible participants are only the senior staff. It was learnt that most waste management activities (like waste disposal, evacuation, handling, etc) are carried out by the junior staff of ESWAMA whom we learnt doesn’t participate both in within and outside training.

**Question 16:** This enables them to carry out their duties diligently and consistently.

**Table 4.17:** Response on whether the series of training and re-training of staff of ESWAMA enables them to carry out their duties diligently and consistently

<table>
<thead>
<tr>
<th>Response</th>
<th>Frequency</th>
<th>Percentage (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Strongly Agree</td>
<td>46</td>
<td>18.8</td>
</tr>
<tr>
<td>Agree</td>
<td>49</td>
<td>20</td>
</tr>
<tr>
<td>Disagree</td>
<td>53</td>
<td>21.6</td>
</tr>
<tr>
<td>Strongly Disagree</td>
<td>77</td>
<td>31.4</td>
</tr>
<tr>
<td>Undecided</td>
<td>20</td>
<td>8.2</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>245</strong></td>
<td><strong>100</strong></td>
</tr>
</tbody>
</table>

Source: Research, 2011.

**Analysis:**
The above table 4.17 clearly shows that 46 respondents with 18.8% of the study population strongly agreed that the series of training and re-training of staff of ESWAMA enables them to carry out their duties diligently and consistently. It also shows that 49 respondents with 20% agreed, 53 respondents with 21.6% disagreed, and 77 of them strongly disagreed with 31.4% while 20 respondents with 8.2% were undecided.

Our finding does not support the views of the majority of the respondents. Having stated earlier in this work (at the analysis under Table 4.16) that most of the training included only the senior staff and excluded the junior staff; and that the junior staff virtually does the bulk of the waste management activities at ESWAMA, we can assume that the series of training and re-training of staff of ESWAMA has no impact on the agency’s discharging of its duties diligently and consistently since the trained does less while the untrained does what he doesn’t really understand well.

**Question 17:** Technically, staff of ESWAMA displays expertise in discharging their duties.

**Table 4.18:** Response on whether staff of ESWAMA displays expertise in discharging their duties technically

<table>
<thead>
<tr>
<th>Response</th>
<th>Frequency</th>
<th>Percentage (%)</th>
</tr>
</thead>
</table>

<p>| | | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Strongly Agree</td>
<td>34</td>
<td>13.9</td>
</tr>
<tr>
<td>Agree</td>
<td>23</td>
<td>9.4</td>
</tr>
<tr>
<td>Disagree</td>
<td>81</td>
<td>33</td>
</tr>
<tr>
<td>Strongly Disagree</td>
<td>105</td>
<td>42.9</td>
</tr>
<tr>
<td>Undecided</td>
<td>2</td>
<td>0.8</td>
</tr>
<tr>
<td>Total</td>
<td>245</td>
<td>100</td>
</tr>
</tbody>
</table>

Source: Research, 2011.

Analysis

Inherent in the above table 4.18 is the fact that 34 respondents with 13.9% of the study population strongly agreed, 23 of them with 9.4% agreed, 81 respondents with 33% disagreed, 105 respondents strongly disagreed with 42.9% and 2 respondents were undecided that staff of ESWAMA displays expertise in discharging their duties technically. This shows that majority of our respondents believed that staff of ESWAMA does not display expertise in discharging their duties technically.

However, based on the results generated from the interview and the also the official documents of ESWAMA, it was discovered that staff of the monitoring and control unit harass and abuse defaulters (ESWAMA’s clients). Crimes committed by these defaulters include: failure to bag waste before disposal, failure to have the approved customized waste bin, failure to pay the yearly sanitation rate and disposing of wastes outside the dumpster. Again, during evacuation and
transportation of wastes from dump sites, it was discovered that ESWAMA’s staff do not evacuate all waste but always leave scattered waste around and as the waste vehicle moves; drops of wastes litter the routes the vehicle takes.

**Question 18:** The responsibilities of ESWAMA suffer due to the absence of professional staffs.

**Table 4.19:** Response on whether the responsibilities of ESWAMA suffer due to the absence of professional staffs

<table>
<thead>
<tr>
<th>Response</th>
<th>Frequency</th>
<th>Percentage (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Strongly Agree</td>
<td>117</td>
<td>47.7</td>
</tr>
<tr>
<td>Agree</td>
<td>99</td>
<td>40.4</td>
</tr>
<tr>
<td>Disagree</td>
<td>20</td>
<td>8.2</td>
</tr>
<tr>
<td>Strongly Disagree</td>
<td>08</td>
<td>3.3</td>
</tr>
<tr>
<td>Undecided</td>
<td>01</td>
<td>0.4</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>245</strong></td>
<td><strong>100</strong></td>
</tr>
</tbody>
</table>

Source: Research, 2011.

**Analysis:**

Table 4.19 depicts that 117 out of 245 respondents with 47.7% strongly agreed, 99 of them with 40.4% agreed, 20 respondents with 8.2% disagreed, 8 respondents with 3.3% strongly disagreed and 1 respondent with 0.4% was undecided on the question that the responsibilities of ESWAMA suffer due to the
absence of professional staff. By implication, the majority of our respondents is of
the view that the responsibilities of ESWAMA suffer due to the absence of
professional staff. This signifies that waste management requires professionals or
experts in waste management to meet up with the responsibility of waste
management.

Our findings from the interview conducted and relevant materials from text books
however, showed that the responsibilities of ESWAMA does not suffer solely due
to the absence of professional staff but other factors combined to affect the agency
performance. It is a fact that ESWAMA has no professional waste management
Engineer but the agency believes that it has trained waste managers who can
perform like the professionals and that professionalism is its least problem.

**Question 19:** Poor performances of the Monitoring & Control Unit draw
ESWAMA backwards.

**Table 4.20:** Response on whether Poor performances of the Monitoring & Control
Unit draw ESWAMA backwards

<table>
<thead>
<tr>
<th>Response</th>
<th>Frequency</th>
<th>Percentage (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Strongly Agree</td>
<td>92</td>
<td>37.6</td>
</tr>
<tr>
<td>Agree</td>
<td>103</td>
<td>42</td>
</tr>
<tr>
<td>Disagree</td>
<td>24</td>
<td>9.8</td>
</tr>
<tr>
<td>Strongly Disagree</td>
<td>19</td>
<td>7.8</td>
</tr>
<tr>
<td>Undecided</td>
<td>07</td>
<td>2.8</td>
</tr>
<tr>
<td>-----------</td>
<td>----</td>
<td>-----</td>
</tr>
<tr>
<td>Total</td>
<td>245</td>
<td>100</td>
</tr>
</tbody>
</table>

Source: Research, 2011.

Analysis:

Table 4.20 clearly shows that 92 respondents with 37.6% strongly agreed poor performances of the Monitoring & Control Unit draw ESWAMA backwards, 103 of the respondents with 42% agreed, 24 respondents with 9.8% disagreed, 19 respondents with 7.8% strongly disagreed while 7 respondents with 2.8% were undecided. This however signifies that a greater number of the respondents upheld the view that poor performances of the Monitoring & Control Unit ESWAMA it backwards.

