

Research Article

A Comparative Assessment of the Perception of Urban and Rural Dwellers towards Environmental Sanitation in Ughelli North Local Government Area, Delta State, Nigeria

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Abstract

The purpose of this study was to assess the perception of urban and rural dwellers towards environmental sanitation in Ughelli North Local Government Area of Delta State. One thousand questionnaires were administered to respondents in the urban and rural areas of the local government. The results of the analysis revealed that environmental sanitation is an ideal government policy for maintaining the environment to safeguard the urban and rural dweller from diseases. However, their perception on the issue differs. The paper recommends the enforcement of sanitation laws and stiffer penalties for offenders. Also waste disposal baskets be made available for the people in the urban and rural areas of the local government for proper waste disposal.

Keywords: environment, sanitation, perception, rural, urban.

INTRODUCTION

Environmental sanitation is a set of actions geared towards improving the quality of the environment and reducing the amount of diseases. Inadequate sanitation is a major cause of diseases worldwide (Udoh, Fawole, Ajala, Okafor and Nwana, 1987) and improving sanitation will have significant beneficial impact on health both in households and across communities. Thus, the maintenance of hygienic conditions through service such as garbage collection and wastewater disposal helps improve living conditions. The management of wastewater and solid waste as well as industrial waste including pollution and noise control are umbrellas of environmental sanitation that calls for concern.

The environmental conditions of a given area or community may be affected by waste management. The disposal of waste varies based on living conditions and the accepted standard of living in a geographical area (Convey, 2009). While some communities provide wastewater treatment and trash collection bins, in others, the attitude of the people towards environmental sanitation is questionable. This reduces the ability of man to control the aesthetic nature of the environment and its people. This has a consequential effect on the environment, hence this study which evaluates the perception of urban and rural dwellers toward environmental sanitation in Ughelli North Local Government Area of Delta State.

Concept of Environmental Sanitation

The environment is an all-embracing concept made up of physical, biological and social components. The physical components include the air, climate, water, soil and sewage; refuse etc while the biological components include

pests, plants, vectors and animals. The social components consist of human organizations, culture, customs and human interactions.

The interaction of man with the physical and social environments bring about the deterioration of the soil, water and air. Thus, all the parameters of the physical environment in the biosphere are altered by the effect of man-environment inter-relationships. Human activities such as urbanization, industrialization and construction have negative impacts on the flora and fauna components of the environment.

In developing countries of the world, most developmental activities such as road networks, railway lines, bridges, canals and houses have caused a lot of dereliction to the environment. In these countries, man has damaged the environmental resources as a result of his uncontrolled activities like fishing, poaching, urbanization, industrialization, deforestation and other deliberate and indeliberate activities. Also many activities of man such as water supply and distribution, sewerage and sanitation, housing, power generation, transportation, mining, solid waste management, health care, energy consumption, all have consequences on the environment (Convey 2002). All these are impinging on environmental sustainability, hence the need for environmental sanitation to improve the quality of the environment and control all these factors so that they are not harmful to health. However, more often than not, environmental sanitation focuses on the control of physical and biological factors in the environment for the benefit of man, hence this study which examines the perception of urban and rural dwellers toward environmental sanitation in Ughelli North Local Government Area of Delta State.

Refuse Disposal and Environmental Sanitation

Refuse refers to all solid waste such as pieces of paper, leaves, garbage, ashes, rubbish and dead animals. In the urban and rural areas, all kinds of refuse are thrown all over the place including rivers and streams. These uncontrolled ways of refuse disposal creates avenues for diseases. This constitutes serious health hazards to the people, apart from the problem of drinking contaminated water, the smooth flow of water may be blocked resulting in floods and destruction of properties. Burning open refuse dumps around the homes has also caused serious fire incidents, resulting in losses of properties and other valuables in places where it occurred.

