

Waste Disposal and Management in Awka Capital Territory, Telescoping the Roles of Anambra State Environmental Protection Agency (Ansepa) 2012 - 2019

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Abstract— Rapid and uncontrolled urbanization has often been accomplished by many environmental problems and challenges. The conflicts of development needs and environmental resources if not properly addressed often result to severe damage to the natural environment. Refuse disposal and management across the globe is a serious phenomenon that needs serious attention by various governmental agencies, non-governmental agencies, communities and individuals since those dumps and ugly sites cause lots of damages, discomforts and health hazards to the people. System theory and simple survey research design with a population size of four hundred and fifty seven thousand, eight hundred and thirty-six (457,836) people from three local governments viz; Awka South, Dunukofia and Orumba North was employed. Findings reveal that rapid and uncontrolled urbanization is the major causes of environmental development and advised for strictly adherence to proper urban planning and policy.

Index Terms— Environment, Governmental agency, Waste disposal, Urbanization.

I. INTRODUCTION

Background to the Study

Refuse disposal and management in Awka capital territory: An empirical study of the roles of Anambra State Environmental Protection Agency (ANSEPA). Refuse disposal and management is the collection, transportation, processing, recycling and monitoring of waste materials. Refuse usually is related to materials produced by human activities and its disposal and proper management is undertaken to reduce their effect on human health, our environmental or aesthetics.

Refuse involves solid, liquid, gaseous and radio-active substances and their management involves different methods and fields of expertise for each disposal and management of refuse differ for urban and rural areas, for residential and industrial procedures etc.

Across the globe, refuse collection disposal and management vary widely between different countries and

regions. Disposal and management of non-hazardous domestic and institutional wastes are often provided by local government authorities, while management for non-hazardous commercial and industrial waste is usually the responsibility of the generators of these wastes. In some countries, factories pay taxes according to the amount of wastes they generate.

Here in Nigeria, the rapid and uncontrolled urbanization has often been accompanied by many environmental problems and challenges. The mountain heaps of solid wastes that deface Nigeria cities and the continuous discharges of industrial contaminants into the streams and rivers without treatment motivated the Federal Government of Nigeria to promulgate Decree 48 for the establishment of a Federal Environmental Protection Agency (FEPA) on 30th December 1988 (Federal Military Government, 1988).

In Anambra State, the civil war truncated the pace of general development with the three major cities emerging with distinct roles, Nnewi became the industrial nerve centre, Onitsha maintained its leadership roles in commerce and industry while Awka emerged as the state capital. Refuse collection, disposal and management in Awka capital territory has become a serious health and environmental problem. The state environmental law derives its powers from the Federal Environmental Protection Agency law of 1992, which provides that certain categories of development must be supported by environmental impact statements. Subsequently, we are going to study refuse disposal in Awka capital territory and the roles of ANSEPA (Anambra State Environmental Protection Agency) in curbing the menace done by refuse. Agencies such as the office of land, survey and urban planning has the power to oversee the proper land use planning and management of towns and cities in the state but has not been able to map out proper planning for Awka capital territory thereby allowing for the uncontrolled clustering of houses, amenities blocking of flood channels, causing artificial erosions, persistent odors, and spread of disease especially during the rainy season when these wastes especially the biological ones decay at open spaces, and bags where they are usually stocked. The myriads of problems caused by refuse prompted this study so as to proffer possible solution to them and reduce effect on man and environment.

II. RESEARCH QUESTIONS

These research questions that will guide this study are thus;

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1. What roles do Anambra State Environmental Protection Agency played in ensuring a clean environment?
2. How can we suggest ways of enlightening the public on proper disposal methods?
3. What are the avenues to the government of possible improving on the roles of ANSEPA?

