THE RELEVANCE OF POLICY AND PRACTICE ON SANITATION EFFORT IN DEVELOPING NATIONS: THE EXPERIENCE OF A SEMI-URBAN CITY IN SOUTH-WEST NIGERIA

David O. Olukanni[1], Dominic E. Azuh[2], Tayo O. George[3], Mofoluwake P. Ajayi[3], PraiseGod C. Emenike[1]

[1] Department of Civil Engineering, Covenant University (NIGERIA)
[2] Department of Economics and Development Studies, Covenant University (NIGERIA)
[3] Department of Sociology, Covenant University (NIGERIA)

Abstract

Inappropriate waste management and poor sanitation practices have become major concerns in many developing countries in sub-Saharan Africa. The objectives of this study are to appraise the relevance of institutional policy and practice on sanitation effort with the case study of a semi-urban city in Southwest Nigeria. The study involved the assessment of procedures and techniques available in waste collection, treatment, disposal practices and compliances with institutional rules and regulations. The survey involved the use of structured questionnaires, in-depth interviews, on-site observations and focus group discussions in the various local communities and villages drawn across the 16 wards of the municipality. The data assessed captured social demographic-, housing-, socio cultural-characteristics, sanitation and hygiene behaviour and problems with poor water and sanitation. Both quantitative and qualitative techniques in data collection and analysis were utilized as main instruments. The Statistical Package for Social Sciences (SPSS) software application was employed for the purpose of analysis. Responses collected were coded using a linkert scaling procedure. The procedure combines descriptive analysis and bivariate regression estimation in arriving at the results obtained. Results of the study showed that there is no connection between institutional policies and the people's sanitation practices in the communities and more so, the management practices in most communities expose the inhabitants to unnecessary health risks. This has put a challenge on sanitation effort at reaching the Millelium Development Goal (MDG) target. It is therefore recommended, that a sustained cooperation be developed among all key actors (government, waste managers, public health workers and inhabitants) so as to implement an economic, sustainable, safe and reliable sanitation strategy and practices. This should not only be limited to legislation and policy formulation but also in its monitoring and enforcement. In addition, there is need for sensitizing the general public and raising their awareness level on environmental risks associated with poor sanitation practices.

Keywords: Sanitation, Waste Management, Policy and Practice, Semi-Urban City, Southwest Nigeria.

1 INTRODUCTION

As the 2015 target date is being approached for the Millennium development Goals (MDGs), WHO and UNICEF are monitoring and addressing the current challenges and those that lie ahead. The United Nations Economic Commission for Africa (UNECA) latest update on Africa's progress in achieving the Millennium Development Goals (MDGs) reports that, Africa is making some progress on MDG 7, which is to ensure environmental sustainability [1]. Target 7C focuses on how to halve, by 2015, the proportion of the population without sustainable access to safe drinking water and basic sanitation. However, the populations still lagging behind in the quality of their drinking water and adequate sanitation are majorly in the sub-Saharan African countries without an exception to Nigeria [2]. Nigeria has a population of over 151 million people, of which an estimated 41% do not have access to basic sanitation and 53% are not using an improved source of water [3].

Currently, Nigeria is part of the countries whose sanitation coverage rates are between 20% and 40 % points below the MDG targets [4], [5]. Even though, effort has been made by government agencies, local organizations and NGOs to increase access to safe water supply and sustainable sanitation in major cities in Nigeria; by supporting the provision of improved water sources and sanitation facilities in schools and rural communities thereby contributing to the achievement of the national target of 90% by 2015 and 100% by 2020 [6], [7], large numbers of both urban and rural areas still lack access to adequate sanitary facilities like latrines, hand washing facilities and waste disposal facilities. Non-

availability of sustained, effective and safe services is common experience for many developing countries around the world and has resulted into a high prevalence of water and sanitation related diseases, causing many people, children in particular, to fall ill or even die [8]. The standard of water and sanitation facilities reflects the socio-economic development of a nation. Sanitation is essential for human health, generates economic benefits and contributes to dignity and socio-economic development. In fact, the type of access and quality of water supply, as well as quality of sanitation facilities available to households or communities determine their quality of life. Unfortunately, in Nigeria many still live in poor sanitary conditions and do not maintain proper standards of hygiene. Invariably, better sanitation and improved safe water supply will lead to reduction of diseases, human suffering and enhance productive capacities in addition to reduction in health care cost.