Our findings from website materials, interview and official documents of the agency supports the views of the respondents. This is because incompetency; which has characterized the monitoring and control unit of ESWAMA had resulted in high records of evaders, court cases between the agency and its clients, etc. This has led ESWAMA into generating lesser revenue than it used to and spent more on lawyers and court charges.

**Question 20**: Clients are aware of their obligations to ESWAMA.
Table 4.21: Response on whether clients are aware of their obligations to ESWAMA

<table>
<thead>
<tr>
<th>Response</th>
<th>Frequency</th>
<th>Percentage (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Strongly Agree</td>
<td>189</td>
<td>77.1</td>
</tr>
<tr>
<td>Agree</td>
<td>43</td>
<td>17.6</td>
</tr>
<tr>
<td>Disagree</td>
<td>8</td>
<td>3.3</td>
</tr>
<tr>
<td>Strongly Disagree</td>
<td>5</td>
<td>2.1</td>
</tr>
<tr>
<td>Undecided</td>
<td>0</td>
<td>0.0</td>
</tr>
<tr>
<td>Total</td>
<td>245</td>
<td>100</td>
</tr>
</tbody>
</table>

Source: Research, 2011.

Analysis:

The above table 4.21 simply shows that 189 of the respondents with 77.1% strongly agreed that clients are aware of their obligations to ESWAMA; 43 of them agreed, 8 respondents with 3.3% disagreed, also 5 respondents with 2% strongly disagreed while no respondent was undecided. This implies that majority of clients are aware of their obligation to ESWAMA.

Our findings through personal interview show that ESWAMA employs the use of the mass media (television, radio, etc), handbills and town criers methods to sensitized its clients on their obligations to it.

**Question 21:** And they do keep to their obligations to ESWAMA.
Table 4.22: Response on whether the clients do keep to their obligations to ESWAMA

<table>
<thead>
<tr>
<th>Response</th>
<th>Frequency</th>
<th>Percentage (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Strongly Agree</td>
<td>22</td>
<td>9</td>
</tr>
<tr>
<td>Agree</td>
<td>21</td>
<td>8.6</td>
</tr>
<tr>
<td>Disagree</td>
<td>36</td>
<td>14.7</td>
</tr>
<tr>
<td>Strongly Disagree</td>
<td>154</td>
<td>62.8</td>
</tr>
<tr>
<td>Undecided</td>
<td>12</td>
<td>4.9</td>
</tr>
<tr>
<td>Total</td>
<td>245</td>
<td>100</td>
</tr>
</tbody>
</table>

Source: Research, 2011.

Analysis:

The table above shows that 22 respondents with 9% strongly agreed that the clients do keep to their obligations to ESWAMA, 21 respondents with 8.6% agreed, 36 respondents with 14.7% disagreed, 154 respondents with 62.8% strongly disagreed while 12 respondents with 4.9% were undecided on the issue. This however shows that majority of the respondents believed the clients do not keep to their obligations to ESWAMA.

Despite the fact that the majority of the respondents believe that clients do not keep to their obligations to ESWAMA, our findings during the field work showed that there is an improvement, from the clients side, on bagging of waste and payment of sanitation rates in the late quarter of the year 2010.
Question 22: As a result, there is a cordial relationship between ESWAMA and its clients.

Table 4.23: Response on whether there is a cordial relationship between ESWAMA and its clients

<table>
<thead>
<tr>
<th>Response</th>
<th>Frequency</th>
<th>Percentage (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Strongly Agree</td>
<td>54</td>
<td>22</td>
</tr>
<tr>
<td>Agree</td>
<td>43</td>
<td>17.6</td>
</tr>
<tr>
<td>Disagree</td>
<td>93</td>
<td>38</td>
</tr>
<tr>
<td>Strongly Disagree</td>
<td>40</td>
<td>16.3</td>
</tr>
<tr>
<td>Undecided</td>
<td>15</td>
<td>6.1</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td>245</td>
<td>100</td>
</tr>
</tbody>
</table>

Source: Research, 2011.

Analysis:

Table 4.23 apparently shows that 54 respondents with 22% strongly agreed that there is a cordial relationship between ESWAMA and its clients, 43 respondents with 17.6% agreed, 93 of them with 38% disagreed, 40 respondents with 16.3% strongly disagreed while 15 respondents with 6.1% were undecided. This again shows that majority of the respondents believe that the relationship between ESWAMA and its clients is not cordial. However, our findings showed that the situation cannot be unconnected from the apathy behaviour of the clients towards the government’s venture. Naturally, clients tend to evade paying rates to
government or its agencies. Therefore, anyone in government uniform automatically becomes a perceived enemy; coming to take from the little portion clients have.

**Question 23:** Clients’ attitudes make it difficult for ESWAMA to perform effectively.

**Table 4.24:** Response on whether clients’ attitudes make it difficult for ESWAMA to perform effectively

<table>
<thead>
<tr>
<th>Response</th>
<th>Frequency</th>
<th>Percentage (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Strongly Agree</td>
<td>99</td>
<td>40.4</td>
</tr>
<tr>
<td>Agree</td>
<td>84</td>
<td>34.3</td>
</tr>
<tr>
<td>Disagree</td>
<td>32</td>
<td>13.1</td>
</tr>
<tr>
<td>Strongly Disagree</td>
<td>27</td>
<td>11</td>
</tr>
<tr>
<td>Undecided</td>
<td>03</td>
<td>1.2</td>
</tr>
<tr>
<td>Total</td>
<td>245</td>
<td>100</td>
</tr>
</tbody>
</table>

Source: Research, 2011.

Analysis:

The above table 4.24 depicts that 99 respondents with 40.4%, 84 respondents with 34.3% agreed, 32 respondents with 13.1% disagreed, 27 respondents with 11% strongly disagreed while 3 respondents were undecided on the fact that clients’ attitudes make it difficult for ESWAMA to perform
effectively. This then shows that a greater number of the respondents believe that the clients’ attitudes make it difficult for ESWAMA to perform effectively.

Our findings from the interview and official documents of the ESWAMA also showed that clients’ attitudes make it difficult for ESWAMA to perform effectively. These attitudes can be failure to pay sanitation rates, indiscriminate disposal of wastes, failure to bag wastes before disposal, government-does-everything philosophy of clients, etc. all of these are capable of making things difficult for ESWAMA to perform effectively.

**Question 24**: ESWAMA most times ignore the attitude of its clients and carry out its duties anyway.

**Table 4.25**: Response on whether ESWAMA most times ignore the attitude of its clients and carry out its duties anyway

<table>
<thead>
<tr>
<th>Response</th>
<th>Frequency</th>
<th>Percentage (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Strongly Agree</td>
<td>72</td>
<td>29.4</td>
</tr>
<tr>
<td>Agree</td>
<td>104</td>
<td>42.4</td>
</tr>
<tr>
<td>Disagree</td>
<td>53</td>
<td>21.6</td>
</tr>
<tr>
<td>Strongly Disagree</td>
<td>09</td>
<td>3.7</td>
</tr>
<tr>
<td>Undecided</td>
<td>07</td>
<td>2.9</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>245</strong></td>
<td><strong>100</strong></td>
</tr>
</tbody>
</table>

Source: Research, 2011.
Analysis:

Table 4.25 above shows that 72 respondents with 29.4% strongly agree that the ESWAMA most times ignore the attitude of its clients and carry out its duties anyway; 104 respondents with 42.4% agreed, 53 respondents with 21.6% disagreed, 9 respondents with 3.7% strongly disagreed while 7 respondents were undecided. This however signifies that majority of the respondents believe that ESWAMA most times ignore the attitude of its clients and carry out its duties anyway. Our findings from the official documents of ESWAMA and personal interview also showed that at times when salaries are not paid and internally generated funds couldn’t meet up with the financial needs of the agency, workers still carry out their duties. Again, despite the frequent indiscriminate disposal of wastes by the clients at dump sites, ESWAMA is not totally discouraged from carrying out its duties.

