

Environmental Sanitation Practices: Residents' Involvement in Ilesa, Nigeria

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ABSTRACT

This study examined residents' involvement in environmental sanitation in Ilesa, Nigeria. Using multistage sampling, six political wards were selected: three from the high-density area, two from the medium-density area, and one from the low-density area. In all 300 copies of the questionnaire were administered. Data obtained were analysed using percentages and the Pearson correlation. This was with a view to suggesting policy response capable of enhancing healthy environment in the city and others with similar background. Information on the kind of toilet available revealed that 50.9% used flush toilet, 30.1% used pit latrine while 19.0% had no toilet. Likewise, there is paucity of public toilet in the city as 5.0% of the residents claimed availability of public toilet in their neighbourhood while 95.0% said public toilet was not available in their neighbourhood. Furthermore, the agencies responsible for environmental management were found to be wanting in some key functions with implications for healthy living in the area. Based on the findings, policy recommendations are proffered to enhance environmental friendliness in the city.

Keywords: Environmental, Sanitation, Involvement, Hygiene, Health

1.0. Introduction

Environmental sanitation is a set of actions or a fundamental process of collecting and safely disposing all kinds of waste within the environment with the intention of protecting and promoting the individual health and quality of life of communities. Environmental sanitation generally includes the provision of facilities and services for the safe disposal of waste, the maintenance of hygienic conditions and the prevention of diseases (WHO, 2017). So it is a key public health intervention that is essential for social and economic development especially in developing countries. This leads to the improvement of health, well-being and economic productivity and benefits the individual, household and community through the provision and practice of adequate sanitation, good hygiene and the use of safe water (WHO/UNICEF, 2013; Mara *et al.*, 2010; Duru *et al.*, 2017).

Furthermore, environmental sanitation refers to efforts or activities aimed at developing and maintaining a clean, safe and pleasant physical environment in all human settlements towards the promotion of social, economic and physical well-being of all sections of the population (Acheampong, 2010). It comprises a number of complementary activities, including the construction and maintenance of sanitary infrastructure, the provision of services, public education, community and individual action, regulation and legislation (Federal Ministry of Environment, 2005).

Traditionally, residents' interest in environmental sanitation is not new to the African society. African societies possess indigenous knowledge system which promote and facilitate effective and sustainable environmental sanitation and community health. In Nigeria, an African country, experience of rapid urban population growth has been accompanied by unsanitary and unhealthy environmental

conditions. The rate of access to basic environmental amenities is decreasing at an alarmingly rate and this poses severe urban environmental challenges. This has led to increased national consciousness on the need for judicious management of the Nigerian environment in a sustainable manner. The resort has notably been the monthly environmental sanitation exercise since 1984 during the military regime of Major General Mohammed Buhari. The last Saturday of the month between 7am to 10 am was mandated to be the period of the exercise. During the period, no commercial or social activity was allowed and all forms of movement (vehicular and even pedestrian beyond reasonable distance) were outlawed.

On the other hand, the capacity of community participation to ensure effective and sustainable environmental sanitation has been well documented (Hueting, 1980; Blaikie and Brookfield, 1987; Narayan 1995; Fiorino, 2000; Chess, 2000; Prizzia, 2005; UNEP, 2005; Acheampong, 2010). In this regard, community participation is a process by which people are enabled to become actively and genuinely involved in defining the issues of concern to them; in making decision about factors that affect their lives; in formulating and implementing policies; in planning, developing and delivering services (Daramola, 2011).

From the foregoing, the issues of environmental sanitation are not only technical or legislative, but more of socio-economic (Hueting, 1980; Blaikie and Brookfield, 1987). Thus, understanding such factors affecting the collective action is crucial to any efforts aimed at championing environmental sanitation. It is in conformity to this that UNEP (2005) recommended community participation in environmental sanitation by encouraging local participation in defining problems and solutions. The international body opined that community participation calls for people to collaborate with the government to accept equal responsibility in planning and management of their local environment.