Good sanitation contributes to low level of child mortality [9]. According to [10], it was estimated that over 10 million productive days would be gained if access to both water and sanitation in Nigeria rose to 100 percent. It was situated that Government or NGO projects often run out of funding because of political or economic shifts, thereby jeopardizing the success of sanitation projects [11], [12]. [13] Expressed that there is need for increased attention to monitoring, which should include transparency and accountability, and assessing where funding comes from and how it is being used. According to [14], 2.5 billion people lacked access to an improved sanitation facility, 761 million use public or shared sanitation facilities, 693 million use facilities that do not meet minimum standard of hygiene and 1 billion of the world population still practice open defecation. It was also documented that 768 million people did not use an improved source for drinking water in 2011 and 85% of this proportion live in rural areas. In Nigeria, households with an improved source of drinking water is 58%, those with an improved toilet facility is only 32% [15]. At the national level, only 7% and 2% of households had water piped into their dwellings and traditional pit latrine being the most common means of excreta disposal available to households irrespective of zone [16]. According to UNDP [17] each day, an average of 5000 children die due to water and sanitation related diseases, many of which are easily preventable. The inadequacy of safe water and improved sanitation services is manifested in the prevalence of water sanitation related diseases especially among rural communities in Nigeria. The benefits of hygiene promotion are generally not prioritized and the costs of hygiene promotion are poorly understood and therefore not adequately budgeted for.

1.1 The purpose of this study

i)   Examine government/institutional presence in the communities with respect to provision of Social amenities,

ii) Examine water sources, adequacy of sanitary facilities and hygienic behavior and

iii) Proffer policy measures based on the findings to tackle these challenges.

In line with the above objectives, the study put forward some research questions as follows:

  i.   Is there any government presence (in terms of provision of amenities) in the study area?

  ii. Which area has government assistance been directed in the study area.

1.2 Environmental Policies in Nigeria

The basis of environmental policy in Nigeria is contained in the 1999 Constitution of the Federal Republic of Nigeria. Pursuant to section 20 of the Constitution, the State is empowered to protect and improve the environment and safeguard the water, air and land, forest and wildlife of Nigeria. However, in view of the Federal Environmental Protection Agency (FEPA) Act, each State and local government in the country may set up its own environmental protection body for the protection and improvement of the environment within the State. Each State is also empowered to make laws to protect the environment within its jurisdiction. In Ogun State where the study was carried out, the State Environmental Protection Agency (OGEPA) principally controls the waste generated within its environment. Any person who fails to comply with the provisions of the Environmental Impact Assessment (EIA) Act commits an offence and is liable to conviction. The policy on waste management is a collaborative effort of Federal, State, local government, private and public sectors. Some of the Institutional roles of these key actors in waste management are stated below.

1.2.1 The Federal Government contribution to waste management is to;

  i. Develop, periodically review and update the Policy Guidelines on waste management.

ii. Develop and circulate set standards for equipment procurement and maintenance in waste management.

iii. Develop and circulate set standards on private sector participation in waste management services

iv. Prepare a master plan as a national blue print for effective waste management and ensure its implementation at the appropriate levels of Government.

v. Enact appropriate Legislation that will foster successful implementation of the Policy Guidelines and master Plan.

vi. Source for funds for programmed development, specialized studies and capacity building on waste management.

vii. Provide technical assistance to States and LGAs on waste management.

viii. Initiate relevant programmes for improved waste management practices

ix. Establish a national data bank on waste management for planning and development.

x. Provide environmental education and awareness on sound waste management.

xi. Collaborate with relevant Stakeholders on waste management

xii. Register waste management facilities that require EIA certification.