4.1.3 TEST OF HYPOTHESIS

Three hypotheses were postulated in the course of this study and they will now be statistically tested using the Chi-square ($X^2$) method.

The Chi-square method is one of the commonest nonparametric statistical methods which is used to test the level of significance of data where we have data that are expressed as frequencies or in terms of percentages. It indicates whether or
not a set of expected frequencies differ significantly from the corresponding set of observed frequencies.

By definition, the Chi-square is given by the formula;

\[ \text{Chi-square (}X^2\text{)} = \sum \frac{(o-e)^2}{e} \]

Where \( O = \) Observed frequency

\( e = \) expected frequency

\( \Sigma = \) summation sign

The degree of freedom \((df)\) is given by the formula: \((df) = (R - 1) (C - 1)\).

When the values of the observed frequency ‘\( O \)’ and expected frequency ‘\( e \)’ is known, a five-column Chi-square computation table will be drawn which will be used to compute the Chi-square.

Then, with the calculated Chi-square value known, the researcher will now make use of the Chi-square table for critical value at \((R - 1) (C - 1)\) degree of freedom at a given level of significance of \((0.05)\) to calculate the tabulated value.

With the calculated value and the table value known, the researcher will now state the decision rule and take the decision.
From the above Chi-square formula, the researcher will now prepare a table for the computation of the contingency table that will be used for the computation of Chi-square.

⇒ Test and analysis of Hypothesis 1

Inadequate funding of ESWAMA affects its efficiency.

The null and alternative hypotheses are as follows:

Ho: Inadequate funding of ESWAMA affects its efficiency.

H₁: Inadequate funding of ESWAMA does not affect its efficiency.

In order to test the above hypothesis, question 12 was posited in the questionnaire which states thus: Inadequate funding of ESWAMA has a negative impact on its staff performance. Using the Likert Scale, the table below is a contingency table which shows the responses of the respondents;

**Table 4.26**: Contingency table for the analysis of question 12 so as to test hypothesis 1

<table>
<thead>
<tr>
<th>Response</th>
<th>Senior Staff</th>
<th>Junior Staff</th>
<th>Client</th>
<th>Row Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>SA</td>
<td>12</td>
<td>18</td>
<td>178</td>
<td>208</td>
</tr>
<tr>
<td>A</td>
<td>0</td>
<td>0</td>
<td>28</td>
<td>28</td>
</tr>
<tr>
<td></td>
<td>D</td>
<td>0</td>
<td>0</td>
<td>2</td>
</tr>
<tr>
<td>---</td>
<td>---</td>
<td>---</td>
<td>---</td>
<td>---</td>
</tr>
<tr>
<td>SD</td>
<td>0</td>
<td>0</td>
<td>5</td>
<td>5</td>
</tr>
<tr>
<td>U</td>
<td>0</td>
<td>0</td>
<td>2</td>
<td>2</td>
</tr>
<tr>
<td>Total</td>
<td>12</td>
<td>18</td>
<td>215</td>
<td>245</td>
</tr>
</tbody>
</table>

Source: Research, 2011.

Where SA = Strongly Agree

A = Agree

D = Disagree

SD = Strongly Disagree

U = Undecided

Note: * the above hypothesis will be tested at 0.05 level of significance.

* the data in table 4.26 will be used to calculate the expected frequency

‘e’ using the formula: \( E_{ij} = \frac{RT \times CT}{GT} \)

Where RT = Row Total

CT = Column Total

GT = Grand Total

**Table 4.27:** Table for the computation of Expected (e)

<table>
<thead>
<tr>
<th>O</th>
<th>Calculation</th>
<th>Expected (e)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>---</td>
<td>-----</td>
<td>------------------</td>
</tr>
<tr>
<td>12</td>
<td>e1</td>
<td>12 x 208 = 245</td>
</tr>
<tr>
<td>18</td>
<td>e2</td>
<td>18 x 208 = 245</td>
</tr>
<tr>
<td>178</td>
<td>e3</td>
<td>215 x 208 = 245</td>
</tr>
<tr>
<td>0</td>
<td>e4</td>
<td>12 x 28 = 245</td>
</tr>
<tr>
<td>0</td>
<td>e5</td>
<td>18 x 28 = 245</td>
</tr>
<tr>
<td>28</td>
<td>e6</td>
<td>215 x 28 = 245</td>
</tr>
<tr>
<td>0</td>
<td>e7</td>
<td>12 x 2 = 245</td>
</tr>
<tr>
<td>0</td>
<td>e8</td>
<td>18 x 2 = 245</td>
</tr>
<tr>
<td>2</td>
<td>e9</td>
<td>215 x 2 = 245</td>
</tr>
<tr>
<td>0</td>
<td>e10</td>
<td>12 x 5 = 245</td>
</tr>
<tr>
<td>0</td>
<td>e11</td>
<td>18 x 5 = 245</td>
</tr>
<tr>
<td>5</td>
<td>e12</td>
<td>215 x 5 = 245</td>
</tr>
<tr>
<td>0</td>
<td>e13</td>
<td>12 x 2 = 245</td>
</tr>
<tr>
<td>0</td>
<td>e14</td>
<td>18 x 2 = 245</td>
</tr>
<tr>
<td>2</td>
<td>e15</td>
<td>215 x 2 = 245</td>
</tr>
</tbody>
</table>

Source: Research, 2011.

Having successfully computed the table for ‘e’, we shall now prepare a table for the computation of Chi-square

**Table 4.28** Table for computation of Chi-square.
<table>
<thead>
<tr>
<th></th>
<th>10.19</th>
<th>1.81</th>
<th>3.28</th>
<th>0.32</th>
</tr>
</thead>
<tbody>
<tr>
<td>12</td>
<td>15.28</td>
<td>2.72</td>
<td>7.40</td>
<td>0.48</td>
</tr>
<tr>
<td>18</td>
<td>182.53</td>
<td>-4.53</td>
<td>20.52</td>
<td>0.11</td>
</tr>
<tr>
<td>0</td>
<td>1.37</td>
<td>-1.37</td>
<td>1.88</td>
<td>1.37</td>
</tr>
<tr>
<td>28</td>
<td>24.57</td>
<td>3.43</td>
<td>11.76</td>
<td>0.48</td>
</tr>
<tr>
<td>0</td>
<td>0.10</td>
<td>-0.10</td>
<td>0.01</td>
<td>0.10</td>
</tr>
<tr>
<td>0</td>
<td>0.15</td>
<td>-0.15</td>
<td>0.02</td>
<td>0.13</td>
</tr>
<tr>
<td>2</td>
<td>1.76</td>
<td>0.24</td>
<td>0.06</td>
<td>0.03</td>
</tr>
<tr>
<td>0</td>
<td>0.24</td>
<td>-0.24</td>
<td>0.06</td>
<td>0.25</td>
</tr>
<tr>
<td>5</td>
<td>0.36</td>
<td>-0.36</td>
<td>0.13</td>
<td>0.36</td>
</tr>
<tr>
<td>0</td>
<td>4.38</td>
<td>0.62</td>
<td>0.38</td>
<td>0.09</td>
</tr>
<tr>
<td>0</td>
<td>0.10</td>
<td>-0.10</td>
<td>0.01</td>
<td>0.10</td>
</tr>
<tr>
<td>0</td>
<td>0.15</td>
<td>-0.15</td>
<td>0.02</td>
<td>0.13</td>
</tr>
<tr>
<td>2</td>
<td>1.76</td>
<td>0.24</td>
<td>0.06</td>
<td>0.03</td>
</tr>
</tbody>
</table>

