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Evaluation of Health Effects of Poor Waste Management System in the Lives of the Residents of Enugu Metropolis

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Abstract: **The generation of waste is inevitable and the collection, processing, transporting, and disposal of wastes and the process of waste management are important for public health and safety and the aesthetics of the environment. However, waste management in Enugu metropolis has become rapidly disturbing and retrogressive as residents often dump refuse indiscriminately, thereby exposing others to dangerous health hazards due to the menace resulting from poor management of wastes. This study was conducted using area sampling and random sampling method for the proposed study area Enugu North Local Government Area. Structured questionnaires and interviews were issued to respondents and the data used was obtained from both primary and secondary sources. From a population of 244,852 people, a sample size of 204 was obtained using the Yaro Yamina, formulae and simple percentage evaluations. 80.3% of the respondents expressed utter dissatisfaction with the waste management authority, 74.0% believes more work needs to be done by the government to effectively achieve waste control, 79.9% still expressed their concern over open garbage dump sites in the metropolis while 21.6% admits they dispose refuse into floods when it rains. All 100% believes strongly that poor waste management poses harmful effects to the health of the residents with 100% expressing concern over malaria cases, 57.8% to cholera/dysentery, 45.1% concurred to onchocerciacis, 45.5% agreed to respiratory disorders while 52.9% believes that skin infections could also be suffered as a result of poor waste management.**

Keywords**: Environment, garbage, sanitation, population, hazard, safety, sampling, waste, refuse.**

1. INTRODUCTION

Waste can be defined as any substance produced in our daily activities which are unwanted and no longer useful to man (Federal Ministry of Housing and Environment Nigeria Monograph series No. 2). These unwanted substances must be handled and disposed of with care, so that they do not constitute nuisance or danger to public health. Waste however, could be said to be relative, especially in the manufacturing sector, this is because what is regarded as waste to a certain group of people, may be regarded as raw materials to another group. The system of waste salvaging, reclaiming or recycling though objectionable and often economically unsound is fast growing and gaining ground in most industrialized cities today (Bisong and Ajake, 2001).

Waste can also be classified according to their origin and source, chemical composition, appearance, texture or location. Conventionally however, waste can be grouped into two major categories namely; solid and liquid wastes (Osinem, 2005). For the purpose of this study, we regard solid wastes as useless, unwanted or discarded materials that arises from man's activities which are not free flowing to nature. Environmental sanitation is perhaps the most obvious element in environmental management but is certainly not the most important. Its significance lies in its effectiveness in raising the level of consciousness to the importance of creating and maintaining an environment that is healthy and hygienic for the needs and standards of the people (Balogun, 2001).

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2. RESEARCH DESIGN AND METHODOLOGY

Sampling:

The researcher used both primary and secondary sources of data, however, reliance was placed more on the primary sources because of its relative factual nature.

Primary sources:

This source of data consists of questionnaires, and direct interviews, and these were designed such that the opinion of respondents who are also residents could be captured and collected in this project.

Secondary sources:

The researcher in the course of this study used secondary sources of data such as journals, newspapers, magazines, internet, lesson notes and textbooks.

Sampling procedure:

The researcher used two sampling methods namely; area sampling method and random sampling method. This is because of the vast populace of residents living in Enugu metropolis. However through the use of random sampling method the researcher chose Enugu North L.G.A. to represent the whole of Enugu metropolis.

Instrument for data collection;

Questionnaires were my main instrument for data collection. The consent of my respondents was sought before the issuance of the questionnaires to them. I also explained to them the purpose of the study, the content and requirements of the issued questionnaires.

Data analysis and presentation;

Data was analyzed both manually and electronically and presented in the form of tables and charts and 95% confidence limit were applied in all statistical tests. The researcher also used simple percentage representations for result tables.

3. RESULTS AND DISCUSSION

Table 1. Total Questionnaires Distributed in Enugu Metropolis.

S/No	Total number issued	204 questionnaires
1.	Total number used	204
2.	Total number returned	204
3.	Response rate	100%

Table 2. Questionnaire on waste disposal practices in Enugu metropolis.

Variables	YES	NO	(%) YES/NO.
Waste management effectively achieved	30	174	15.0/74.0
Are the authorities solely responsible for it	42	162	11.0/89.0
Are you satisfied with the situation so far?	41	163	20.0/80.0
Are garbage containers enough?	25	179	12.3/87.7
More garbage containers needed?	179	25	87.7/12.3
Existence of open dump sites	32	172	15.7/79.9
Poor facility reason for poor waste mgt.	187	17	91.7/8.3
Poor road network	32	172	15.7/84.3
Negligence of residents	196	8	96.1/3.9
Poor performance of the mgt. authority	174	30	85.3/14.7
Some areas not covered by the authority	152	52	74.5/21.1

Table 2 indicates that majority (150%) of the residents actually believes more effort needs to be put to achieve an effective waste management system, 182% believes it's everyone's responsibility, however 80% of the residents are not exactly satisfied with the performance of the waste management authority because of the existence of open garbage dump sites as 79.9% expressed, and insufficient garbage containers and spill overs are still experienced by 87.7%. On the other hand, to contribute more to the problem of waste management only 46.6% comply with waste evacuation services offered by the waste agency, while 18.6% incinerate their waste, 13.2% use land fill sites, while 21.6% block gutters and drainage systems with their indiscriminate waste, especially when it rains.

4. CONCLUSION

We can see from the logical analysis, test of data sequentially presented, that poor waste management not only deteriorates the aesthetics of the environment but also adversely affects the lives and health of Enugu residents, the waste management authority should be supported by the residents themselves since they equally play a key role in waste disposal and management as seen from the study. This means that the attitude of the people towards waste management will play an important role towards achieving a better and healthier environment for everyone. More so awareness should be created by the government through the mass media on the benefits of good environmental hygiene and the hazards associated with poor waste management practices. Having in mind that a "healthy Nation is a Wealthy Nation", the lesser the Waste, the Healthier the Residents.

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