
Refuse Dumping in Drainages: Attitude, Perceptions, Environmental and Health Implications on People Living in Gashua, Yobe State, Nigeria

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ABSTRACT

Study was conducted on refuse dumping in drainages: Attitude, Perceptions, Environmental and Health implications on people living in Gashua, Bade Local Government Area, Yobe State, Nigeria. Simple random sampling technique was used to select 200 respondents from various wards of Bade Local Government Area. The field survey was carried out between June and August, 2015 with questionnaires containing variables used to elicit responses of peoples' perception on the implication of refuse dumping in drainages on human health and the environment. Their attitudes to refuse dumping were also assessed. The survey revealed that 70% of the respondents strongly agreed that dumping of refuse in drainage can cause disease infections among people, while 60% strongly agreed that dumping of refuse in drainage affects the environment. The poor attitude of people to refuse dumping was mostly attributed to inability to pay for waste disposals, followed by laziness and reluctance of regulators to sanction against violators.

Keywords: Refuse, dumping, drainage, health and Gashua

INTRODUCTION

Research findings have shown that solid waste management in Nigeria has defiled formal and scientific approaches and has continued to expand despite the huge resources annually devoted to its control in the country hence the need for alternative ways. Busari and Olaleye (2007) note that the volume and quantity of waste generated in most cities of Nigeria have overwhelmed urban administrators' capacity to plan for their collection and disposal. Similarly, Nwachukwu (2009) points out that the visible feature of most urban centres in Nigeria today is the refuse 'mountains' which emit foul odour as well as constitute a breeding

ground for pathogenic agents. Okpoechi (2007) notes that Nigerian cities are today considered the dirtiest in the world, where health hazards result from careless handling and a failure to organize proper collection schemes for waste as there is widespread of uncontrolled disposal of domestic waste in most cities of the country. Refuse also blocks drainage, causing flooding which devastates towns and villages in Nigeria. Asoegwu (2009) reflects different rules and laws promulgated to guide waste management in Nigeria, including the War against Indiscipline (WAI) and constitution of Environmental Sanitation Agency at all the three tiers of government and points out that all failed at the point of implementation. Solid waste is a source of disaster in Nigeria and requires urgent attention.

What really is the usual approach adopted in managing waste which is failing thus in Nigeria? According to Busari and Olaleye (2007), the widely favored, Scientific and effective approach to waste management is adoption of “three ‘Rs’ – reduce, reuse and recycle, arranged in the hierarchical order of effectiveness”. Why then is management of waste failing in Nigeria? It is either the principles of reduction in waste generation, reusing materials for a long time, and recycling of waste materials are not appropriately applied or there is still a missing link. Perhaps it is in realization of this error that many environmental experts are calling for art based approach in managing waste in Nigeria. Okeke (2009) states that an unclean urban environment is not defined by the littering of solid waste only; rather, urban un-cleanliness is a symptom of structural problems associated with the urban system complicated because they are consequent upon poor management of the impact of major socio-economic and political transformations; and recommends a long term process of changing the socio- economic order through educational and business management options including timely intervention in a rather innovative and appealing (artistic) manner to regulate and eliminate the indicators of waste attitude because “it takes more of management instead of technology to achieve social change and

institutional goals.” Nwachukwu (2009) recommends among other things that the use of closable and aesthetically enhanced (artistically made) containers and incinerators should be introduced and encouraged to complement dump disposal in management of solid waste in Nigeria.