Source: Research, 2011.

\[ \sum (o-e)^2 = 6.04 \]

Chi-square \( (X^2) \) calculated = 6.04

Degree of freedom (df) = \((C - 1) (R - 1)\)

\[ = (3 - 1) (5 - 1) \]

\[ = 2 \times 4 \]

\[ = 8 \]
As earlier stated, level of significance ($\alpha$) = 0.05 and with the degree of freedom of 8, the researcher will now refer to the table of sampling distribution Chi-square for 8 df at 0.05 level of significance.

The critical Chi-square value for 8 df and 0.05 level of significance is 15.51. With the Chi-square calculated and Chi-square tabulated known, we now take the decision rule.

**Decision Rule:**

Reject Ho, if Chi-square calculated is > (greater than) Chi-square table value and accept Ho if otherwise.

**Conclusion:**

Chi-square ($X^2$) calculated = 6.04

Chi-square ($X^2$) tabulated = 15.51.

Therefore, Ho is accepted because ($X^2$) calculated is < (less than) ($X^2$) tabulated which is 15.51.

**Implication:**

The implication of this result is that the null hypothesis ($H_0$) was upheld, which states that inadequate funding of ESWAMA affects its efficiency.
Test and analysis of Hypothesis 2

Hypothesis 2: Incompetent workforce and poor monitoring and control leave ESWAMA below average line of its responsibilities.

The null and alternative hypotheses are as follows:

Ho: Incompetent workforce and poor monitoring and control leave ESWAMA below average line of its responsibilities.

H1: Incompetent workforce and poor monitoring and control do not leave ESWAMA below average line of its responsibilities.

In order to test the above hypothesis, question 19 was posited in the questionnaire which states thus: Poor performances of the Monitoring & Control Unit draw ESWAMA backwards. Using the Likert Scale, the table below is a contingency table which shows the responses of the respondents;

Table 4.29: Contingency table for the analysis of question 19 so as to test hypothesis 2

<table>
<thead>
<tr>
<th>Response</th>
<th>Senior Staff</th>
<th>Junior Staff</th>
<th>Client</th>
<th>Row Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>SA</td>
<td>3</td>
<td>8</td>
<td>81</td>
<td>92</td>
</tr>
<tr>
<td>A</td>
<td>6</td>
<td>3</td>
<td>94</td>
<td>103</td>
</tr>
</tbody>
</table>
Where SA= Strongly Agree

A= Agree

D= Disagree

SD= Strongly Disagree

U= Undecided

Note: * the above hypothesis will be tested at 0.05 level of significance.

* the data in table 4.29 will be used to calculate the expected frequency ‘e’ using the formula: 
\[ E_{ij} = \frac{RT \times CT}{GT} \]

Where RT = Row Total

CT = Column Total, GT = Grand Total

**Table 4.30**: Table for the computation of Expected (e)
<table>
<thead>
<tr>
<th>O</th>
<th>E</th>
<th>O - e</th>
<th>(o - e)^2</th>
<th>(o - e)^2 / e</th>
</tr>
</thead>
<tbody>
<tr>
<td>3</td>
<td>4.51</td>
<td>-1.51</td>
<td>2.28</td>
<td>0.51</td>
</tr>
<tr>
<td>8</td>
<td>6.76</td>
<td>1.24</td>
<td>1.54</td>
<td>0.23</td>
</tr>
<tr>
<td>81</td>
<td>80.73</td>
<td>0.27</td>
<td>0.07</td>
<td>0.00</td>
</tr>
</tbody>
</table>

Source: Research, 2011.

Having successfully computed the table for ‘e’, we shall now prepare a table for the computation of Chi-square

**Table 4.31** Table for computation of Chi-square.
\[
\sum (o-e)^2 = 9.38
\]

Chi-square (\(X^2\)) calculated = 9.38

Degree of freedom (df) = (C – 1) (R – 1)

\[
= (3 – 1) (5 – 1)
= 2 \times 4
= 8
\]

As earlier stated, level of significance (\(\alpha\)) = 0.05 and with the degree of freedom of 8, the researcher will now refer to the table of sampling distribution Chi-square for 8 df at 0.05 level of significance.
The critical Chi-square value for 8 df and 0.05 level of significance is 15.51. With the Chi-square calculated and Chi-square tabulated known, we now take the decision rule.

**Decision Rule:**

Reject Ho, if Chi-square calculated is $> \text{(greater than)}$ Chi-square table value and accept Ho if otherwise.

**Conclusion:**

Chi-square ($X^2$) calculated = 9.38

Chi-square ($X^2$) tabulated = 15.51.

Therefore, Ho is accepted because ($X^2$) calculated is $< \text{(less than)}$ ($X^2$) tabulated which is 15.51.

**Implication:**

The implication of this result is that the null hypothesis ($H_0$) was upheld, which states incompetent workforce and poor monitoring and control leave ESWAMA below average line of its responsibilities.

$\Rightarrow$ Test and analysis of Hypothesis 3
Hypothesis 3: People’s (clients) attitudes toward ESWAMA can impair its performance.

The null and alternative hypotheses are as follows:

H₀: People’s (clients) attitudes toward ESWAMA can impair its performance.

H₁: People’s (clients) attitudes toward ESWAMA cannot impair its performance.

In order to test the above hypothesis, question 23 was posited in the questionnaire which states thus: Clients’ attitudes make it difficult for ESWAMA to perform effectively. Using the Likert Scale, the table below is a contingency table which shows the responses of the respondents;

**Table 4.32:** Contingency table for the analysis of question 23 so as to test hypothesis 3

<table>
<thead>
<tr>
<th>Response</th>
<th>Senior Staff</th>
<th>Junior Staff</th>
<th>Client</th>
<th>Row Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>SA</td>
<td>6</td>
<td>7</td>
<td>86</td>
<td>99</td>
</tr>
<tr>
<td>A</td>
<td>2</td>
<td>5</td>
<td>77</td>
<td>84</td>
</tr>
<tr>
<td>D</td>
<td>3</td>
<td>2</td>
<td>27</td>
<td>32</td>
</tr>
<tr>
<td>SD</td>
<td>1</td>
<td>3</td>
<td>23</td>
<td>27</td>
</tr>
<tr>
<td>U</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>Total</td>
<td>12</td>
<td>18</td>
<td>215</td>
<td>245</td>
</tr>
</tbody>
</table>

Source: Research, 2011.
Where SA= Strongly Agree

   A= Agree

   D= Disagree

   SD= Strongly Disagree

   U= Undecided

Note: * the above hypothesis will be tested at 0.05 level of significance.