However, the questions begging for answers are how this has regulated responsibilities been able to complement the traditional approach of the people and how holistic and effective is this approach in achieving sustainable environmental sanitation practices rather than the forceful top-down approach of environmental sanitation exercise? The thrust of this paper, therefore, is to assess the participation of the community people in ensuring sustainable environmental sanitation practices in an African traditional and emerging city.

2.0. Literature underpinning

2.1. Interface of community participation and environmental sanitation

Several studies have been carried out on community participation. The concept has been studied in relation to urban watershed management (Phuong, 2002), local health and sustainable development (WHO/UNICEF, 2000), waste management (Muller *et al.*, 2002; Mwaikambo, 2005), community policing (Skogan, 1995), sustainable soil and water conservation management (Yihdego, 2004) urban regeneration (Muir and Rhodes, 2007), dengue vector control (Vanlerberghe *et al.*, 2009), among others. In these views, communities are seen as homogeneous and harmonious units, where the members are considered to have the same priorities and concerns. Most of the time, the community is considered to be capable of acting collectively towards common environmental interests (Mwaikambo, 2005).

Community participation has worked miracles in urban environmental sanitation (Acheampong, 2010). Due to increasing awareness among both the urban population at large and the local governments, increasing emphasis is being endowed upon community participation as a measure to curb environmental problems. In the words of UNEP (2005), community participation calls for people to participate in planning, implementing and managing their local environment. It means a readiness on the part of both local governments and the citizens to accept equal responsibilities and activities in managing their surroundings. According to Prizzia (2005), in the context of urban environmental sanitation, there is the need to reconcile differences in perspective to achieve a balance of increased participation, greater expertise, and efficiency in the decision-making process.

Moreover, community involvement by local residents can result in the collective transition from victims to agents of change (O'Rourke and Macey, 2003). Thus, urban environmental sanitation needs

the participation of all in achieving its priorities of healthy and hygienic environmental conditions by addressing the prevailing problems of inadequate water supply, poor waste disposal, blocked drainage and inefficient sewage systems. And while government, especially at the local level, attempts to salvage the ugly conditions, the contribution and participation of the community cannot be underrated.

2.2. *Environmental sanitation practices in third world nations*

In Nigeria, as common to most third world countries, the use of legislation has been dominant in securing the public participation in environmental sanitation. For instance, Adewunmi (2004) in his review of environmental sanitation laws of Lagos State of Nigeria observed that there is plethora of legislations aimed at regulating activities concerning the environment in the State. However, he affirmed that a cursory look at the various provisions of the laws shows that they favour punishment without any recourse to moral percussion in the implementation of the laws.

In the words of Olupohunda (2011), the monthly environmental sanitation exercise in Nigeria is a quick fix policy; one of the many “immediate effect” pronouncements of the military. He queried the decision to set aside just one day of the month to clean the environment and argued that the practice gives an impression that you can mess up the environment for a whole month and then clean the whole dirt in one day. He further stated that the effectiveness of the exercise is reflected in sweeping dirt into mountainous pile and scooping dirt and blackish sand from stagnant drainage of blackish waters for them to be swept back into the drainage creating a vicious circle of dirt to be scooped again in the next Environmental Sanitation Day.

Also, the incidences show that, apart from the fact that Nigerian version of environmental sanitation exercise is mainly on periodic solid waste disposal and cleaning of drains, the Nigerian case of community participation in urban environmental sanitation rests more on compliance rather than willingness. However, there is no gainsaying that any environmental sanitation approach needs community participation in order to ensure its success and effectiveness. When a law is made, government and law making bodies should strive to equally make obedience to that law as easy as possible and make the people cultivate a culture through the law. As such, achievement of sustainability will result from the transition of local residents from victims of laws to agents of change.

3.0. Methodology

3.1. *Study Area*

Ilesa is one of the major cities in Osun State, Nigeria, Sub-Saharan Africa. It is located between Latitude 7°48' and 7°6' North of the Equator, and Longitude 4°5' and 4°7' East of the Greenwich Meridian (Figure 1). The city is about 32 kilometers north of Ile-Ife with which it shares the same senatorial seat in the Upper National Legislative Chamber, and about 30 kilometers southwest of Osogbo, the Osun State capital (Adetunji, 2010). Two local government areas have their headquarters in Ilesa: Ilesa East and Ilesa West Local Government Areas. They have 11 and 10 political wards, respectively. As such, in all, Ilesa boasts of 21 political wards. There are three residential zones in Ilesa as identified by Adetunji and Aloba (2013). They are high-, medium-, and low-density residential areas.