The fact about Nigeria is that although dustbins are provided in some locations for collecting and keeping refuse out of sight, most people do not use them. In many other cases, public dustbins themselves are dirty, poorly shaped and constitute eyesore too; whereas in most cases, dustbins are not provided at all for people to use (Stare, 2005). Again most Nigerians are not even conscious of their waste generation inclination and its consequences to the general well-being of the people in the society. People simply dump refuse anywhere and it is rocking havoc on the country to the extent that Abuja-Lokoja Highway, the major road linking North and South, was closed to motorists; 25 million persons were living in danger, 38,228 displaced, 160 confirmed dead, and 59 communities sacked in September 2012 following flooding in Nigeria and waste disposal mechanism contributed to the disaster; as a result, “the National Environmental Standards and Regulations Enforcement Agency (NESREA) urged Nigerians to ensure proper disposal of wastes in order to check flooding during the rainy season” (Usman 2012; Ige *et al.*, 2012 in Nigerian Tribune and The Leadership Newspapers).

So, as dustbins or appreciable containers for collecting waste are largely unavailable and people are not aware of the degree of their involvement in its generation, developing and placing aesthetically enhanced forms (containers) for collecting and evoking waste consciousness and its consequences in Nigeria is imperative as to save the environment and the people from the resultant dangers. When it rains, illegally dumped rubbish can impact proper drainage of run-off, making areas more susceptible to flooding when waste block ravines, creeks, culverts and drainage basins, Elizabeth (2012). It is estimated that there is currently approximately 98, 996, 672 tons of illegally dumped waste world-wide,

Elizabeth (2012). The Environmental Protection Authority (EPA) estimates that the average human has doubled how much garbage they produce per day since 1960 (Rea, 2005). In Nigeria, dumping of refuse in drainages is mostly found among the people living in the slums. These are the poor and ignorant group of people; they do not know the relevance of waste management and as a result engage in illegal dumping of refuse. Illegal dumping "hot-spot" often include drainages, roadways, bus lands, and multi-unit premises. Illegal waste dumping can affect human health in multiple ways. When the site are easily accessible to people they can be at risk of injury from nails and sharp edges. Children can possibly become trapped inside of appliances. There is risk of being exposed to hazardous chemicals from toxic fluids or dust.

Appliances built before 1979 can leak polychlorinated biphenyls (PBCBs). Which are linked to cancer, reproductive failure and hormone imbalances in animals and human Mathew (1994). Dump sites attract rodents, other animals and insects, infectious diseases can be spread this way especially through mosquitoes. Tires which are common items found at illegal waste sites, are ideal breeding grounds for mosquitoes since they can multiply 100 times faster than normal in the warm, stagnant water that collects inside them Mathew (1994). Diseases such as encephalitis, dengue fever and yellow fever have been spread by mosquitoes breeding in waste tires Mathew (1994). The environmental impacts on illegal dumping are significant in every society. Dumped rubbish can leach contaminates into our bush land, harming our plants and animals and blighting our landscape. When it rains illegally dumped rubbish can impact proper drainage of run-off, making area more susceptible to flooding when wastes block ravines, creeks, culverts and drainage basins. Illegal dumping of wastes in drainages contaminates surface water and lease hazardous chemicals including chlorofluorocarbons (CFCs) into the air which can harm the ozone layer Mathew (1994). Chemicals from households, commercial and industrial sources can contaminate wells and surface water which can affect lakes,

streams and drinking water supplies. The waste impact proper drainage and make areas more susceptible to flooding FEBA (1992). When illegal dumping takes place, the aesthetic value of local community is diminished, often resulting in reduced property price and loss of community pride. Illegal waste dumping incurs costs to individual, communities and government. The costs of cleaning up after waste dumping can be devastating for land owner or occupiers Hotlink (2001). The findings of this study could be of relevance for many municipal cities in developing countries and waste management agencies/researchers.

METHODOLOGY FOR THE STUDY

Study Area

Gashua (Fig.1) through which the River Yobe passes is the headquarters of Bade Local Government Area of Yobe State in north-eastern Nigeria. It is situated a few miles from the convergence of Hadejia and Jama'are Rivers. Gashua has an area of 772 km² and a human population of 139,782 according to 2006 National Population Census.