* the data in table 4.32 will be used to calculate the expected frequency

‘e’ using the formula: \( E_{ij} = \frac{R_T \times C_T}{G_T} \)

Where \( R_T = \) Row Total

\( C_T = \) Column Total, \( G_T = \) Grand Total

**Table 4.33:** Table for the computation of Expected (e)

<table>
<thead>
<tr>
<th>O</th>
<th>Calculation</th>
<th>Expected (e)</th>
</tr>
</thead>
<tbody>
<tr>
<td>6</td>
<td>( e_1 \frac{12 \times 99}{245} )</td>
<td>4.85</td>
</tr>
<tr>
<td>7</td>
<td>( e_2 \frac{18 \times 99}{245} )</td>
<td>7.27</td>
</tr>
<tr>
<td>86</td>
<td>( e_3 \frac{215 \times 99}{245} )</td>
<td>86.88</td>
</tr>
<tr>
<td>2</td>
<td>( e_4 \frac{12 \times 84}{245} )</td>
<td>4.11</td>
</tr>
<tr>
<td>5</td>
<td>( e_5 \frac{18 \times 84}{245} )</td>
<td>6.17</td>
</tr>
<tr>
<td>77</td>
<td>( e_6 \frac{215 \times 84}{245} )</td>
<td>73.71</td>
</tr>
<tr>
<td>3</td>
<td>( e_7 \frac{12 \times 32}{245} )</td>
<td>1.57</td>
</tr>
</tbody>
</table>
Having successfully computed the table for ‘e’, we shall now prepare a table for the computation of Chi-square

**Table 4.34** Table for computation of Chi-square.

<table>
<thead>
<tr>
<th>O</th>
<th>E</th>
<th>O - e</th>
<th>((o - e)^2)</th>
<th>((o - e)^2) / e</th>
</tr>
</thead>
<tbody>
<tr>
<td>6</td>
<td>4.85</td>
<td>1.15</td>
<td>1.32</td>
<td>0.27</td>
</tr>
<tr>
<td>7</td>
<td>7.27</td>
<td>-0.27</td>
<td>0.07</td>
<td>0.01</td>
</tr>
<tr>
<td>86</td>
<td>86.88</td>
<td>-0.88</td>
<td>0.77</td>
<td>0.01</td>
</tr>
<tr>
<td>2</td>
<td>4.11</td>
<td>-2.11</td>
<td>4.45</td>
<td>1.08</td>
</tr>
<tr>
<td>5</td>
<td>6.17</td>
<td>-1.17</td>
<td>1.37</td>
<td>0.22</td>
</tr>
<tr>
<td>77</td>
<td>73.71</td>
<td>3.29</td>
<td>10.82</td>
<td>0.15</td>
</tr>
<tr>
<td>3</td>
<td>1.57</td>
<td>1.43</td>
<td>2.04</td>
<td>1.30</td>
</tr>
<tr>
<td>2</td>
<td>2.35</td>
<td>-0.35</td>
<td>0.12</td>
<td>0.05</td>
</tr>
<tr>
<td>27</td>
<td>28.08</td>
<td>-1.08</td>
<td>1.17</td>
<td>0.04</td>
</tr>
</tbody>
</table>
\[
\sum (o-e)^2 = 6.81
\]

Chi-square \( (X^2) \) calculated = 6.81

Degree of freedom \( (df) = (C - 1) (R - 1) \)

\[
= (3 - 1) (5 - 1)
\]

\[
= 2 \times 4
\]

\[
= 8
\]

As earlier stated, level of significance \( (\alpha) = 0.05 \) and with the degree of freedom of 8, the researcher will now refer to the table of sampling distribution Chi-square for 8 df at 0.05 level of significance.

The critical Chi-square value for 8 df and 0.05 level of significance is 15.51. With the Chi-square calculated and Chi-square tabulated known, we now take the decision rule.

**Decision Rule:**
Reject Ho, if Chi-square calculated is > (greater than) Chi-square table value and accept Ho if otherwise.

**Conclusion:**

Chi-square ($X^2$) calculated = 6.81

Chi-square ($X^2$) tabulated = 15.51.

Therefore, Ho is accepted because ($X^2$) calculated is < (less than) ($X^2$) tabulated which is 15.51.

**Implication:**

The implication of this result is that the null hypothesis ($H_0$) was upheld, which states that people’s (clients) attitudes toward ESWAMA can impair its performance.

### 4.2 FINDINGS

Every good research work looks forward to obtaining valid results. In chapter two of this work, three hypotheses were posited with a view to investigating problems of waste management in Enugu State, the Enugu State Waste Management Authority (ESWAMA) as a case study.

Our first hypothesis was aimed at investigating whether inadequate funding of ESWAMA affects its efficiency. After the statistical testing and analysis of the
research question posited for this hypothesis using the Chi-square method, it was discovered that inadequate funding of ESWAMA affects its efficiency. In order to ensure that the result from the statistical testing was accurate, we compared the results with our findings from other sources of data collection. Results generated from the official documents, personal interview and materials from text books depicts that inadequate funding of ESWAMA affects its efficiency. These results signified that inadequate funding of ESWAMA tends to reduce virtually all the intensive capable of motivating workers into performing better or carrying out their duties effectively. When workers are not paid good enough, vehicles for transporting wastes are immobilized, working environment tends to be boring and unproductive. At such situations, ESWAMA’s staff is seen discussing in groups or reading papers in offices and under trees.

Again, our second hypothesis which states that incompetent workforce and poor monitoring and control leave ESWAMA below average line of its responsibilities, was statistically tested and analyzed. After the analysis using the Chi-square method, it was discovered that incompetent workforce and poor monitoring and control leave ESWAMA below average line of its responsibilities. In order to test the accuracy of this result, we compared this result with our findings from the field work. Our findings from the interview conducted and relevant materials from text books however, showed that incompetent workforce
and poor monitoring and control leave ESWAMA below average line of its responsibilities. This is due to the fact that the junior staff of ESWAMA virtually carries out all the waste management activities and participate less in the training and re-training exercises that go on at ESWAMA. The situation has led to a high rate of incompetency; which has characterized the monitoring and control unit of ESWAMA and had resulted in high records of evaders, court cases between the agency and its clients, etc. This has led ESWAMA into generating lesser revenue than it used to and spent more on lawyers and court charges for cases between the agency and its clients.

The third hypothesis which states that peoples (clients) attitudes toward ESWAMA can impair its performance was statistically tested and analyzed. Comparing this result with our findings from text book materials, interview and official documents of ESWAMA, we discovered that peoples (clients) attitudes toward ESWAMA can impair its performance. These attitudes can be failure to pay sanitation rates, indiscriminate disposal of wastes, failure to bag wastes before disposal, government-does-everything philosophy of clients, etc. all of these are capable of making things difficult for ESWAMA to perform effectively.