1.2.2 *The public involvement to waste management is to:*

a) Adopt environment friendly habits and practices.

b) Comply with existing Legislation on waste management.

c) Comply with the provisions of the Policy Guidelines

d) Cooperate with other Stakeholders to ensure sustainable waste management systems.

e) Patronize recycled goods and biodegradable packages.

f) Undertake sorting of recyclable components at source and dispose residue at designated sites.

g) Segregate hazardous wastes and ensure hygienic and safe disposal.

h) Maintain sanitary dustbins in homes

i) Adopt the technology of converting local waste into energy generation including biogas.

j) Adopt the use of compost as soil conditioner.

k) Pay for waste management services to ensure its sustainability

1.3 Sanitation Practices in a Semi Urban City

Indiscriminate waste disposal and inappropriate dumping of domestic wastes are observed to have created serious environmental pollution in the study area. Solid waste and refuse including used nylon and polytene bags, paper, leaves etc. are dumped indiscriminately on major streets, close to residential areas and on drainage channels that is meant for free flow of storm water. This is done with the erroneous impression that the runoff from storm will remove these wastes. On the contrary however, these refuse find its way back to block the drainages and in some cases into major river source relied on by the people downstream for domestic consumption. There is therefore the need for proper re-orientation of members of such communities as regards their attitudinal change on the best waste disposal practices. In the study area, it was also observed that safe water supply is a huge challenge as respondents buy water from tanker vendors and households wastes are piled up within the vicinity of the houses and these heaps of waste breed flies/vectors that affect the health of the community under study.

1.3.1 *Major contributing factors identified from literature include*

i. Rural-urban shift and increased population.

ii. Inadequate information on waste disposal facilities.

iii. Non-availability of waste disposal facilities and poor facilities where they exist.

iv. Insufficient resources (technology, finance, facility and poor policy execution).

2 METHODOLOGY

2.1 Study Area

This study focuses on Ota metropolis, a town in the Ado-Odo local government of Ogun State, Nigeria. The municipality covers an area of 885 square kilometers with an average density of 372 persons per square kilometer and lies between latitude 6° 58' N and longitude 6° 42' E. The Ado-Odo/Ota Local Government Area is one of the 20 Local Government Areas (LGAs) of Ogun State, Nigeria. Ado-Odo/Ota borders on metropolitan Lagos. The LGA is the second largest in Ogun State with Ota being the headquarter and having about four hundred and fifty (450) towns, villages and settlements. The towns and cities include Ado-Odo, Agbara, Igbesa, Iju-Ota, Itele, Kooko Ebiye Town, Owode and Sango Ota, among others.

2.2 Analysis of the Result

It was an empirical study and made use of structured questionnaires in addition to in-depth interviews, on-site observations and focus group discussions in capturing the information on the water, sanitation and hygiene among the respondents in the study area. The study covered several communities and villages within the16 wards in the local government area which has an estimated population of 526,565 residents living in and around it [18]. A total of 600 questionnaires were administered and 495 were collected. The demography showed that 249 male and 246 female responded to the questionnaire. The literacy level of the respondents showed a better understanding of the subject matter as this promotes the efficacy of the research.

2.2.1 Hygiene

The analysis captured the level of hygiene exhibited by the respondents and this could be likened to their compliance on how well they respond to cleanliness. The following data were obtained and presented in Table 1.

Table 1. Data on Hygiene Practice in the Study Area.
Do you hand wash before eating?

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Yes	483	97.6	99.2	99.2
	No	1	.2	.2	99.4
	Not often	3	.6	.6	100.0
	Total	487	98.4	100.0	
Missing	System	8	1.6		
Total		495	100.0		
Do you hand wash after defecation?					
Valid	Yes	482	97.4	99.4	99.4
	No	1	.2	.2	99.6
	Not often	2	.4	.4	100.0
	Total	485	98.0	100.0	
Missing	System	10	2.0		
Total		495	100.0		

It can be deduced that 97% of the respondents practice personal hygiene ethics but lacked public hygiene practices. This resulted to illegal dumping at unapproved dumpsites, inadequate waste segregation, burning of waste and indiscriminate storage of waste close to residential areas.

2.2.2 Housing

The situation of population density within a community contributes immensely to the volume of waste generated within that community. From the analysis, the housing characteristics showed that over 90 percent of the respondents lived in brick houses and this is presented in Table 2:

Table 2. Data on Housing in the Study Area.
What kind of house do you live in?