The high-density area houses low-income earners and is situated at the core of the city. This is followed by the medium density areas where the middle-income earners reside in Nigeria. High-income earners reside in the low-density area, an area located toward the outskirts of the town (see Figure 2). The population of Ilesa, according to the 2006 population census figures, was 210,141 (National Bureau of Statistics, 2008).

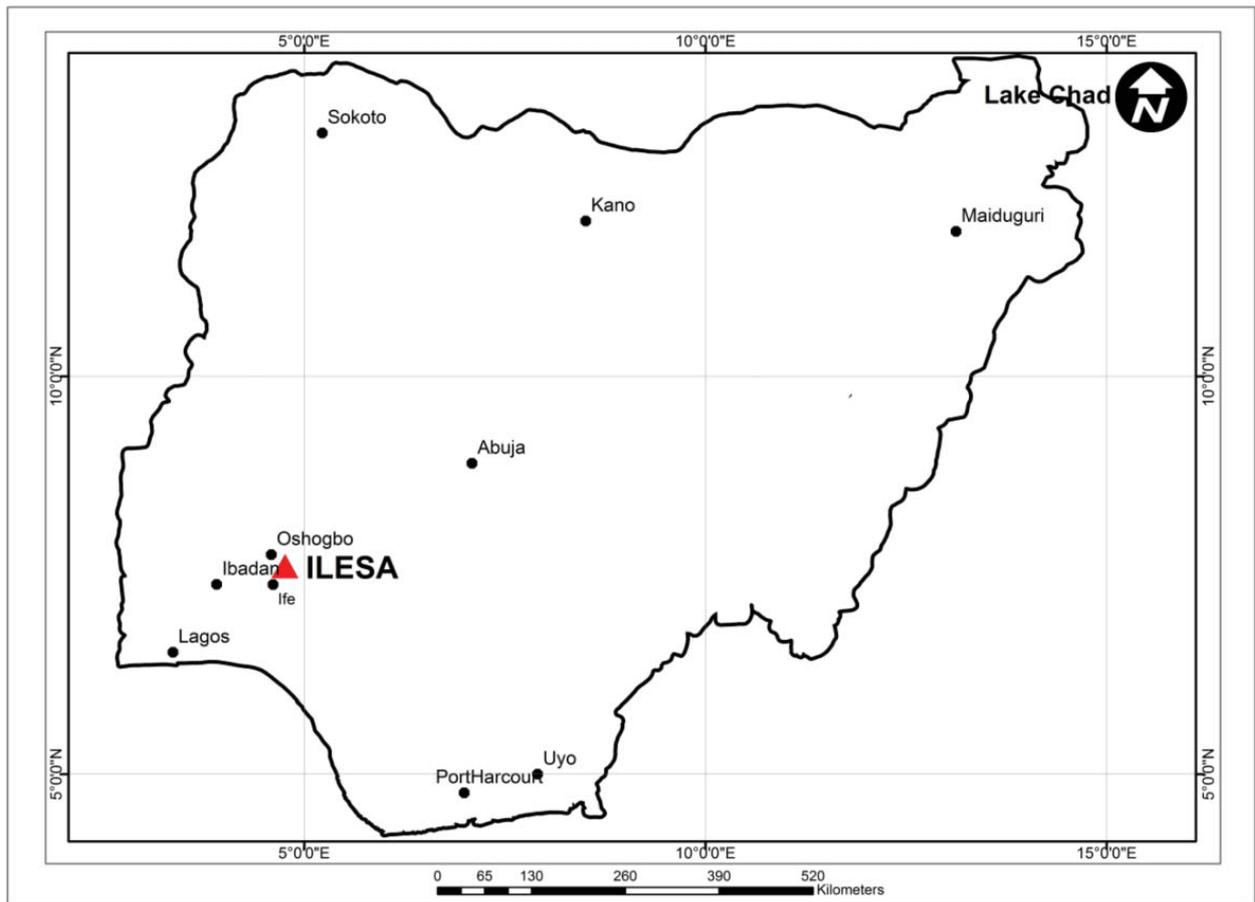


Figure 1: Ilesa and selected major cities of Nigeria
[Adapted from Olojede and Daramole (2016)]

