



## AN ASSESSMENT OF SOLID WASTE MANAGEMENT IN IKENNE LOCAL GOVERNMENT AREA OF OGUN STATE, NIGERIA

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**ABSTRACT: Background:** Sanitation has remained an important and long standing global public health challenge, especially in middle and low income countries. Efforts have been made, and are still being made at finding a total solution to the problems of waste management by successive governments in Nigeria, but none has been fruitful. This study assessed solid waste management in Ikenne Local Government Area of Ogun State, Nigeria. **Methodology:** For the purpose of this research, a qualitative approach was adopted. This approach employed the use of a Key Informant Interview (KII) and a Focus Group Discussion (FGD). The study was carried out in Ikenne Local Government Area, one of the existing local council areas in Ogun State, the Southwestern part of the country. Twelve personnel of the Water and Environmental Sanitation (WES) department of Ikenne Local Government Area were interviewed for the purpose of this study. The sample consists of the director, deputy director, three chief environmental officers, two senior environmental officers, and five field workers. **Results:** The respondents stated that there are just two collection trucks servicing the entire five communities. The stress placed on these vehicles would only last for a short while as they are liable to break down. The department also lacks personal protective equipment for health attendants, which ought to help them prevent infectious diseases in the course of performing their duties. Households from the three different communities have shown their dissatisfaction towards the services rendered to the communities by the WES department. They voiced out their displeasures during the focused group discussions where most of them said they are rarely served, even on environmental sanitation days. These options revolve around seeking a redress to institutional constraints. Lack of reliable funding system has affected a lot of functions that ought to be carried out by environmental officers. It all comes down to a single factor – fund. The provision of official vans for inspection purposes, collection trucks, manpower (skilled and unskilled) and other tools are all determined by availability of funds. **Conclusion:** The study was able to establish that institutional constraint is the major factor militating against solid waste management systems in Ikenne Local Government Area. Every finger points towards this direction and so also the institution admits to this fact. When there is no collection vehicle to carry wastes, the available ones can only serve a few of the population. This is not to say that manpower to collect wastes from households is less important, as they are needed to transfer the wastes into the trucks and also dispose of them, as the services rendered to the people.

**KEYWORDS:** Waste management, Assessment, Sanitation.



## INTRODUCTION

Sanitation has remained an important and longstanding global public health challenge, especially in middle and low income countries (Beaglehole & Bonita, 2008; Marmot, Friel, Bell, Houweling, Taylor, & Commission on Social Determinants of Health, 2008; Murray & Lopez, 1996). Waste is a function of human activity and wherever humans are found, there will always be products emerging from everyday activities (Samson, 2014). In developed countries, the major challenge of managing solid waste has shifted from ensuring minimal damage to public health and environment, to saving resources through recycling so as to preserve resources to the end that future generations are not deprived of these resources (Chandak, 2010). Unfortunately, developing countries on the other hand are still battling with the protection of human health and well-being with attempts to also conserve natural resources (Brunner & Fellner, 2007).

Efforts have been made, and are still being made at finding a total solution to the problems of waste management by successive governments in Nigeria, but none has been fruitful (Nabegu, 2008). The military administration of General Buhari saw that the environment was almost going to be covered with refuse that it initiated an aggressive campaign for environmental awareness and sanitation which was tagged 'War Against Indiscipline' (WAI) (Stock, 1988).

Task forces were set up to organize monthly sanitation/clean up days, public enlightenment campaigns, and to enforce environmental discipline through mobile sanitation courts. Some days of the month were set aside for everybody to clean up, to unblock drains, clean residential and work places, and remove heaps of refuse. Incentives were given to the cleanest state in order to encourage others. This approach witnessed an appearance of improvement in the environment's sanitation and waste management as well. Unfortunately, with the inception of a new regime, this system gradually faded as it was not a priority for the regime.

Drains are also not left out as they are often clogged with refuse and exude unpleasant odour. It is also not unusual to see heaps of refuse in major cities littering the streets (Akinro, Ikumawoyi, Yahaya, & Ologunagba, 2012), dumped in drains, vacant plots, and water bodies, and this has in many cases resulted in the spread of communicable diseases. According to United Nations Centre for Human Settlements (Habitats) (1996), the health of the inhabitants depends solely on how they manage their environment.

Millions of tons of solid waste are generated everyday in communities, leading to the problem of collection and disposal (Adewole, 2009). Urban waste management is drawing attention increasingly, as it can easily be observed that too much refuse is littering the streets while some are dumped in unauthorized places causing inconveniences, environmental pollution, and posing a public health risk (Nyang'echi, 1992; Zia & Devadas, 2008). These previously stated problems are also bedevilling Ikenne Local Government Area. Refuses can be seen littering road paths, dumped in drains, burnt in front of houses and desecrating the environs of grave yards, especially in Ilisan community. In Iperu, heaps of refuses dumped along the road beside the central market pose visible environmental problems as this has direct effect on market sellers and dwellers within that surrounding. The seriousness of the problem is conceivable especially with the supposed huge investment by the state government on solid waste management.