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Brick House	453	91.5	92.8	92.8
	Mud House	32	6.5	6.6	99.4
	Others	3	.6	.6	100.0
	Total	488	98.6	100.0	
Missing	System	7	1.4		
Total		495	100.0		

The research assessed the housing factor contribution. It can be viewed that areas which are densely populated showed that the unplanned nature of building arrangement poses setbacks on the waste management and waste disposal procedures. It can be noted that building erected within the study area showed no allowance for the collection of sewage and setbacks etc. While these can serve as a tangible reason for the waste management challenges within the area, personal interviews conducted with respondents on the field showed that environmental challenges experienced within the community is as a result of the population growth and construction expansion that began few years ago. In areas where the population is on the increase, there is always the accumulation of waste material, posing a direct threat to both humans and the environment at large. Therefore, there is always this need for the enforcement of waste management legislation and available framework for planning and policy implementation. Indiscriminate use of land must be regimented by implementing applicable clauses in guidelines for development.

2.2.3 Disposal Methods

There are two operational approaches to the management of waste in Nigeria. They are participations from private and public arrangements. The private system is an agreement in form of contract between able individuals or group of persons who manages waste systems from collection to proper disposal as a business venture without leaving the waste generator behind. The public participation involves the government establishing a waste disposal agency to bear the responsibility of collecting waste from these waste generators and dispose them at well-engineered selected sites. The combination of these two systems is being adopted by some cities and in cases where the public system lacks adequate modalities to handle the volume of waste being generated; the adoption of private participation system is encouraged. The private participation system of waste management is common in areas where the high and medium income earners that can afford these services are found. Table 3 shows the data accessed by various disposal methods adopted within the study area.

Table 3. Data On Waste Disposal Practice In the Study Area.
How do you dispose refuse where you live?

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Collected and buried	13	2.6	2.7	2.7
	Public approved dumpsite	33	6.7	6.8	9.4
	Unapproved dempsite	90	18.2	18.5	27.9
	Burnt by Household	105	21.2	21.6	49.5
	Disposed via government refuse collector	90	18.2	18.5	68.0
	Disposed via private/paid refuse collector	156	31.5	32.0	100.0
	Total	487	98.4	100.0	
Missing	System	8	1.6		
Total		495	100.0		

As presented in Table 3, the analysis shows that the private system constitutes a greater percentage in terms of waste management than all other methods adopted. The government approved waste collector, functioned less as compared to burning of waste within households by the residents. The public system is under state government control and supervision, while the private system, because of its profit motive tries to offer satisfactory service so as to get more customers and enlarge its area of operation. This motive in turn ensures that efficiency is maintained [19]. Table 3 further explains the challenge with policy implementation on waste management practices. It shows that proper handling and effective disposal of waste generated is sole responsibility of the state and local government. Funds are generated internally by the government for improving the environment through imposition of sanitary levy with stringent regulations and penalties for offenders who give in to illegal dumping on streets. These rules are yet to be implemented as the study experienced more people engaging in burning method of waste disposal within their household thereby constituting additional air pollution. The research showed that levies are paid by the residents of the areas but yet experiences low turnout of government agencies responsible for waste management practices which made them resolve to private systems of waste management.

3 EFFECT OF ENVIRONMENTAL SENSITIZATION ON WASTE MANAGEMENT

Waste management experiences a positive boost when the knowledge of the practices is embraced. From the result of the analysis as presented in Table 4, it could be inferred that 51 percent of the respondents attained secondary education which is a great fraction compared to the others.

Table 4 Data on level of education.

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	No schooling	30	6.1	6.2	6.2
	Primary	99	20.0	20.4	26.6
	Secondary	249	50.3	51.3	77.9
	Tertiary	103	20.8	21.2	99.2
	Quranic School	2	.4	.4	99.6
	Others	2	.4	.4	100.0
	Total	485	98.0	100.0	
Missing	System	10	2.0		
Total		495	100.0		

It could be inferred from this study that lack of sensitization has invariably led to the poor sanitation level.