III. THEORETICAL FRAMEWORK

In studying waste disposal and management in Awka; the roles of ANSEPA, this researcher based her analysis on the system theory. The system theory as envisioned by Ludwig Von Bertalanffy (1920) in David et al (2007) and later popularized by David Easton (1953) in Henrik (1998) is characterized with the interaction between institutions and across boundaries of the system with the environment, to allocate values authoritatively for a society, to attain the goals of that society and also perform those functions which may be defined as political, Social, Moral etc. A system is composed of a member of sub-systems which must co-relate to sustain a healthy system or organization, Environmental Cleanliness characterized by proper waste disposal must only be achieved when other sub-systems are working in harmony. Systems such as the state must involve aspects of proper planning such as motivation, skilled manpower, recruitment, performance appraisal, sound remuneration etc in order to achieve the organizational goal. Today, the system theory has become a popular analytical framework in the system of organization whether wastes can actually be useful although it's not usually easy to recycle complex products like computers and other electronic equipments due to the additional dismantling and separation required.

Waste Disposal and Management - The Roles of ANSEPA

This ministry of environment is at the helm of environmental cleanliness in Anambra State. The ministry through its agency; the Anambra State Environmental Protection Agency (ANSEPA) lines contractors to do the regular collecting and disposing of wastes in the Awka capital territory. To enhance the roles of ANSEPA, the ministry various legislations and undertake steps like;

(a) Construction of drains: Drains are currently being constructed to assist ANSEPA in refuse disposal.

Demolition of illegal structures: This is done by the ministry of environment to enhance aesthetics quality of the urban environment.

Under here are the roles of ANSEPA in ensuring a clean environment in the Awka capital territory:

(i) Collecting refuse from people's homes for a fee

(ii) Provision of refuse bins at important public places like markets, streets, government offices, commercial vehicles, parks and garden, etc.

(iii) Periodic collection and disposal of these wastes from the generator for a fee.

(iv) Supervision of the refuse disposal contractors; sometimes, the ministry of environment hires contractors who use heavy equipment to evacuate refuse, it is the duty of ANSEPA to see that these sites are properly cleared and that further indiscriminate dumping is

prohibited.

(v) Collection of fines from defaulters of environmental rules. This has not been made strong.

Waste Disposal Methods

"Waste management practices differ for developed and developing nations, for urban and rural areas, and for residential and industrial producers. Management for non-hazardous residential and institutional wastes in metropolitan areas is usually the responsibility of local government authorities, while management for non-hazardous commercial and industrial waste is usually the responsibility of the generators of such wastes."

The disposal and management methods include:

A) Disposal Methods

- i. Land fill
- ii. Incineration
- iii. Open dumping
- iv. Hog feeding

Open Dumping:

This is a method generally practiced in developing countries including Nigeria. In Awka Capital territory, open dumping of refuse has constituted a number of diseases, air and water pollution, lire out break etc.

Hog Feeding:

Refuse is also disposed through feeding them to farm animals like goats, pigs, birds etc. Garbages and other edible wastes are usually processed before feeding them to swine or birds but due to the high cost of processing materials most operators have stopped.

B) Recycling Method

Recycling of refuse is a method of refuse management whereby recyclable wastes are collected. Sorted and recycled into new products. Waste materials such as glass, paper, tyre, plastic, metals etc are recyclable and are usually easy to handle more than the recycling of complex products like computers and electronic equipments. This is due to the additional dismantling and separation required.

Kinds of recycling include;

- i) Biological processing
- ii) Energy recovery

i) Biological Processing – This is recycling using biological composting and digestion processes to decompose the organic matters usually plant materials, food scraps and paper products. These organic materials are then recycled as mulch or compost for agricultural or landscaping purposes. In addition, waste gas from the process (such as methane) can be captured and used for generating electricity.

ii) Energy Recovery - This is a process of harnessing the energy content of waste products and using them directly as combustion fuel.

