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Perception of Environmental Sanitation and Communication Practice in Port Harcourt Rivers State, Nigeria

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ABSTRACT: *This study examined perception of environmental sanitation and communication practice in Port Harcourt, Rivers State, Nigeria. The study used multi-stage cluster sampling technique and respondents' participatory interview. The study administered 400 questionnaires in the study area. The respondents' participatory interview and questionnaires were administered in three clusters of the Diobu area, Government Residential Area (GRA) and other residential areas. Findings of the study showed that the respondents understood that environmental sanitation is a practice of keeping the surrounding of man clean (34% agree and 61.5% strongly agree). The stakeholders' response showed that their level of communicating environmental sanitation was majorly through radio, television and print*

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media. The highest communication medium for environmental sanitation in the Port Harcourt was by radio (38.25% agree and 54.5% strongly agree). The television was adequately utilized to communicate environmental sanitation (38.75% agree and 50.75% strongly agree). The stakeholders were of the perception that government participated more in communicating environmental sanitation (34.5% agree and 35.5% strongly agreed). On the relationship of environmental sanitation occurrence and communication to stakeholders, the Chi-square test showed a table value of 37.12 and calculated value of 1.6962 indicating that the calculated value was lesser than the table value. This proved that environmental sanitation was not significantly communicated to the Port Harcourt city dwellers. This study, therefore, recommended that the government and policy makers should actively utilize the local and national media to communicate environmental sanitation in Port Harcourt, Rivers State of Nigeria.

KEYWORDS: communication, environment, health, practice, sanitation

INTRODUCTION

Globally, environmental sanitation is a critical issues that affects the human health. Environmental sanitation is the ability to control the physical factors that harmfully affect man in his physical development, health and eventual survival. The primary purpose of environmental sanitation is to protect public health by keeping man's surrounding very clean thereby preventing the spread of diseases [1]. This implies that the garbage should be properly disposed to avoid flies and insects as well as other disease vectors from transmitting diseases [2]. In some cities, there are special days set aside to conduct environmental sanitation. The day of environmental sanitation is kwon as a day to clean the surrounding of man and in some cities, states and countries have included environmental sanitation as part of the law such that any violation is punishable by the government. Thus, there are many ways in which sanitation day is communicated to the people for effective participation by means of radio, television, newspapers, social media platforms etc [3].

According to [4] over 1.7 billion people do not have basic sanitation service such as toilets and latrines. Thus, 494 million people defecate in the open environment such as gutters, bush and water bodies. However, 45% of waste water is discharged to the open environment without treatment and 10% of the global population eat food from irrigated water. Poor sanitation has resulted to the transmission of diarrheal diseases such as cholera, dysentery, typhoid, intestinal worm infections and polio. Poor sanitation has caused the spread of antimicrobial resistance [5]. Urbanization, overpopulation and industrialization have posed greater challenges to sewage generation in the cities. There is high level of inequality in access to toilets and the wealthier households discharge their sewage into storm drains, waterways, landfills thereby

polluting poor residential areas. Thus, the discharged sewage is partially or not treated at all before disposal into rivers, lakes and oceans [6].

The issue of environmental sanitation is very critical especially at residential areas. Some studies have been conducted on the effects of environmental in residential areas such as [7] who studied environmental sanitation practices across different residential zones of Osogbo, Nigeria. The study used stratified residential zones made up of 194 residents in the survey. The study found that there was poor access to environmental sanitation facilities across the residential zones and the number of residents with private environmental facilities was very low. There was poor environmental sanitation practice in residential areas. The study recommended provision of environmental facilities by private homes through the use of government efforts. Also, that there should be environmental education and the enforcement of environmental regulations in the cities across the world. The recommended environmental education can be carried out by communication media houses in order to promote awareness and sensitization among environmental actors and stakeholders. This shows that environmental communication is still low in some cities in the world which has resulted to poor sanitation practice and increased disease outbreak.