Fig.1: Map of Gashua and its Environs

Methodology

Descriptive survey method was adopted for the study. Simple random sampling technique was used in selecting 200 samples from the various wards of Bade Local Government Area. The instrument used in this study was questionnaire, which contains variables to elicit response of people's perception on the implication of dumping refuse in drainages on human health, the environment and the relationship between peoples' attitude and practices of refuse dumping in drainages. The questionnaire was developed by the researchers using the likert scale of Strongly Agree (SA), Agree (A), Strongly Disagree (SD), and Disagree (D).

Data Analysis

Data collected were analyzed using descriptive statistics of Bar chart, Pie chart and Histogram.

RESULTS

Figures 2 – 7 show the demographic characteristics of the respondents. Most of the respondents interviewed were females and single; about 6% had no formal education. Figures 8– 10 signify the people's perception on the environmental and health implications of refuse dumping drainages.

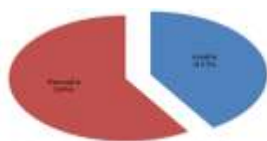


Fig. 2: Distribution of Respondents by Sex

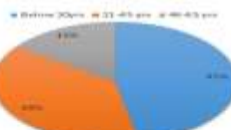


Fig. 4: Distribution of Respondents by Age

Trade/Entrepreneur, Civil servants, Students, and others

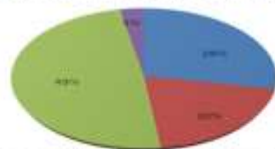


Fig. 6: Distribution of Respondents by Occupation



Fig. 3: Distribution of Respondents by marital status

No formal education, Primary/High school, Diploma/Degree, Postgraduate



Fig. 5: Academic Level of the Respondents

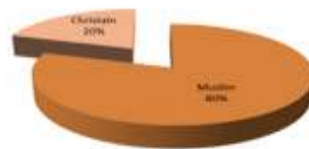


Fig. 7: Distribution of Respondents by Religion

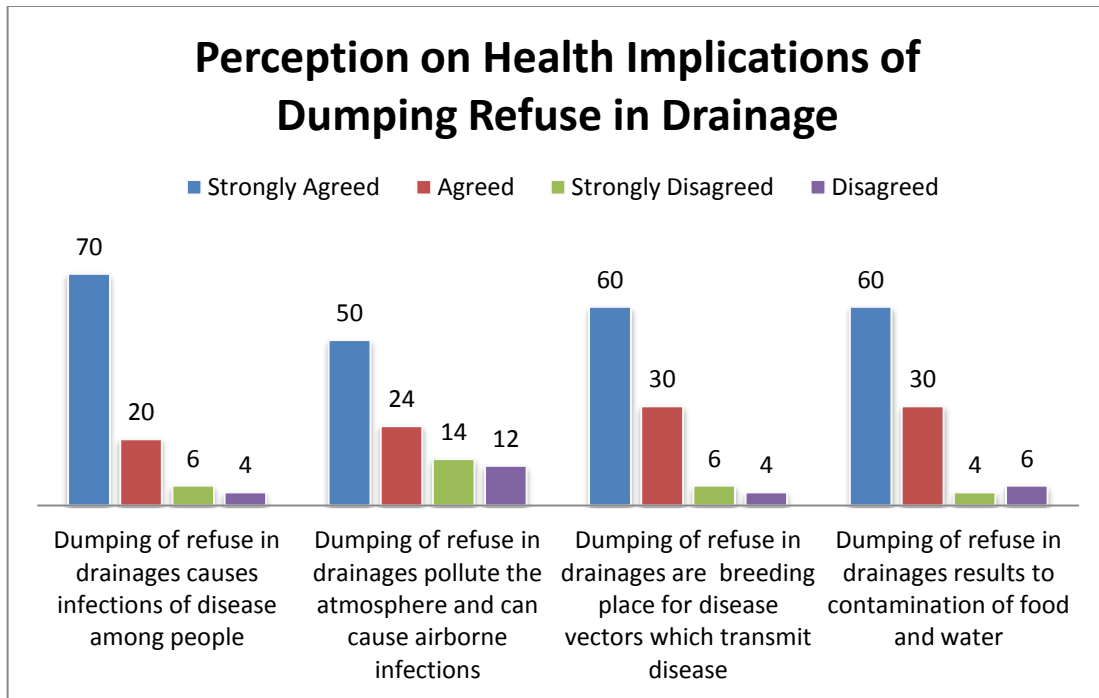


Fig. 8: Percentage of responses on health implications of dumping refuse in drainage