C) Avoidance and Reduction Methods

This is another most important refuse management method aimed at minimizing waste generation. This method include

re-use of second-hand products, repairing broken items instead of buying new ones, encouraging consumers to avoid using disposable such as disposable cutlery, designing products that use less materials to achieve the same purpose example is high weighting of beverage cans (<http://www.psc.edu/science/ALCOA/ALCOA-light.htm>).

Other waste management concepts include;

- (i) Waste handling and transport
- (ii) Education and awareness
- (i) Waste Handling and Transport

Collection and handling of wastes vary between different countries. Domestic and commercial waste collection services are often provided by government authorities or by private industries.

Some areas especially those in less developed countries, do not have a formal waste collection system. In Awka capital territory, some areas are provided with bins while some don't have. Secondly, the transportation of refuse from very far areas within the capital territory is difficult thereby leaving out some areas to the mercy of community members such as age grades.

ANSEPA should be properly equipped to handle and transport wastes properly. Highly skilled manpower should be employed and motivated to handle the equipments (such as trucks, bull dozers, incinerators etc). Recycling it, through thermal treatment - ranges from using waste as a fuel source for cooking or heating, to fuel the boilers, to generate steam and electricity in a turbine. Paralysis and gasification are forms of thermal treatments where wastes are heated to high temperatures with limited oxygen. In this, wastes are converted into solid, liquid and gas products. The liquid or gas can be burnt to products energy or refined into other products while the solid residue (char) can be refined into products such as activated carbon.

- (ii) Education and Awareness:

Education and creating of awareness in the area of waste management is very important. People should be educated on the unprecedented scale and speed of environmental pollution and degradation, and the depletion of natural resources, accumulation and distribution of toxic wastes and their subsequent effect on humans and thousands of other lives. This is a very important method of waste reduction since knowledge is power.

Government Policy on Refuse Disposal, Planning and Implementation of Policy

The Anambra State environmental law derives its power from the Federal Environmental Protection Agency law of 1992. In this, a national policy on the environment was formed and the goals of the policy include:

- a) To secure for all Anambrarians a quality of environment adequate for their health and well-being.
- b) To raise public awareness and promote understanding of the

essential linkages between the environment and development.

- c) To encourage individual and community participation in environmental protection and improvement efforts.

The implementation of the policy depends on specific actions directed towards major sectors and problem areas of the environment in the solid waste sector, the specific actions desired include:

- (i) Collection and disposal of solid waste in an environmentally safe manner. This role is jointly by the ministry of environment, the ANSEPA, Local government authorities and other charitable institutions.

- (ii) Setting up and enforcement of laws, regulations and standards.

- (iii) Encouragement of public participation

- (iv) Environmental monitoring and imposition of penalties on defaulters to encourage compliance (FEPA, 1989, FRN, 1991).

Implementation of Policy

Despite the formulation of policies on environment, ANSEPA and other environmental friendly agencies have not been able to protect the environment adequately. Their interests are mainly restricted to the major cities and waste collection is irregular. Improper sites and open dumps deface several cities, thereby endangering public health by encouraging the spread of odors and diseases.

In Awka Capital territory, the poor state of waste management is attributable to an inadequately formulated and poorly implemented environmental policy. The vast problem caused by rapid urbanization and population growth has made this a Herculean task as the state environmental agency is continuously faced with an increasing amount of solid wastes to handle. Other factors that contribute to the unsuccessful refuse management include: the neglect of the economic, social, psychological, political and cultural life of Anambrarians in the formulation and implementation of programs.

Generally, the policy of the government on solid waste management is not comprehensive. There are no appropriate disposal sites. While efforts were made for monthly sanitation exercise, there were no laws to clamp down on defaulters who go about their normal business or simply wait for the period to pass without cleaning their surroundings.

The Anambra structural plan gave recommendation for the construction of a recycling plant at Nkwelle-Ezunaka but none has been established by now.