From the investigations conducted using the questionnaire, the following findings were observed:
ESWAMA is being funded by the state government. Majority of the responses from the questionnaire agreed that ESWAMA is being funded by the state government but the researcher has a different view on this issue considering the information generated during the field work (where the researcher interviewed some of the respondents). The staff of ESWAMA interviewed made it clear that the State Government only supplements the fund of the Authority by less than 20% of the total revenue available for ESWAMA. This therefore, made the researcher to disagree with the majority view.

The funds are always available for ESWAMA to utilize. Majority of the respondents agreed that the funds are always available for ESWAMA to utilize. But considering the findings from personal interview and official documents of ESWAMA, the researcher discovered that in as much as the supplementary fund from the State Government to ESWAMA is of lower rate (below 20%), the funds are not frequently available for accessibility. This is true as the monthly supplementary fund/grant, sometimes, spills over the subsequent months and affects its accessibility for the purpose it was meant for that particular month or period.
ESWAMA also generates internal revenue to augment the fund from the government. Our findings from the interview conducted and the official documents of ESWAMA affirms the response from majority of our respondents which states that ESWAMA also generates internal revenue to augment the fund from the government. Worthy to note is that the findings showed that ESWAMA’s main source of fund is from the internally generated revenue using the instrument of “Sanitation rate” payable by the clients annually.

These funds it receives and generates are adequate to enable ESWAMA carry out its duties effectively. Majority of our respondents agreed that the funds ESWAMA receives and generates are not adequate to enable ESWAMA carry out its duties effectively. The findings during field work support the response from majority of our respondents. The findings signified that the clients of ESWAMA evade paying sanitation rates and as such hinders ESWAMA from carrying out its duties effectively.

Inconsistent funding of ESWAMA can hinder its waste management responsibilities. However, results generated from the official documents, personal interview and materials from text books shows that when funding fluctuates, it can hinder ESWAMA’s waste
management activities or responsibility. These results signified that when funding (such as State government’s grant and sanitation rates) is inconsistent, evacuation and transportation of wastes from waste dumps, maintenance of equipment and payment of worker’s salaries suffer which in turn hinder ESWAMA from carrying out its waste management responsibilities.

➢ Inadequate funding of ESWAMA has a negative impact on its staff performance. Information generated from our findings during the field work however, supports the views of our respondents. Facts from the official documents of ESWAMA and some materials gotten from text books and the website write ups on ESWAMA depict that inadequate funding of ESWAMA has a negative impact on its staff performance. This is true because inadequate funding of ESWAMA tends to reduce virtually all the intensive capable of motivating workers into performing better or carrying out their duties effectively. When workers are not paid good enough, vehicles for transporting wastes are immobilized, working environment tends to be boring and unproductive. At such situations, ESWAMA’s staff is seen discussing in groups or reading papers in offices and under trees.
ESWAMA has a competent workforce that can meet up with the challenges of waste management. Considering the researcher’s findings from the official documents of the company and also during the interview, it was confirmed that ESWAMA has does not have a competent workforce that can meet up with the challenges of waste management. Facts on ground showed that recruitment into the workforce of ESWAMA was not based on merit, transparency and equal opportunity but on private relationship with the top state government officials. This mode of recruitment tends to produce workforce with little or no expertise in waste management. Again, there are just a few sanitation and environment Engineers in Nigeria. In fact most private sector operators in waste management are mainly party stalwarts; know little or nothing about waste management.

ESWAMA can boast of a functional monitoring & control unit in its organization. The results generated from our findings during the field work signified that ESWAMA has a functional monitoring & control unit that operates on daily basis. According to the Managing Director of ESWAMA, Mrs. Chinyere Ogakwu, ESWAMA’s monitoring and control unit moves round the metropolis and environs twice daily (morning and evening) to monitor waste disposal and evacuation.
ESWAMA’s staff undergoes series of training and re-training consistently. Despite the glaring fact that majority of our respondents agreed that ESWAMA’s staff undergoes series of training and re-training consistently, findings from the interview conducted by the researcher apparently signified that ESWAMA does carry out training and re-training of its staff but such training and re-training exercise does not come up regularly. At times when training exercises are conducted at ESWAMA, the eligible participants are only the senior staff. It was learnt that most waste management activities (like waste disposal, evacuation, handling, etc) are carried out by the junior staff of ESWAMA whom we learnt doesn’t participate both in within and outside training.

This enables them to carry out their duties diligently and consistently. Our finding does not support the views of the majority of the respondents that the series of training and re-training of ESWAMA’s staff enables them to carry out their duties diligently and consistently. Having stated earlier in this work (at the analysis under Table 4.16) that most of the training included only the senior staff and excluded the junior staff; and that the junior staff virtually does the bulk of the waste management activities at ESWAMA, we can assume that the
series of training and re-training of staff of ESWAMA has no impact on the agency’s discharging of its duties diligently and consistently since the trained does less while the untrained does what he doesn’t really understand well.

➢ Technically, staff of ESWAMA displays expertise in discharging their duties. Based on the results generated from the interview and the also the official documents of ESWAMA, it was discovered that staff of the monitoring and control unit harass and abuse defaulters (ESWAMA’s clients). Crimes committed by these defaulters include: failure to bag waste before disposal, failure to have the approved customized waste bin, failure to pay the yearly sanitation rate and disposing of wastes outside the dumpster. Again, during evacuation and transportation of wastes from dump sites, it was discovered that ESWAMA’s staff do not evacuate all waste but always leave scattered waste around and as the waste vehicle moves; drops of wastes litter the routes the vehicle takes.

➢ The responsibilities of ESWAMA suffer due to the absence of professional staffs. By implication, the majority of our respondents are of the view that the responsibilities of ESWAMA suffer due to the absence of professional staff. This signifies that waste management
requires professionals or experts in the field of waste management to meet up with the responsibility of waste management. Our findings from the interview conducted and relevant materials from text books however, showed that the responsibilities of ESWAMA does not suffer solely due to the absence of professional staff but other factors combined to affect the agency performance. It is a fact that ESWAMA has no professional waste management Engineer but the agency believes that it has trained waste managers who can perform like the professionals and that professionalism is its least problem.

- Poor performances of the Monitoring & Control Unit draw ESWAMA backwards. A greater number of the respondents upheld the view that poor performances of the Monitoring & Control Unit ESWAMA it backwards. Our findings from website materials, interview and official documents of the agency supports the views of the respondents. This is because incompetency; which has characterized the monitoring and control unit of ESWAMA had resulted in high records of evaders, court cases between the agency and its clients, etc. This has led ESWAMA into generating lesser revenue than it used to and spent more on lawyers and court charges.
Clients are aware of their obligations to ESWAMA. 189 of the respondents with 77.1% strongly agreed that clients are aware of their obligations to ESWAMA; 43 of them agreed, 8 respondents with 3.3% disagreed, also 5 respondents with 2% strongly disagreed while no respondent was undecided. This implies that majority of clients are aware of their obligation to ESWAMA. Our findings through personal interview show that ESWAMA employs the use of the mass media (television, radio, etc), handbills and town criers methods to sensitized its clients on their obligations to it.

And they do keep to their obligations to ESWAMA. Despite the fact that the majority of the respondents believe that clients do not keep to their obligations to ESWAMA, our findings during the field work showed that there is an improvement, from the clients side, on bagging of waste and payment of sanitation rates in the late quarter of the year 2010.