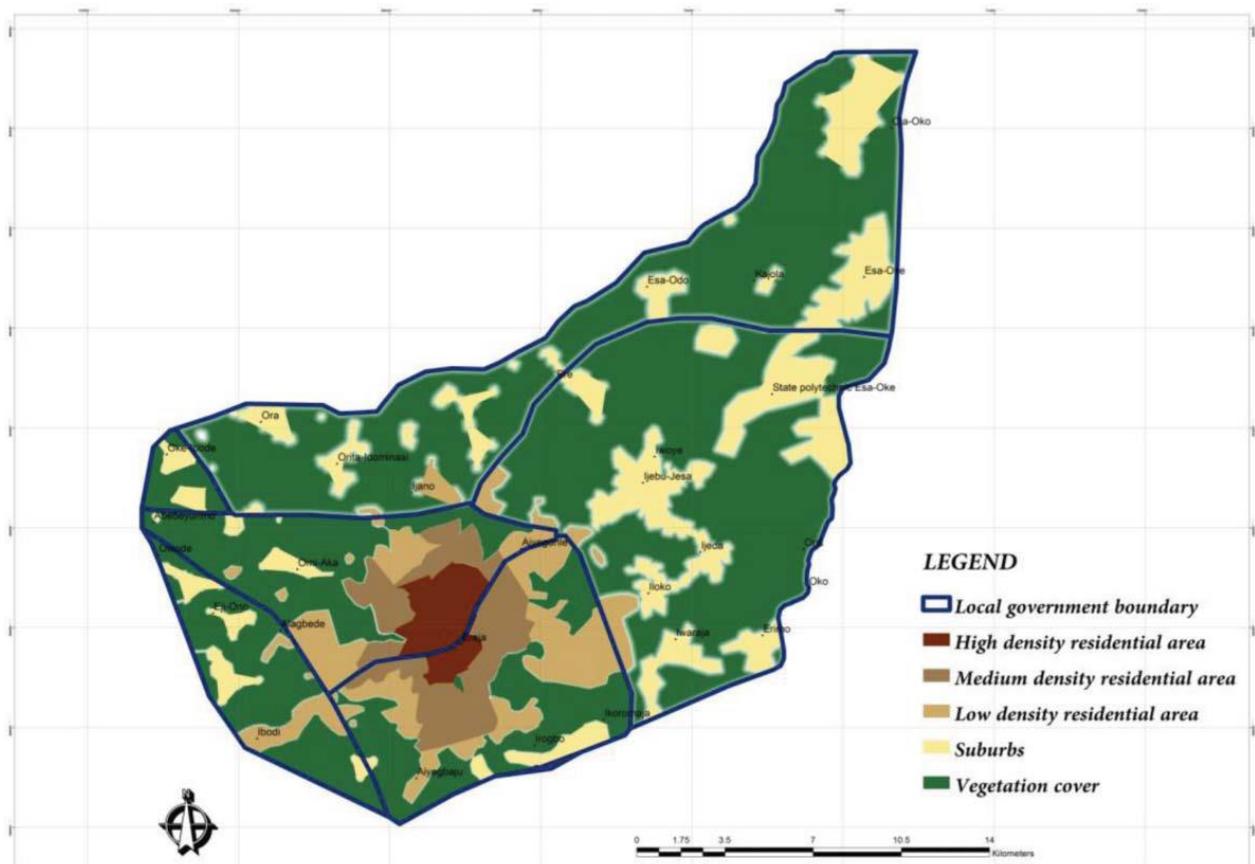


Figure 2: Residential density zones in Ilesa
[Adapted from Olojede and Daramole (2016)]