[8] studied environmental sanitation in an urban community in southern Nigeria using cross sectional survey and multistage designs of four villages in north-eastern Akwa Ibom State. The Multi-stage sampling covered 237 inhabitants in the community and structured questionnaires were administered. The findings showed that tap water was majorly polluted as the main source of drinking water and boiling was used as disinfectant. The females were found to participate more in environmental sanitation than the males. Also, there was unwholesome practices such as the use of open refuse dumping and pit latrines close to the house were common in the community. The study recommended the enforcement of environmental sanitation laws and creation of more awareness as well enhance health education. The achievement of environmental sanitation awareness and health education are centred on active media communication of related sanitation issues to the general public. In this vein, this study is anchored to understand the perception of environmental sanitation and communication practice in Port Harcourt, Rivers State as part of the measures to improve the health condition of people across the cities.

METHODOLOGY

Port Harcourt space under study is located approximately within longitude 70'E and 70'5 E and latitude $4^0$45'N and $4^0$50 N of the GM. It encompasses Obio/Akpor and Port Harcourt City LGAs; and extends to the environs of Eleme, Degema, Oyibo, Emohua, Etche, Okirika and Ikwere LGAs (Figure 1). Port Harcourt as a coastal city has close proximity with the Atlantic Ocean, which affects the general atmospheric weather pattern. The annual mean temperature

of the area recorded 28^{o}C and the relative humidity is usually high with annual mean of 85% [9]. The area is known for its heavy rainfall from April to October ranging from 2000 to 2500 mm [10]. Mangrove swamp and rainforest vegetation are found in the study area. Initial growth of the city was towards the southern part surrounded by throngs of mangrove swamp [11]. The city has current projected population of 3,229,384 persons [12].

This study used multi-stage cluster sampling technique with respondents' participatory interview. The questionnaire instrument was developed and administered to the respondents. The respondents' participatory interview and questionnaires were administered in three clusters of the Diobu area, Government Residential Area (GRA) and others residential areas. Thus, 120 questionnaires were sampled in the three clusters and another 60 questionnaires were distributed to Rivers State Environmental Sanitation Authority (RESA) bringing the total respondents to four hundred (400). In order to determine the questionnaire sample size, Taro Yamane (1973) with formula n = N/1 + N(e)2 at 95% confidence level size was employed; where n = sample size, N = number of people in the population and E = allowable error (%) totaling 400 questionnaires in a population of 3,229,384 persons. The respondents were traders, workers and farmers of both male and female gender. The indigenes guided the process of the participatory interview and the questionnaire distribution using the indigenous language. The questionnaire instrument was designed in four sections on stakeholders' perception of environmental sanitation, communication of environmental sanitation to stakeholders, institutions and agents of communicating environmental sanitation and relationship of environmental sanitation occurrence and communication to stakeholders. The Cronbach's coefficient alpha reliability technique was used to determine the dependability of the instrument which was at 0.06 reliability value [13]. The Linkert scale was adopted to arrange the questionnaire for data collection and validation. The field survey indicated 100% response; this was possible because pre-survey and reconnaissance field study were conducted to pre-test the process. During the pre-survey period, participants and respondents contacts were established in order to facilitate the response during the main field work. The study used the Statistical Package for Social Sciences (SPSS) to analyze the data generated and represented in tables and graphical charts. The Chi-square statistical test was used to validate the hypothesis that environmental sanitation is not significantly communicated to the stakeholders in Port Harcourt city.