As a result, there is a cordial relationship between ESWAMA and its clients. This again shows that majority of the respondents believe that the relationship between ESWAMA and its clients is not cordial. However, our findings showed that the situation cannot be unconnected from the apathy behaviour of the clients towards the
government’s venture. Naturally, clients tend to evade paying rates to
government or its agencies. Therefore, anyone in government uniform
automatically becomes a perceived enemy; coming to take from the
little portion clients have.

- Clients’ attitudes make it difficult for ESWAMA to perform
effectively. Our findings from the interview and official documents of
the ESWAMA also showed that clients’ attitudes make it difficult for
ESWAMA to perform effectively. These attitudes can be failure to
pay sanitation rates, indiscriminate disposal of wastes, failure to bag
wastes before disposal, government-does-everything philosophy of
clients, etc. all of these are capable of making things difficult for
ESWAMA to perform effectively.

- ESWAMA most times ignore the attitude of its clients and carry out
its duties anyway. Majority of the respondents believe that ESWAMA
most times ignore the attitude of its clients and carry out its duties
anyway. Our findings from the official documents of ESWAMA and
personal interview also showed that at times when salaries are not
paid and internally generated funds couldn’t meet up with the
financial needs of the agency, workers still carry out their duties.
Again, despite the frequent indiscriminate disposal of wastes by the
clients at dump sites, ESWAMA is not totally discouraged from carrying out its duties.

4.3 IMPLICATIONS OF RESULTS AND FINDINGS

The implications of these results and findings are as follows:

- Since the supplementary fund from the State Government to ESWAMA is of lower rate (below 20%), and the funds are not frequently available for accessibility; the funds ESWAMA receives and generates are not adequate to enable ESWAMA carry out its duties effectively as most clients evade paying sanitation rates, we can rightly affirm that inadequate funding of ESWAMA affects its efficiency to the extent that evacuation and transportation of wastes from waste dumps, maintenance of equipment and payment of worker’s salaries suffer which in turn hinder ESWAMA from carrying out its waste management responsibilities.

- Though ESWAMA do carry out training and re-training of its staff, such training and re-training exercises do not come up regularly (about three times since 2004). At times when training exercises are conducted at ESWAMA, the eligible participants are only the senior staff. It was learnt that most waste management activities (like waste disposal, evacuation, handling, etc) are carried out by the junior staff of ESWAMA whom we
learnt do not participate both in within and outside training. Going by the fact that the majority of our respondents are of the view that the responsibilities of ESWAMA suffer due to the absence of professional staff; which by implication signifies that waste management requires professionals or experts in the field of waste management to meet up with the responsibilities of waste management, waste management in Enugu State will continue to encounter problem(s) since it is a fact that ESWAMA has no professional waste management Engineer but believes that it has trained waste managers who can perform like the professionals and that professionalism is its least problem. We can then say that the status of professional training and re-training at ESWAMA is highly low.

- Although there have been some improvement from the clients of ESWAMA, findings showed that clients’ attitudes make it difficult for ESWAMA to perform effectively. These attitudes can be failure to pay sanitation rates, indiscriminate disposal of wastes, failure to bag wastes before disposal, government-does-everything philosophy of clients (most clients would take to the easy way of depositing waste along the highway and corners of street for “government” to pick up) etc. all of these have negative impact on ESWAMA and had resulted into shortages of expected amount of the
internally generated funds, misallocation of generated fund, unpaid salaries, non-maintenance of equipment and unnecessary psychological distress.

- Since the monitoring and control unit of ESWAMA display incompetency; it has impacted negatively on the waste management activities in Enugu State. This is observable as the records of evaders’ heighten; court cases between the agency and its client’s increases, inability to thoroughly monitor the streets and highways, etc. This has led ESWAMA into generating lesser revenue than it used to and spent more on lawyers and court charges. Again, clients that deposit waste undisciplined do so because no staff of the monitoring and control unit is keeping a look. All of these have posed a big challenge to the waste management in Enugu State.
CHAPTER FIVE

SUMMARY, RECOMMENDATION AND CONCLUSION

5.1 SUMMARY

This study is an attempt to investigate the problems and prospects of waste management in Enugu State, using the Enugu State Waste Management Authority (ESWAMA) as a case study. This was with a view to ascertaining the extent to which fund affects the efficiency of ESWAMA and to find out the professional training status of ESWAMA’s staff.

The study was also aimed at verifying the impact of people’s attitudes towards ESWAMA’s mandate of maintaining a clean environment and to find out the impact of monitoring and control on the management of waste in Enugu.

The researcher commenced this study by carrying out a critical exposition on the background of the study which constitutes the origin of waste generation and disposal, the advent of industrial revolution, the increase in population and the massive migration of people to industrial towns and cities from rural areas as the major causes of waste management problems. It also discussed the indiscriminate disposal and dumping of wastes seen over Enugu State and the attempts made by different governments to effectively manage waste in the state. The statement of problem exposed most of the problems associated with waste management in
Enugu state which include: poor funding, lack of waste experts/professionals, incompetent workforce, and the citizen’s attitudes toward ESWAMA. This section also highlighted the research questions. The objectives the study intended to achieve at end of the research were clearly stated and this was followed by the significance of the study which constitutes the empirical, theoretical and practical significance of the study to the society. The scope and limitations of the study which involves the scope which study intends to cover and limitations which would have caused a setback in achieving the success of this research work concluded the first chapter.

The second chapter of this work reviewed the works of other contemporary scholars that have contributed in the bank of knowledge as it relates to the concept of waste. Literature on waste management which also includes methods of waste disposal, waste management in Nigeria were all reviewed. This chapter also includes the research hypotheses and operationalization of concepts and this was followed by the research methodology which embodied the type of study, methods of data collection, population of study, sample and sampling procedure, data gathering instruments, validity and reliability of instrument and lastly method of data analysis. The last item on this section was theoretical framework and its proponents, uses, and application to the study were extensively x-rayed.
Chapter three of this work comprehensively dealt with the background information of Enugu State Waste Management Authority (ESWAMA). The study discussed the origin and location of ESWAMA, its vision/mission statement, clients, Organizational structure and Organogram. It also discussed its complaint handling, broad range of marketing methods, duties of units and departments.

Data presentation and analysis was the main focus of chapter four. The researcher presented and analyzed the data collected from the questionnaire which constitutes the personal data and the substantive data gotten from the respondents. This section also embodied the presentation and analysis of the hypotheses using the chi-square statistical method.

The last chapter of the study which is chapter five was the concluding chapter of the study and dealt with the summary, conclusion and recommendation.

5.2 RECOMMENDATIONS

In order to assist other Nigerian waste management agencies in general and ESWAMA in particular, achieve their main objective of maintaining a clean environment, and also in view of our analysis and findings of this study, we hereby recommend the following:
Enugu state government should increase (up to above 50% of the agency’s required revenue) and improve on the supplementary funds allocated to ESWAMA to carry out its waste management responsibilities. It would go a long way at assisting them to procure better equipment for waste collection and disposal; pay staff salaries as and when due, make for the training of their staff and better staff motivation without mostly depending on revenue generated from unstable sanitation rate.