3.2. Sampling procedure

Neither the number of houses nor the number of households in Ilesa is available. However, the 21 political wards in the city have been grouped into three homogenous residential zones: 12 wards are in the high-density residential area, five wards are in the medium-density residential area, whereas the remaining four wards are in the low-density residential area (Figure 2). For the purpose of this study, one in every four political wards was selected by residential density. As such, three high-density wards, two medium-density wards, and one low-density ward were randomly selected for the survey. The wards selected from the high density area are Okeiyin/Okeese, Orinkiran/Ibosinni and Ogbonarugbo/Isare; the wards selected from the medium-density area are Ilaje and Okeomiru; whereas Imo was the ward selected from the low-density area. From each selected ward, 50 households were randomly selected without replacement. Thus, 300 households in Ilesa were covered by the study. However, 286 of the questionnaires were successfully retrieved. These were the ones deemed duly completed and found consistent going by the objectives of the research. As such, the response rate was 89.3%. In each household, a household head that showed interest in the study was randomly selected for questionnaire administration. Where no household head was available or willing to participate, an adult was randomly selected. However, no respondent was younger than age 18, the statutory age of majority in Nigeria.

4.0. Results and Discussion

4.1. Socioeconomic characteristics of residents

Presented in Table 1 are the socioeconomic characteristics of residents in the study area. In terms of educational attainment, 6.3% had postgraduate education, 42.3% had either higher national diploma or first degree, 27.6% had national diploma (ND), a level or national certificate in education (NCE). In addition, 20.6% had secondary education, whereas the remaining 3.2% had primary education. This shows that Ilesa residents are to a large extent educated. As such, issues on environmental sanitation would be appreciated and prioritized by them. Further, Table 1 shows the occupational distribution of the residents and this indicated that 18.9% were students, 32.5% were civil servants, 17.5% were artisans, 28.3% were engaged in business, whereas the remaining 2.8% were retirees/pensioners. Hence, it can be deduced that Ilesa is predominantly a civil service town. With a landslide proportion of 64.9%, households that had between four and six members were more common than households with large sizes in the study area. Households within the one to three brackets were 16.9% while those with seven to nine members were 11.5%, whereas households with more than nine members were 5.7%. Information obtained on average monthly income of the residents shows that the largest proportion (51.4%) of the residents earned less than ₦26,000 naira on a monthly basis. 33.2% earned between ₦ 26,000 and ₦ 50,000 naira, 27.3% earned between ₦ 51,000 and ₦ 75,000 whereas another 4.1% earned between ₦76,000 and ₦100,000 naira monthly. Only 1.0% earned more than ₦100,000 naira monthly.

Table 1: Socio-economic characteristics of the respondents

Variable	Number	Percentage (%)
Level of Education		
Primary education	9	3.2
Secondary education	59	20.6
ND/NCE/A-Level	79	27.6
HND/First degree	121	42.3
Postgraduate	18	6.3
Occupation		
Schooling	54	18.9
Senior	8	2.8
Civil service	93	32.5
Business	81	28.3
Artisanship	50	17.5
Age		
< 31	14	4.9
31 – 40	133	46.5
41 – 50	91	31.8
51 – 60	31	10.8
61 – 70	15	5.2
> 71	2	.8
Household size		
< 4	33	11.5
4 – 6	183	64.9
7 – 9	48	16.9
> 9	16	5.7
Monthly Income		
< 50,000	147	51.4
50,000-100,000	95	33.2
101,000-150,000	78	27.3
151,001-200,000	12	4.1
> 201,001	3	1.0
Total	286	100.0

(Source: Authors' Field Work, 2018)

4.2. Relative satisfaction of residents with environmental sanitation exercise

Table 2 reflects the perception of the residents based on their satisfaction level with the monthly environmental sanitation exercise in the city. According to the table, timing has the highest level of satisfaction with 30.1 percent. This is followed by effectiveness (23.8%), conduct (22.0%), facilities provided (19.9%) and community involvement (15.4). This implies that that the element with the least frequency of relative satisfaction index will have the highest frequency of relative dissatisfaction index and vice-versa.