Tables used to make for Easy Understanding, Analyzing and Interpretation

S/N	LOCAL GOVERNMENTS AREAS	POPULATION
1	Awka South	189,049
2	Awka North	112,608
3	Dunukofia	96,382
4	Njikoka	148,465
5	Orumba North	172,405
6	Anaocha	285,002
	Total population. According to 2006 Census	1,003,911

Looking at the above table, with the population of 1,003,911 generation of wastes will be higher but disposal and management of it in the territory which overwhelm the capacity of urban administrators. However, efforts are being made by institutional organizations to ensure proper disposal and management of refuse in these areas. This study made use of a sample of three Local Governments in Awka Capital territory to represent the six that made up the whole. These three local governments viz; Awka South, Dunukofia and Orumba North have a population size of four hundred and fifty seven thousand, eight hundred and thirty-six (457,836) people. The study will elicit responses from this sample size

Summary of the Findings, Conclusion and Recommendations

IV. SUMMARY OF THE FINDINGS

The study into the roles of ANSEPA towards refuse disposal and management in Awka capital territory was sparked off as a result of:

- i. The visible feature of most urban centers in Nigeria especially in our area of study; Awka capital territory.
- ii. Improperly sited open dumps that deface several cities, thereby endangering public health by encouraging the spread of odours and disease.
- iii. Uncontrolled cycling of contaminated goods and pollution of water sources

(Adegoke, 1989 in Nwokobia, et al 2018 and Singh et al, 1995).

Virtually everybody will benefit from this study, since the issue of refuse disposal is a health issue. The individuals, the government and other agencies will be alive to their responsibilities of maintaining a clean environment. Open field observations, questionnaires and a simple random sampling was used to elicit responses to the research questions. The questions were personally asked by the

researcher and this is to explain vividly what is needed in every question to get the required answer. Three field observers were also used to observe how refuse are being dumped and disposed of at the major markets in the three selected local government areas of the capital territory. After the analysis of the results, it was found out that:

- i. ANSEPA solely depend on Anambra State government for the release of the necessary funds to embark on refuse disposal.
- ii. Refuse disposal is generally viewed as everybody's business getting no special attention,
- iii. That there are inadequate supply of trucks and other materials for disposal of wastes.
- iv. Sanitation workers are not properly motivated to effectively and more regularly discharge their duties.
- v. Traders pay sanitation fees to various authorities without getting the commensurate services.
- vi. Majority of the people suggested proper education of masses on the adverse effect of refuse and the need for a collective effort in addressing the problem,
- vii. ANSEPA workers are being owed five (5) months arrears of salaries and leave allowance,
- viii. Strength of staff of ANSEPA is too low for the enormous and technical task ahead of them,
- ix. The Daily Labour Service (DLS) workers who are disengaged have reduced the staff strength.

V. CONCLUSION

From the proceeding chapters, it was observed that refuse disposal and management is a major public health issue and a vital factor affecting the quality of life and that of the environment. Among the needs for proper refuse disposal and management are:

- a) To reduce the rate of epidemics of disease which normally result from delay in disposing of refuse.
- b) To avoid pollution of the atmosphere which may directly or indirectly affect man, animal and plant.

c) To sustain the beauty of our environment.

Sewell, (1995) in Eberinwa (2005) noted that solid waste management is an aspect of environmental management which is interpreted as a conscious and systematic effort by one or more persons acting in concert to produce an aesthetically pleasing economically viable and physically healthy environment. The various methods of refuse disposal must be carried out effectively to ensure an effective waste management without which the aim of environmental management is defeated.

It was gathered that some of the causes of the problems of study are;

- a. High incidence of inability to properly dispose environmental pollutant (land, air and water pollution) and loss of amenities.
 - b. Uncontrolled street trading and encroachment; development of sundak spaces, set-backs, right of way and unsightly ramshackle temporary developments.
 - c. Air pollution arising from inadequate disposal of wastes, vehicle exhausts, industries and stand-by power generators.
- In order to address these causal issues, all the relevant institutions such as the state environmental protection agency, the ministry of health, the individual, local governments, stakeholders at the community levels earlier mentioned should join hands, using a combination of the best disposal and management methods to ensure that human health and environment are promoted.