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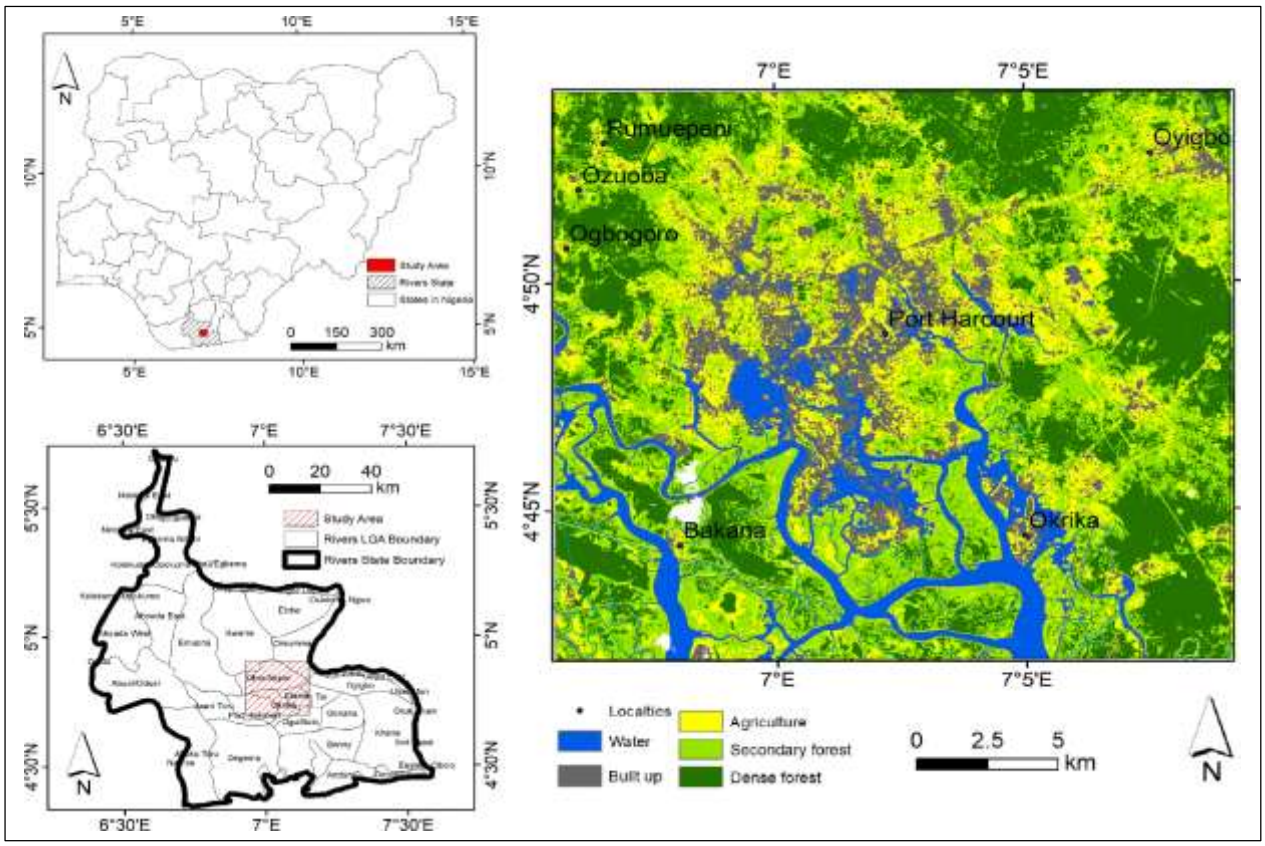

Figure 1**:** Port Harcourt Study Area

RESULTS AND DISCUSSION

Stakeholders' Perception of Environmental Sanitation

The stakeholders' perception of the meaning of environmental sanitation showed great agreement (Table 3.1). The analysis of the result indicated that the respondents understood that environmental sanitation is a practice of keeping the surrounding of man clean (34% agree and 61.5% strongly agree). They perceived that human is the real cause of environmental littering (5.25% agree and 93% strongly agree). Littering the human environment has negatively impacted on the community people (45.75% agree and 51.75% strongly agree). Some of the community stakeholders have adequately adapted to environmental sanitation (19% agree and 34.5% strongly agree). But some of the community stakeholders have not really adapted to the practice of environmental sanitation (21.5% disagree and 24% strongly disagree) indicating that some people have not prepared themselves to practice good environmental sanitation in the Port Harcourt city.

Table 3.1: Stakeholders' Perception of Environmental Sanitation (n=400)

Question	Response	1	2	3	4	5
1	Environmental sanitation is a practice of keeping the surrounding of man clean.	1	7	10	136	246
	Percentage (%)	0.25	1.75	2.5	34	61.5
2	Human is the real cause of environmental littering.	2	1	4	21	372
	Percentage (%)	0.5	0.25	1	5.25	93
3	Littering the human environment has negatively impacted on the community people.	3	5	2	183	207
	Percentage (%)	0.75	1.25	0.5	45.75	51.75
4	The community stakeholders have adequately adapted to environmental sanitation.	87	96	3	76	138
	Percentage (%)	21.75	24	0.75	19	34.5

NB: Strongly agree (5), Agree (4), Neither agree nor disagree (3), Disagree (2) Strongly disagree (1).