ESWAMA should strengthen and regularize their training programme for the both senior and junior staff generally and monitoring/control staff particularly, taking them to task to their job. This would enhance effective monitoring and control of waste from collection to disposal.

Sanitation/Environment protection courts should be established to try all environmental pollution cases as obtainable in other jurisdictions. This would require serious policing in the neighborhood but would go a long way reduce or eliminate indiscriminate dumping of refuse by clients.

ESWAMA should, from time to time, organize a comprehensive public sensitization programme to enlighten and re-orientate its client’s attitude towards their environment and ESWAMA as well. ESWAMA should encourage its clients to raise a clamour when ESWAMA’s agents do not do their job properly. The fact that clients pay sanitation rate would give them
the legal basis and moral conscience to do so. We believe that as this public sensitization programme goes on, it would strengthen the cordiality between ESWAMA and its clients- which could let to both parties keeping their own obligations.

The recruitment exercise should be based on nothing but merit and transparency. The practice of sending list of candidates for employment by those in power to compensate political party loyalists, friends or relations should be do away with. If the practice continues, ESWAMA would spend more money and time familiarizing personnel that know little or nothing about waste management.

5.3 CONCLUSION

This research work was aimed at ascertaining the extent to which fund affects the efficiency of ESWAMA, to find out the professional training status of ESWAMA’s staff, verifying the impact of people’s attitudes towards ESWAMA’s mandate of maintaining a clean environment and to find out the impact of monitoring and control on the management of waste in Enugu.

The study discovered that inadequate funding of ESWAMA affects its efficiency to the extent that evacuation and transportation of wastes from waste
dumps, maintenance of equipment and payment of worker’s salaries suffer which in turn hinder ESWAMA from carrying out its waste management responsibilities.

Furthermore, the study also discovered that there is no professional waste management engineer at ESWAMA and though ESWAMA do carry out training and re-training of its staff, such training and re-training exercises do not come up regularly (about three times since 2004). At times when training exercises are conducted at ESWAMA, the eligible participants are only the senior staff. It was learnt that most waste management activities (like waste disposal, evacuation, handling, etc) are carried out by the junior staff of ESWAMA whom we learnt do not participate both in within and outside training. We then conclude that the status of professional training and re-training at ESWAMA is highly low.

We also discovered that monitoring and control unit of ESWAMA display incompetency and have impacted negatively on the waste management activities in Enugu State. This is observable as the records of evaders’ heighten; court cases between the agency and its client’s increases, inability to thoroughly monitor waste disposal at the streets and highways, etc.

Findings showed that clients’ attitudes make it difficult for ESWAMA to perform effectively. These attitudes can be failure to pay sanitation rates, indiscriminate disposal of wastes, failure to bag wastes before disposal,
government-does-everything philosophy of clients (most clients would take to the easy way of depositing waste along the highway and corners of street for “government” to pick up) etc. all of these have negative impact on ESWAMA and had resulted into shortages of expected amount of the internally generated funds, misallocation of generated fund, unpaid salaries, non-maintenance of equipment and unnecessary psychological distress.

However, there is no doubt that there might have been some salient issues in the study that were not adequately discussed and also there might be important issues that were not raised in the course of this work. These inadequacies might have been caused by the limitations of this study. We therefore plead that future research should be geared towards these inadequacies.
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Ita, M (2000), Waste-Is the developing world ready/ Science in Africa,  

Klin Reports (02/08/2010), Refuse Heaps Take Over Enugu  


APPENDIX A

QUESTIONNAIRE

Department of Public Administration
And Local Government
University of Nigeria,
Nsukka.
8th February, 2011.

Dear Respondent,

This research is one of the requirements for the Award of Degree of Masters of Sciences in Public Administration in the above named University.

You are kindly requested to complete the attached questionnaire carefully and diligently. Information provided will be treated with the strictest confidentiality and it has nothing to do with your job or person.

I apologize for using your valuable time and I will remain very grateful for your valued assistance which is highly needed for the successful completion of this work.

Yours Sincerely

Okafor Chukwuemeka Ikechukwu
RESEARCH QUESTIONNAIRE

Please read each question carefully after which you indicate your answers by making a tick in the boxes against the answers you have chosen. Please, note that client refers to non-staff of ESWAMA.

SECTION ONE

1. Sex: (a) Male □ (b) Female □

2. Marital Status: (a) Single □ (b) Married □ (c) Divorced □
   (d) Widow □ (e) widower □

3. Age Range: (a) Under 20 years □ (b) 20-29 years □ (c) 30-39 years □
   (d) 40-49 years □ (d) 50 and above □

4. Length of service with Enugu State Waste Management Authority:
   (a) 0-1 □ (b) 2-3 □ (c) 4-5 □ (d) 6 □ (e) Client □

5. Highest educational qualification:
   (a) WASC/GCE, O/L □ (b) OND □ (c) HND □
   (d) Degree □ (e) Others Specify: ..............................................................

6. In which category of staff are you? (a) Senior Staff □ (b) Junior Staff □
   (c) Client □
SECTION TWO

Instructions: Tick (✓) the appropriate column that represents your level/degree of agreement. The keys are as follows;

(i) SA= Strongly Agree
(ii) A= Agree
(iii) U= Undecided
(iv) D= Disagree
(v) SD= Strongly Disagree

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<tr>
<th>S/N</th>
<th>QUESTIONS</th>
<th>SA</th>
<th>A</th>
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<tr>
<td>7.</td>
<td>ESWAMA is being funded by the state government.</td>
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<td>8.</td>
<td>The funds are always available for ESWAMA to utilize.</td>
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<td>9.</td>
<td>ESWAMA also generates internal revenue to augment the fund from the government.</td>
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<td>10</td>
<td>These funds it receives and generates are adequate to enable ESWAMA carry out its duties effectively.</td>
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<td>11</td>
<td>Inconsistent funding of ESWAMA can hinder its</td>
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<td>waste management responsibilities.</td>
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<td><strong>12.</strong> Inadequate funding of ESWAMA has a negative impact on its staff performance.</td>
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<td><strong>13.</strong> ESWAMA has a competent workforce that can meet up with the challenges of waste management.</td>
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<td><strong>14.</strong> ESWAMA can boast of a functional monitoring &amp; control unit in its organization.</td>
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<td><strong>15.</strong> ESWAMA’s staff undergoes series of training and re-training consistently.</td>
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<td><strong>16.</strong> Thus, such training and re-training enable them carry out their duties diligently and consistently.</td>
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<td><strong>17.</strong> Technically, staff of ESWAMA displays expertise in discharging their duties.</td>
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<td><strong>18.</strong> The responsibilities of ESWAMA suffer due to the absence of professional staffs.</td>
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<td><strong>19.</strong> Poor performances of the Monitoring &amp; Control Unit draw ESWAMA backwards.</td>
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<td><strong>20.</strong> Clients are aware of their obligations to</td>
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21. **ESWAMA**;  
And they do keep to these obligations.

22. As a result, there is a cordial relationship  
between ESWAMA and its clients.

23. Clients’ attitudes make it difficult for ESWAMA  
to perform effectively.

24. ESWAMA most times ignore the attitude of its  
clients and carry out its duties anyway.
APPENDIX B

Heaps of waste in some parts of Enugu