VI. RECOMMENDATIONS

A clean environment cannot be equated to anything less since it is the elixir to good health.

In spite of the formulation of ANSEPA, the special task force on environment and refuse disposal, the state environmental protection agency law of 1992 and other institution entrusted with role of disposing refuse in Awka Capital territory, there are still heaps of refuse in and around the capital territory. Waste collection is irregular and restricted to the major cities. "The poor state of waste management is attributable to an inadequately formulated and poorly implemented environmental policy among other factors. Hereunder are some of the proffered solutions of our problem of study;

- a. Planning and Implementation of policy: Government should elicit public co-operation

during the planning and implementation of policies on environmental cleanliness so as to make it comprehensive in most of the urban areas, government charges it households and industries for the volume of rubbish they produce. Secondly, Government agencies should collect only wastes disposed in government-issued rubbish bags. These policies will effectively reduce the amount of wastes the territory produces and make people use refuse receptacles provided by the government.

- b. Avoidance and Reduction Methods: This is an important method of waste management. It is the prevention of waste materials being created (waste reduction)

Government and private individuals should be sensitized on this. "Methods of avoidance include reuse of second-hand

products, repairing broken items instead of buying new, designing products to be refillable or reusable (such as cotton instead of plastic shopping bags), encouraging consumers to avoid using disposable products (such as disposable cutlery), removing any food / liquid remains from cans, packaging.

- c. Provision of landfill sites, equipments and trucks for disposal.

In order to ensure adequate disposal and management of refuse in Awka capital territory, the

institutional organizations should be provided with final refuse disposal sites. However, in the

state structural plan, there are three proposed landfill sites to be located east of Enugwu-Agidi on Isuaniocha road, east of Nawfia bypass and off Amawbia-Ekwulobia road near Nise. If sufficient trucks and manpower are put in place coupled with other logistics like allowances to the workers, the problem of refuse disposal will be addressed easily.

- d. Provision of Recycling Plant:

If recycling plants are cited, committee of people will gain employment in the factories and scavengers will be optimistic of making profit from their pickings. Adjourn presently; a waste recycling plant is proposed to be cited at Nkwelle-Ezunaka.

- e. Capacity Building for ANSEPA:

This will enable it carry out their statutory roles by providing them with more staff for monitoring and at least that listed in the proposed structural plan i.e. 25 refuse trucks, five compactors, three pale loaders and 2 bulldozers for a start. These distributed to other parts of the state in due time. Motivation of the ANSEPA workers (street cleaners refuse removers etc) is equally very essential for sustainability. ANSEPA should be alive to their statutory duties of hiring contractors to evacuate the refuse, monitor the evacuation, collect fees for this purpose, establish mobile courts to enforce sanitation laws, monitor private sewage dislodes, ensure that mechanic village provide drainage pits for used oil and comply with other recommendations.

- f. Renovation of market and Provision of Toilet facilities in the capital Territory: This rehabilitation when completed will be followed by a regular check by sanitation officials and other stakeholders backed-up with fines to discipline defaulters who engage in indiscriminate dumping of refuse in and around the markets. Most importantly, markets must be provided with toilet facilities to avoid indiscriminate disposal of human waste and nearby bushes or steams.

- g. Education and Awareness: Education and awareness in waste disposal and management is very essential. Institution organizations should educate the masses on the effect of refuse in our environment, the threats to the survival of humans and thousands of other living species, the integrity of the earth and its biodiversity, the security of nations and the heritage of future generations.

- h. Regular Payment of Salaries to ANSEPA workers: ANSEPA workers both permanent staff and the daily labour service should be timely paid and motivated. At present, the ANSEPA workers were owed five (5) months salaries and 2009 leave allowances. This has to stop to

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achieve a total clean environment.

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