Communication of Environmental Sanitation to Stakeholders

The stakeholders' response showed that their level of communicating environmental sanitation was majorly through radio, television and print media (Table 3.2). The respondents (45.5% disagree and 46.5% strongly disagree) indicating that that the local town crying as a mean of communicating environmental sanitation was not adequately used. The highest communication medium for environmental sanitation in the Port Harcourt was by radio (38.25% agree and 54.5% strongly agree). The television was adequately utilized to communicate environmental sanitation (38.75% agree and 50.75% strongly agree). However, social media platforms such as WhatsApp, Facebook, Twitter, Instagram, Telegram were not properly utilized to communicate environmental sanitation in Port Harcourt (45.5% strongly disagree and 46.75% disagree). The print media such as newspapers, magazines, journals, bulletins et cetera have not been adequately used to communicate environmental sanitation (19.75% strongly disagree and 20.5% disagree). Thus, for town-hall meeting (74.5% strongly disagree and 16.5% disagree) that town hall meeting has been adequately used to communicate environmental sanitation.

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Table 3.2: Communication of Environmental Sanitation to Stakeholders (n=400)

Question	Response	1	2	3	4	5
5	The local town-crying has been adequately used to communicate environmental sanitation	174	186	7	15	18
	Percentage (%)	43.5	46.5	1.75	3.75	4.5
6	The radio has been adequately used to communicate environmental sanitation	6	20	3	153	218
	Percentage (%)	1.5	5	0.75	38.25	54.5
7	The Television (TV) has been adequately used to communicate environmental sanitation	19	21	2	155	203
	Percentage (%)	4.75	5.25	0.5	38.75	50.75
8	The print media (newspapers, magazines, journals, bulletins et cetera) have been adequately used to communicate environmental sanitation	79	82	2	111	126
	Percentage (%)	19.75	20.5	0.5	27.75	31.5
9	The social media (WhatSapp, Facebook, Twitter, Instagram, Telegram et cetera) have been adequately used to communicate environmental sanitation	182	187	4	22	5
	Percentage (%)	45.5	46.75	1	5.5	1.25
10	Town hall meeting have been adequately used to communicate environmental sanitation	298	66	5	15	16
	Percentage (%)	74.5	16.5	1.25	3.75	4

NB: Strongly agree (5), Agree (4), Neither agree nor disagree (3), Disagree (2) Strongly disagree (1).

Institutions and Agents of Communicating Environmental Sanitation

The stakeholders were of the perception that government participated more in communicating environmental sanitation (Table 3.3). The response of stakeholders indicated that government was relatively more concerned with giving out information on environmental sanitation to Port Harcourt residents (34.5% agree and 35.5% strongly agreed). The respondents (37% strongly disagree and 33% disagree) that the host community companies such as Agip, Shell SPDC, Total E and P Nigeria Ltd were not concerned with community environmental sanitation in Port Harcourt city. Furthermore, the stakeholders (34.75% strongly disagree and 40.75% disagree) indicating that Community Based Organizations (CBOs)/Non-governmental Organizations (NGOs) were not committed to communicate environmental sanitation to the people in Port Harcourt city.

Table 3.3: Institutions and Agents of Communicating Environmental Sanitation (n=400)

Question	Response	1	2	3	4	5
11	The government is concerned with environmental sanitation communication	68	51	1	138	142
	Percentage (%)	17	12.75	0.25	34.5	35.5
12	The host community companies are concerned with environmental sanitation communication	148	132	5	63	52
	Percentage (%)	37	33	1.25	15.75	13
13	The non-government organizations (NGOs) and Community Based organizations (CBOs) are concerned with environmental sanitation communication	139	163	3	54	41
	Percentage (%)	34.75	40.75	0.75	13.5	10.25

NB: Strongly agree (5), Agree (4), Neither agree nor disagree (3), Disagree (2) Strongly disagree (1).

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Relationship of Environmental Sanitation Occurrence and Communication to Stakeholders

The stakeholders in Port Harcourt city responded on the relationship between environmental sanitation and media communication (Table 3.4). The response (34.5% agree and 54% strongly agree) indicated that environmental sanitation occurred in Port Harcourt city. The respondents (55.5% agree and 38.5% strongly agree) that environmental sanitation communication is adequately carried out in Port Harcourt city. The Chi-square test showed a table value of 37.12 and calculated value of 1.6962 indicating that the calculated value was lesser than the table value. This proved that environmental sanitation was not significantly communicated to the Port Harcourt city dwellers. It therefore, showed that enough was not done to convey to the people about environmental sanitation and its effects on the lives of the people, which could cause great health disaster in the city.