However, the nature and quantity of household refuse differs from one area to another and from community to community. Household refuse in many Nigerian homes usually contain high proportion of vegetable and organic matter which decompose rapidly, giving out offensive odour, This smell attracts rodents, flies and other scavenging animals found in the environment.

Also, in the cities and other urban centres, there is the menace of empty cans and bottles. This provide breeding grounds for mosquitoes as water may collect in them. In fact, the collection and disposal of refuse is a major public health problem in urban and rural areas of Nigeria. This study therefore assesses the perception of urban and rural dwellers towards environmental sanitation in Ughelli North Local Government Area of Delta State in order to safeguard the environment and human health.

Prevailing Trend

Every day, people throw away large amounts of garbage, otherwise referred to as solid waste. This solid waste has altered the aesthetic beauty of the environment. It has contributed to the blockage of drains through which water and wastewater flows. This has resulted in widespread flooding in most urban areas in Nigeria. Widespread pollution exacerbated by indiscriminate dumping of solid waste resulting in filthy surroundings have been noticed in the area. This problem has continued to rear its ugly head in our quest at creating a habitable environment for the sustenance of man on the earth's surface and Nigeria's urban and rural areas in particular.

However, in many countries of the world, some forms of solid waste management systems have been put in place; while in others, it is difficult to qualify. In Nigeria today and Ughelli North Local Government Area in particular, living with waste as part of the natural environment has become a way of life. Though, protecting the environment from household waste has greatly improved in the late nineties and early twenties through government legislation on Saturdays nationwide sanitation, the situation today still demands that all persons in the urban and rural areas of the country come together to protect the environment especially in the areas of indiscriminate dumping of refuse and other hazardous materials on land and water bodies.

It is on this premise that this paper addressed issues of environmental sanitation in the context of urban and rural dwellers in Ughelli North Local Government Area of Delta State in order to safeguard the environment for the benefit of mankind.

Objectives of the Study

The purpose of this research is to assess the perception of urban and rural dwellers towards environmental sanitation in Ughelli North Local Government Area of Delta State.

Deriving from the above, the study sets out to:

1. Assess the perception of urban and rural dwellers in the methods of waste disposal.
2. Assess the level of participation of urban and rural dwellers in environmental sanitation
3. Make recommendations on how we can maintain the environment towards a sustainable human development.

Research Hypothesis

Ho: The methods of waste disposal in the urban and rural areas of Ughelli North Local Government Area of Delta state have no significant effect on the environmental sanitation of the area.

METHODOLOGY

This research work is a descriptive survey study with a comparative assessment of the perception of urban and rural dwellers towards environmental sanitation in Ughelli North Local Government Area of Delta State. It employs public opinion and observation through sampled questionnaires on people's perception of environmental sanitation in the study area. This method provides basis for the existing situation or present condition of the environment through a systematic collection of facts and accurate information in order to achieve the objectives of the study.

Sources of Data Collection

The questionnaire was used to elicit information from the inhabitants of Agbarha-Otor, a rural community in Ughelli North Local Government Area and from the inhabitants of Ughelli, an urban community and headquarters of Ughelli North Local Government Area of Delta State. A total of one thousand (1000) questionnaires [of five hundred (500) each] were distributed to urban and rural dwellers. The questionnaire was adopted after a critical examination of the objectives of the study.

Method of Data Analysis

The data collected were analyzed using simple percentages. Also, the Spearman's correlation was used to test the posited hypothesis after the data collected were arranged and re-arranged to satisfy the objectives of the study.

DISCUSSIONS AND FINDINGS

In determination of the comparative assessment of the perception of urban and rural dwellers towards environmental sanitation in the area, perception of people towards the cleanliness of their surroundings, sanitation laws and re-orientation of the people towards environmental sanitation were used as parameters for the study.