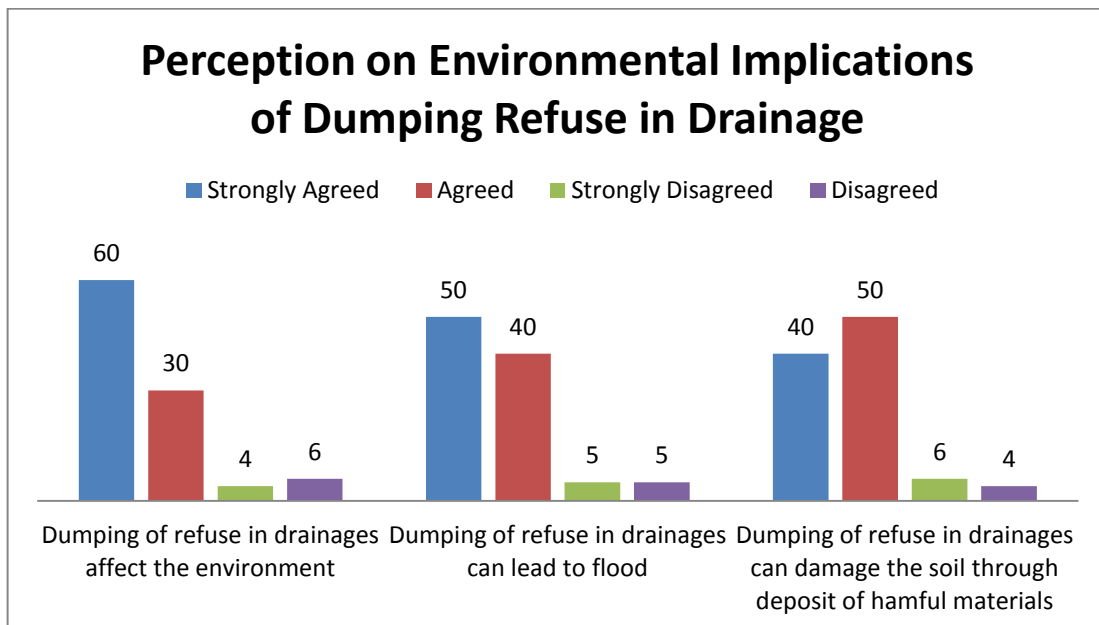


Fig.9: Percentage of responses on environmental implications of dumping refuse in drainage