Table 3.4: Relationship of Environmental Sanitation Occurrence and Media Communication to Stakeholders (n=400)

Question	Response	1	2	3	4	5
14	Environmental sanitation significantly occurs in this city	23	20	3	138	216
	Percentage (%)	5.75	5	0.75	34.5	54
15	Environmental sanitation communication is adequately carried out in this city	10	12	2	222	154
	Percentage (%)	2.5	3	0.5	55.5	38.5

NB: Strongly agree (5), Agree (4), Neither agree nor disagree (3), Disagree (2) Strongly disagree (1).

The Port Harcourt city dwellers understood that environmental sanitation is a practice of keeping the surrounding of man clean. They perceived that human is the real cause of environmental littering and that littering the human environment has negatively impacted on the city people. Though some of the city dwellers have adequately adapted to environmental sanitation but some of the people have not really changed to the practice of environmental sanitation. The opinion of Port Harcourt people was similar with the view of Pakistan people who agreed that due to poor sanitation the people are faced with communicable diseases such as acute respiratory infections having 51%, Hepatitis 7.5 %, Malaria 16%, Diarrhea 15%, Dysentery 8% and scabies 7% respectively [14]. The Port Harcourt people made use of radio and television to receive information on environmental sanitation due to the availability of electricity supply in the city. This has the same view with [15] who posited that electric power has greater effect in media communication of issues in the 21st Century. The NGOs, CBOs and oil companies were not active in communicating environmental sanitation in Port Harcourt city. Rather, the government has specially dedicated last Saturday of the month as a unique day for environmental sanitation which is usually announced on radio and television as well as WhatsApp messages. Furthermore, every Thursday of the weekdays between the hours of 6am to 10am has been set aside as environmental sanitation day in some quarters of Port Harcourt.

This is communicated through local town crying and town hall meetings. This is in opposite to the findings of [16] in Awka, Anambra State, Nigeria where the stakeholders lack the information about where to properly dispose refuse, poor information about environmental sanitation dates and having waste bins in commercial vehicles. One critical observation to environmental sanitation communication is the media which lack adequate funding by the government to pass information to the stakeholders. This involves lack of media expertise and seriousness on the part of policy makers about issues of environmental sanitation communication. It further stated that mass media influence citizens' participation in environmental sanitation activities. The outcome of this survey showed that environmental sanitation is seriously engaged in Port Harcourt city and environmental sanitation communication is carried out but not adequate revealing that more effort is needed by the government, CBOs, NGOs and oil companies to spread information on the city's environmental sanitation exercise.

CONCLUSION

This study on perception of environmental sanitation and communication practice in Port Harcourt, Rivers State, Nigeria has shown that literature on environmental sanitation communication in Nigeria is limited. The people of Port Harcourt have not been significantly communicated on the issues of environmental sanitation so as to manage the health disaster resulting from poor environmental sanitation. It is noted that the perception of the people on environmental sanitation, causes of environmental littering and the effects on health show that they are aware of the implication of poor environmental practice. However, the stakeholders indicate that they are less prepared to the problems and challenges resulting from poor environmental sanitation practice in the area. On the other hand, as a city the use of local town crying is limited in communicating environmental sanitation practice. The television and radio are highly utilized as media to communicate environmental sanitation, especially on the last Saturday fixed by the government for everyone to clean the environment. More so, some Port Harcourt quarters have dedicated Thursday of every week as regular environmental sanitation day. The NGOs, CBOs and host companies have not actively participated in information sharing about environmental sanitation in Port Harcourt city. The government, has set aside the last Saturday of the month as environmental sanitation day but with weak implementation. The poor publicity to communicate environmental sanitation in Port Harcourt will continue to cause the spread of environment borne diseases that will affect the health of Port Harcourt residents. Thus, there is quick need for the government and policy makers to communicate to the people on issues of environmental sanitation by means of critical education and awareness campaign, using both the indigenous and national strategies as part of the coping measures on environmental sanitation in Port Harcourt city, Rivers State of Nigeria.

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