Keeping the surroundings clean

One of the mandates given to owners, tenants and occupiers of any building is to keep clean the sidewalks, at least 45cm from the sidewalk into the street along the building frontage, sides and back at all times. They are not to litter, sweep out or throw ashes, refuse, paper, nylon and rubbish into any street, public place or vacant plot in the area (Alabi, 2010)

Table1. Responses of urban and rural dwellers to keeping their surroundings clean

Methods of Waste Disposal	Urban Dwellers	%	Rural Dwellers	%	Total Responses	%
Open Dumps	432	86.4	46.6	93.2	89.8	89.8
Hog Feeding	8	1.6	2	0.4	10	1
Dumping at River/Stream	50	10	30	6	80	8
Incineration	5	1	-	0	5	0.5
Sanitary Landfill	5	1	2	0.4	7	0.7
Composting	-					
Total	500	100	500	100	1000	100

Source: Fieldwork, 2012

From table 1, 432 respondents representing 86.4 percent of the sampled urban dwellers agreed that they indiscriminately dump their refuse in open dumps; while 466 respondents representing 93.2 percent of the rural dwellers agreed to dumping their refuse in open dumps. Thus, a total of 898 respondents representing 89.8 percent of the sampled population dispose their refuse through the open dump method. These open dumps widely practiced by urban and rural dwellers are usually located haphazardly at any open space in any point in the street. The implication of this, is that open dumps are unhygienic and pose many health hazards to the people living or passing through the area. The dumps serve as breeding places for flies, cockroaches and mosquitoes. Micro-organisms and bacteria thrive in open dumps and flies and rats may carry these germs to the homes of those living nearby (Samuel, Fasuyi and Njoku, 1988).

In terms of hog feeding, 1.6 percent of urban dwellers agreed to transporting garbage to pig farms owned by them and feeding such to the pigs when compared to 0.4 percent of rural dwellers. Hog feeding is an uncommon method of waste disposal in developing countries, as such, it is not widely practiced. The implication of this method is that the pigs fed with this garbage may become infested and diseased.

In the urban centre of the study area as shown in table 1, 50 respondents representing 10 percent of the sampled population ascribed to dumping their waste in rivers and streams that flow through the town; while 30 respondents representing 6 percent of the sampled population in the rural area agreed to dumping their refuse in rivers and streams. The implication of this is that refuse dumped in rivers and streams apart from contaminating the water which some people use for domestic purposes, may also result in flood and consequent loss of lives and properties.

The method of incineration viewed by many as the most acceptable method of waste disposal (Udoh, Fawole, Ajala, Okafor and Nwana, 1987) is not widely practiced in the area. However, 5 respondents representing 1 percent of the urban dwellers agreed to burning their refuse in locally made incinerators. The implication of this local incinerator is that it does not get rid of non-combustible refuse like metals. These then have to be disposed separately.

In terms of sanitary landfill, 5 respondents representing 1 percent of the sampled population of urban dwellers agreed to excavating the ground before the refuse is dumped as compared to 2 respondents representing 0.4 percent of sampled rural dwellers. This method is very safe and hygienic method of refuse disposal. However, composting as a method of waste disposal is not practiced in the urban and rural areas of the local government (see table 1).

Table 2: Level of participation of urban and rural dwellers in environmental sanitation

Mode of Sanitation	Urban	%	Rural	%	Total	%
Daily sanitation	120	24	280	56	400	40
Saturday sanitation	380	76	220	44	600	60
Total	500	100	500	100	1000	100

Source: Fieldwork, 2012

In table 2 above, 120 urban respondent representing 24 percent of the sampled population were of the view that they carry out daily cleaning of their surroundings; while 280 respondents representing 56 percent of the rural sampled population agreed to carrying out daily sanitation of their surroundings. However, 380 respondents representing 76 percent of the sampled population in the urban centre agreed to participating in the compulsory Saturday sanitation exercise; while 220 respondents representing 44 percent of the sampled rural population agreed to participating in Saturdays sanitation. The implication of this is that the compulsory Saturday sanitation exercise is well enforced in the urban centre than in the rural areas. However, the rural dweller prefers attending to his farms than staying at home on Saturdays especially in the morning.