In view of this, proper sensitization and environmental education should be given to citizens. This would bring about community involvement and private sector collaboration. This engenders anticipated development and it also affects the attitudinal approach towards maintaining a good and clean environment. Sensitization promotes commitment which is a major input to realization of an effective waste management goal. Once environmental education is achieved, organization would set in and bolster personal decisions to improving waste management process. Moreover, poverty can be said to refer to specific forms and levels of deprivation, which imposes major limitations on normal human functioning and existence [20]. Poverty still poses this enormous threat to environmental balance and social cohesion and until it is curbed decisively, sustainable development of semi-urban cities will remain a mirage. It can also be noted from the analysis that the level of income is a determinant factor on the method of waste disposal as majority of waste disposed was through private waste collection.

4 BIVARIATE ANALYSIS

The bivariate analyses on the data collected are shown in the Tables 5-8. Mode I shows the relationship between the efforts the government put in establishing good sanitation. It further buttresses that commitment in providing adequate plans for sanitation by the government should be significantly improved. The results apparently suggest that the policies placed to handle waste management have not been efficiently implemented. The analysis therefore suggests adequate effort to ensure the sensitization of the public on the policies and rules on environmental violation practice.

Coefficients[a]

a. Dependent Variable: Has government effort been consistent?							
	Unstandardized Coefficients		Standardized Coefficients			95.0% Confidence Interval for B	
Model I	B	Std. Error	Beta	t	Sig.	Lower Bound	Upper Bound
1 (Constant)	1.971	.014		139.995	.000	1.943	1.999
How will you describe government intervention in solving poor water and sanitation challenges?	.009	.005	.091	1.933	.054	.000	.019
b. Dependent Variable: Do you hand wash before preparing food?							
Mode II							
2 (Constant)	1.097	.057		19.375	.000	.986	1.209
Express your opinion on the sanitation of your surrounding.	.013	.028	.022	.469	.639	-.041	.067
c. Dependent Variable: Do you handwash before eating?							
Model III							
3 (Constant)	1.000	.017		59.403	.000	.967	1.033
Express your opinion on the sanitation of your surrounding.	.005	.008	.031	.662	.508	-.011	.022
d. Dependent Variable: How often is refuse disposed from your community?							
Model IV							
4 (Constant)	1.101	.061	.	17.926	.000	.980	1.221
Express your opinion on the sanitation of your surroundings.	.150	.030	.229	4.989	.000	.091	.209

Model II and III shows the relationship between the hygiene practiced at home by the respondents and their opinion about the level of sanitation in their surroundings. The result is empirically a moderate one but it is not a basis to conclude that the surrounding environment is hygienic. The standard of personal hygiene is said to be dependent on the sanitary facilities and the waste management authorities available in enforcing policies and directives as regards maintaining a healthy environment. It can be inferred that personnel should be put in place to monitor and supervise the sanitation practice. Also good sanitary infrastructures should be provided; this includes good public toilet facilities, proper drainage, good water and well-engineered dumpsites that will be maintained effectively.

Model IV displays that there is no connection on the frequency of waste disposal and the sanitation level experienced within the environment. This can be buttressed further by the inconsistency in time of collection of waste by government waste managers as shown by information obtained from the respondents through the questionnaires administered. The results suggest that frequent collection of wastes should be maintained for effective waste management. Field observation and information from the focus group discussion tell that respondents patronize private waste collectors because of the government's inefficiency in collection of the waste generated.

5 CONCLUSION AND RECOMMENDATION

Results of the study showed that there is no connection between institutional policies and the people's sanitation practices in the communities and more so, the management practices in most communities expose the inhabitants to unnecessary health risks. This has put a challenge on sanitation effort at reaching the Millelium Development Goal (MDG) target. In addition, lack of sustained, effective and safe services is common experience for most parts of the communities and has resulted into a high prevalence of water and sanitation related diseases, causing many people, children in particular, to fall ill. It is therefore recommended, that a sustained cooperation be developed among all key actors (government, waste managers, public health workers and inhabitants) so as to implement an economic, sustainable, safe and reliable sanitation strategy and practices. This should not only be limited to legislation and policy formulation but also in its monitoring and enforcement. In addition, there is need for sensitizing the general public and raising their awareness level on environmental risks associated with poor sanitation practices.

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