Table 2: Residents' relative satisfaction with elements of environmental sanitation

Sources of water	Satisfied	Not Satisfied	Total
Timing	86 (30.1)	200 (69.9)	286 (100.0)
Conduct	63 (22.0)	223 (78.0)	286 (100.0)
Effectiveness	68 (23.8)	218 (76.2)	286 (100.0)
Community involvement	44 (15.4)	242 (84.6)	286 (100.0)
Facilities provided	57 (19.9)	229 (80.1)	286 (100.0)

Note: Figures in parentheses are row percentages.

Source: Field Survey, 2018

4.3. Residents environmental sanitation practices

Investigation was carried out on provision of facilities and services required for environmental sanitation practices both at the household and neighbourhood. These include water supply, toilet facilities and waste and storm water sewers and solid waste disposal. Information revealed that only 26% of the residents had water supply inside their houses/yards while 73.2% did not. Also, as contained in Table 3, findings established that 47.9% of the respondents had access to private well, 26.9% of the respondent had access to private bore hole while 5.6% of the residents used rain or river water. It was revealed from the result of the analysis that 9.8% of the respondents had access to tap water while 1.8% of the residents had access to water from the vendor.

Table 3: Source of water in the neighbourhood

Sources of water	Frequency	Percentage (%)
Rain/river	39	13.6
Water vendor	5	1.8
Tap water	28	9.8
Private bore-hole	77	26.9
Private well	137	47.9
Total	286	100.0

Source: Field Survey, 2018

Information on the kind of toilet available revealed that 50.9% used flush toilet, 30.1% used pit latrine while 19.0% had no toilet. Likewise, there is paucity of public toilet in the city as 5.0% of the residents claimed availability of public toilet in their neighbourhood while 95.0% said public toilet was not available in their neighbourhood. Recalling, most of the residents did not have access to public toilet; findings discovered that there are cases of open defecation (84.2%), especially by the children, in the study area. This is explained by the reasons given by the residents as established in Table 4. It was discovered that cases of open defecation was due to inadequate number of toilet (36.3%), poor condition of toilet (31.1%), no toilet (22.4%), and inadequate parental care (11.2%).

Table 4: Reasons for open defecation in the neighbourhood

Sources of water	Frequency	Percentage (%)
No toilet	61	22.4
Poor condition of the toilet	89	31.1
Inadequate number of toilet	104	36.3
Lack of parental care	32	11.2
Total	286	100.0

Source: Field Survey, 2018

In the same vein, there are different means of solid waste disposal in the city. 1.0% of the residents said their wastes were collected by the Local Government, 2.6% said the State Government was responsible for the collection, 19.5% of the residents dump in the drain, 37.3% dump in any nearby river or stream, 33.5% of the residents burn their wastes while 6.1% dump theirs inside uncompleted buildings within their neighbourhoods. These findings show that there was no sustainable solid waste management in the city.

Findings on the providers of environmental facilities and services for the residents are summarized in Table 5. The issues considered are construction of sewers, solid waste collection, cleaning of sewers and street cleaning. As contained in the table, it is discovered that there is no specific body in the provision of these environmental facilities and services in the city. Also, it is discovered that both the state and local governments in the study area are not forthcoming in the provision. It is also shown in the table that the Community-Based Organizations (CBOs) and Non-Governmental Organizations (NGOs) are also passive in the provision. These results complement information contained in Table 5 that provision of facilities (like water) in the study area was from private source.

Table 5: Provider of environmental facilities and services

Facilities/services	Provider				Total
	State Government	Local Government	CBOs/NGOs	Private individuals	
Street cleaning	75 (26.3)	18 (6.3)	3 (1.0)	190 (66.4)	286 (100.0)
Cleaning of sewers	59 (20.6)	66 (23.1)	5 (1.7)	156 (54.6)	286 (100.0)
Sewer construction	68 (23.8)	26 (9.1)	9 (3.1)	183 (64.0)	286 (100.0)
Solid waste collection	34 (11.9)	44 (15.4)	7 (2.4)	201 (70.3)	286 (100.0)

Note: Figures in parentheses are row percentages.