Test of Hypothesis

The Spearman's correlation was used to test the posited hypothesis that the method of wastes disposal in the urban and rural areas of Ughelli North Local Government Area of Delta State has no significant effect on the environmental sanitation of the area (See table 1).

Ho: That the methods of waste disposal has no significant effects on the environmental sanitation of the area

H₁: That the methods of waste disposal has significant effects on the environmental sanitation of the area.

Urban Dwellers x	Rural Dwellers y	Rx	Ry	d ²
432	466	5	5	0
8	2	3	2.5	0.25
50	30	4	4	0
5	0	1.5	1	0.25
5	2	1.5	2.5	1
				$\Sigma d^2 = 1.5$

$$rs = 1 - \frac{6 \Sigma d^2}{n^3 - n}$$

$$rs = 1 - \frac{6 \times 1.5}{5^3 - 5}$$

$$rs = 1 - \frac{9}{125 - 5}$$

$$rs = 1 - \frac{9}{120}$$

$$rs = 1 - 0.075$$

$$rs = 0.925$$

From the model calculation, there exists a relationship between method of waste disposal and environmental sanitation in the area. For example,

Coefficient of Determination

$$R = (0.925)^2 \times 100$$

$$R = 0.855625 \times 100$$

$$R = 85.56\%$$

From the above, H_0 is rejected and H_1 accepted that the method of waste disposal has significant effect on the environmental sanitation of the area.

FINDINGS

Based on the objectives of the study and hypothesis posited, the following findings emerged:

- i. Open dump as a method of waste disposal is widely practiced in the area
- ii. Composting as another method of waste disposal is not practiced in the area.
- iii. Most of the people in the area adhere strictly to Saturdays environmental sanitation; but more in the urban areas than in the rural areas.
- iv. The level of participation of persons during environmental sanitation is more in the urban centre when compared to the rural area.
- v. Daily environmental sanitation is widely carried out in the rural areas than in the urban centres.

Recommendations

The following are additional precautions for maintaining and improving on the present state of the environment and upholding environmental sanitation in order to promote cleanliness and safeguard human health.

- i. Sanitation laws need to be vigorously enforced and offenders punished to serve as deterrent to others. In that instance, not only will people be, mindful to make sure that they observe environmental sanitation laws individually, but also pro-active in stopping others from contravening them.
- ii. The government should provide suitable waste disposal baskets at convenient spots all over the local government area, so that people will not be tempted to dump refuse anywhere, but make use of the baskets.
- iii. The people should be re-oriented towards environmental sanitation through a quarterly or bi-annual award of best environmentally clean street, business premises, compound or local government initiated through some public/private or purely private or public initiative.
- iv. Inspectors should tour the local government area to determine environmental depressed areas that need urgent attention.

- v. There should be regular workshops to bring home desirability of a clean environment to people and prime actors in that venture should be the youths.
- vi. Regular clearing of the gutters and drains especially in the urban centre be carried out in order to avoid flood.
- vii. Plastic bottled water cans and sachets should be collected from the surroundings and re-cycled for use.
- viii. There should be environmental education in which the people are enlightened on the best ways to keep their environment clean.
- ix. To achieve the above recommendations, all persons concerned with environmental sanitation and sustainability must engage in the monitoring of the environment. The protection and safeguarding of the environment not only will it promote a healthy living, but it will also lead to national growth and productivity.

CONCLUSION

This paper discussed the perception of urban and rural dwellers towards environmental sanitation in Ughelli North Local Government Area of Delta State. Environmental sanitation is a strategy designed to improve the physical and aesthetic beauty of the environment. The study considered the perception of rural and urban dwellers and factors militating against the effectiveness of a clean environment.

Although the need to improve sanitation through legislation is now recognized in Nigeria, the ability to implement sanctions on defaulters is still limited as revealed by the study. In order to proffer solutions to the problem of sanitation, there is, the need for planning, hygiene education, water supply and good sanitation for environmental sanitation to be effective and meaningful.

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