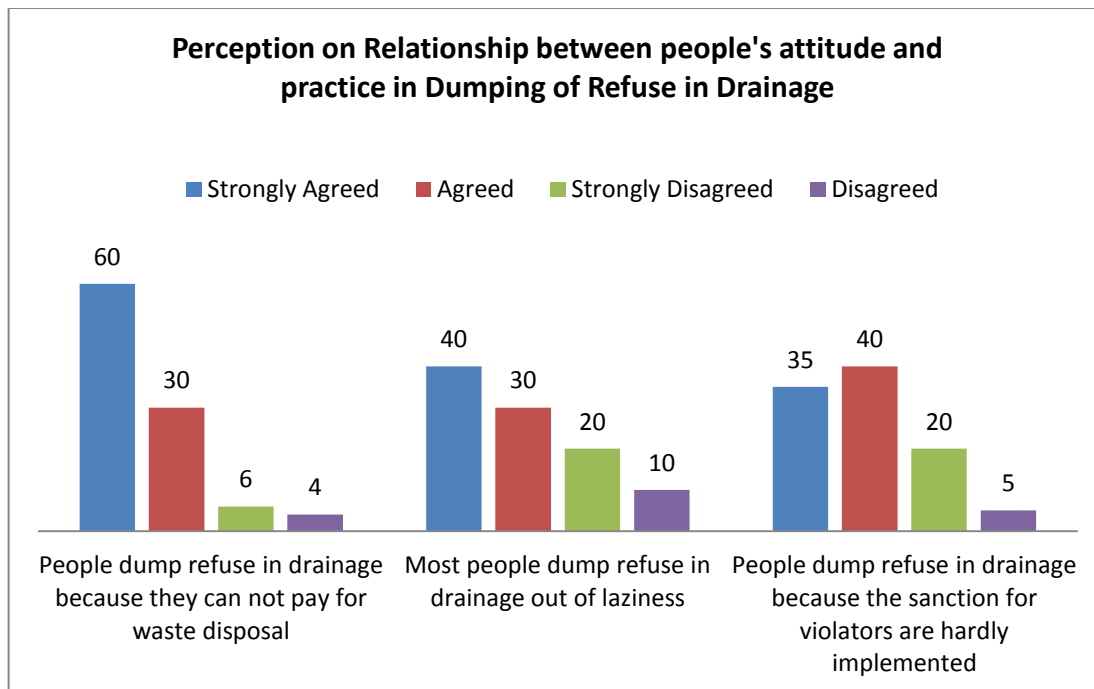


Fig.10: Percentage of responses on the Relationship between people's attitude and practice of refuse dumping in drainage

DISCUSSION OF FINDINGS

The study revealed that, peoples' perception on the environmental and health implications of refuse dumping in drainages is high. The respondents strongly agreed that such practice can cause disease infections among people in Gashua, Bade Local Government Area. Study have shown that such improper practice of solid waste disposal pollutes the atmosphere causing air-borne diseases, breeding sites for disease vectors like mosquitoes, rodents and flies Rea (2005). The practice also brings about contamination of foods and waters either through direct or indirect contact (Rea, 2005). Foday *et al.* (2013) concluded that illegal dumping of refuse can affect human health in multiple ways: the waste attracts rodents, insects and other animals which are disease vectors that spreads diseases such as encephalitis, dengue fever, yellow fever and malaria originating from mosquitoes breeding sites.

Indiscriminate dumping of refuse in drainage causes a huge mess in Gashua, Bade Local Government Area. This practice can cause blockages of water ways and leading to flood in the environment. Also, it is capable of damaging the soil, as was discovered by the work of Black Town City Council, United States, that rubbish can hinder proper drainage run-off, making areas more susceptible to flooding (Isaac, 1995).

Figure 10 shows poor peoples' perception of refuse dumping in the study area. They suggested that the people illegally dump refuse trying to avoid payment of waste management fees; some may dispose waste illegally out of laziness and their unhygienic attitude. This is also in agreement with the works of Hazra and Goel, (2009) who reported that developing countries are even deeper into the chaos of refuse dumping, as having poor financial resources to upgrade their disposal facilities and turned out to be more vulnerable to the hazards of dumping for their environment.

CONCLUSION

From the findings of this study, it was discovered that the peoples of Gashua were aware of the adverse implications of illegal dumping of refuse on human health and the environment. This unacceptable practice causes disease infections among people; contaminated food, water and air, thus, creating environment for breeding of disease vectors. Sharp objects and chemicals introduced from such dumping are hazardous to people.

The poor attitude of people to refuse dumping was mostly attributed to inability to pay for waste disposal, followed by laziness and reluctance of regulators to sanction against violators. It is therefore recommended that further studies should be carried out on this topic in Gashua on human health and the environment cum aquatic environment.

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