Source: Field Survey, 2018

Spearman correlation analysis was used to determine the relationship between the access to environmental variables such as sources of water, means of solid waste disposal, kind of toilet available for the residents and cases of defecation in the neighbourhood and variables such as residential zones of respondents, their housing type, and income. This is summarized in Table 6.

Table 6: Relationship between residents' characteristics and access to water

	Income	Household size	Number of years in school	Distance to water point	Number of household using toilet	Number of weekly waste collection
Income	1.00					
Household size	.021 567	1.00				
Number of years in school	-.075 459	.005 .884	1.00			
Distance to water point	-.103 .050	-.241** .075	-.014 .125	1.00		
Number of household using toilet	.103 .150	.241 .086	.017 .543	.013 .411	1.00	
Number of weekly waste collection	-.108 .039	-.195** .000	-.124** .005	-.045 .125	.041 .113	1.00

*. Correlation is significant at the 0.05 level (2-tailed).

** . Correlation is significant at the 0.01 level (2-tailed).

As contained in Table 6, it is discovered that income only has significant relationship with distance to water point and number of households using a toilet. This shows that regardless of the income of the residents in city, they all had formal education, had similar household sizes and practice similar waste disposal methods. Significant relationship also exists between number of years the residents spent in school and the distance of their residents to water point and the number of toilets available for their households. This indicates that those with higher education in the city have better access to water supply and sanitation more than others. Whereas, reverse is the case for other waste collection. Likewise, there is positive significant relationship between number of households using a toilet and household size revealing that the higher the household size in the area, the higher the number of toilets available for the household.

5.0. Conclusion and Recommendations

This study has attempted to assess the participation of community people towards the achievement of sustainable environmental sanitation in Ilesa, Nigeria. It is discovered that the main approach towards environmental sanitation in the city is the weekly or monthly environmental sanitation exercise. This, however, was not satisfactory to the residents in terms of its conduct, effectiveness, timing, facilities provided and community involvement. This implies that the sustainability of environmental sanitation in the city was based on legislations and compliance monitoring. Evidences of reliable systems with recourse to community involvement by involving residents or collaborating with Community-Based Organizations (CBOs) in environmental sanitation are scarce; the exercise was tantamount to clapping with one hand. Also, findings showed that the community people were not empowered through the provision of required facilities and services for environmental sanitation practices. Thus, the residents' level of participation in environmental sanitation was reduced by government.

So, what is the modus operandi proposed by this papers? It is that we can have it both ways in the city; we can clap with two hands.

1. Environmental sanitation laws need to be rigorously enforced. In fact, if need be, scapegoats should be made of some people to serve as a 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. On the other hand, the involvement of bottom-top approach characterized with community involvement must be a sine qua non without which the sustainability of urban environmental sanitation is hanging. In achieving this, the following recommendations are proffered.
2. There is a need to establishment a system that will ensure joint decision and cooperation of both the government and the citizenry and capable of mobilizing support and improving community confidence for sustainable environmental sanitation practices.
3. In support of this, adequate provision of facilities and services should be ensured in the city. For instance, both the government and the community could provide suitable waste disposal baskets at convenient spots in the city so that people will not be tempted to litter the environment as it has been on several occasions. This must also include construction and

cleaning of sewers, regular collection of solid waste and adequate water supply must be ensured.

4. There is a need for environmental sanitation reorientation until it becomes a way of life. Environmental awareness and conscientiousness should be seen as a working process towards that end. The government has indeed done much through advertisement and the like to bring this to the people.
5. Government should enforce existing environmental sanitation regulations in order to sanction house owners without basic environmental sanitation facilities. Also, pro-environmental sanitation practices depend on effective environmental literacy.
6. It is also necessary to review existing environmental legislations with cognizance to people's socio-cultural background with a view to making them people oriented and friendly in compliance. This will complement the socio-cultural norms of environmental sanitation practices in the city. In the same vein, as the urban poor suffer disproportionately from environmental insults, their environmental problems and concern should be more heavily addressed in the development of policies and programs for provision of environmental services.

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