It is an undisputable fact that indiscriminate refuse disposal practices, resulting from ineffective solid waste management, pose a serious threat to public health (Aluko, 2012). These are evident in the incidences of health-related diseases from sanitation issues, leading to a concerning level of morbidity as well as mortality (Samson, 2014). These effects cut across gender and age as infants, adolescents and adults suffer from the dire consequences of this practice (Lukeman, Bako, Omole, Nwokoro, & Alakinde, 2014). It is very important to address and redress these issues in order to prevent loss of lives, environmental sanctity and economic values.

## **METHODOLOGY**

### **Study Design**

For the purpose of this research, a qualitative approach was adopted. This approach employed the use of a Key Informant Interview (KII) and a Focus Group Discussion (FGD). The study was carried out in Ikenne Local Government Area, one of the existing local council areas in Ogun State, the Southwestern part of the country. This local government area is dominated with farming and trading as the major occupation. It has its headquarters seated in Ikenne Remo and comprises 5 major towns which are Iperu, Ilisha, Ogere, Irolu, and Ikenne (Ikenne, 2021). Twelve personnel of the Water and Environmental Sanitation (WES) department of Ikenne LGA were interviewed for the purpose of this study. The sample consists of the director, deputy director, three chief environmental officers, two senior environmental officers, and five field workers. There were also forty-five (45) focus group participants for the focus group discussion. Five participants for each group consisting of men, women and youths, were admitted into this group.

The sampling technique for this study is a purposive non-probabilistic sampling technique. Selection of participants was based on those who gave their consent. The director, supervisors and field workers must have been working with the department for a year and above to confirm that they are conversant with the system. The households included men, women and youths residing within the local government area for as long as a year and above. The households were selected from the three sub-urban communities in the local government area because they have higher numbers of households which suggests that they have a higher likelihood of solid waste management issues.

### **Research Instrument and Data Collection**

The study made use of an in-depth key informant interview. To this effect, an in-depth interview guide was developed to elicit information from the various cadres in the water and environmental department of Ikenne LGA. The instrument used for data collection was a semi-structured focus group guide which was used to elicit information from the household level in order to validate responses from the WES personnel's interview. The guide includes questions on regularity of solid waste collection by the WES department, availability, accessibility and affordability of infrastructure for solid waste collection and disposal services, the willingness to participate in solid waste management through payment of fees for solid waste collection, and implementation of policy by the WES department in the communities.



In order to ensure timely collection of data, field assistants were recruited. Four field assistants—students from the Olabisi Onabanjo University—were trained in qualitative methods of interviewing and focus group to better equip them for their respective roles. The team, including the researcher, served as facilitators, observers, recorders, note takers, and time keepers while conducting the interviews and Focus Group Discussion (FGD). These field assistants were also fluent in English and Yoruba Languages.

### **Study Variables**

The independent variable in the study is solid waste management among Ikenne residents. The dependent variable is the waste management practices.

### **Data Analyses**

The in-depth interviews and forum focus group discussion were audio-taped using a digital audio-recorder, and also complemented with written interview notes. The interviews were subjected to thematic framework analysis, which allows researchers to identify similarities and differences in the qualitative data, before focusing on relationships between different parts of the data. In addition, a codebook was developed in order to group information according to main themes and sub-themes.

### **Ethical Clearance**

An application for ethical approval for this study was submitted to the Babcock University Research Ethics Committee. The purpose of the study was explained to all participants, after which verbal consent was given by each participant, while they also signed the consent forms. All participants were assured of anonymity and the confidentiality of the information received from them. Permission was also requested from the director in charge of the Ikenne LGA WES department.

## **RESULTS**

### **Presentation of Result Using Thematic Approach**

#### **Theme One: Availability of Infrastructure for Solid Waste Collection**

##### **Sub-theme 1: Number of Health Attendants (Waste Collectors) Serving in the Local Government Area**

All the 24 respondents from the WES department of Ikenne LGA revealed that the number of available health attendants had reduced from a meagre number of 13 to an alarming 7 in the whole of the local government area within the past year. According to another respondent, “the 7 health attendants are evenly distributed across the local government area of Ikenne with “Ikenne – 2, Iperu – 3, Ilisan – 1, Irolu – 1.”



...the attendants are about 13 but within last year and now some of them retired and we have about 7 now to work with us. They are evenly distributed to all the five LGA (KII: Director, WES department).

The 7 health attendants revealed that at present, the job has become too strenuous for them as they are not only few in number. They revealed that some of them who are still in service are actually due for retirement, as they are also aging.

If you go to the market, you will see some Hausas clearing the refuse there. We are supposed to be the ones clearing them but our supervisors saw that it will be too strenuous on us, so they went to hire the Hausas. As you can see, Baba (referring to his senior colleague beside him) is already aging and can't do much anymore with his age (KII: Health Attendant, WES Department, Iperu Area Office).

With these numbers of health attendants (7) serving the five communities, it is conceivable that these communities are not well served. This can be observed from some of the responses of the focus group discussion participants, who maintained that they have never seen the local government waste collectors since they became residents of that area.

If at all they are functioning, I have never seen them before in my area.

### **Sub-theme 2: Number of Collection Vans and Other Equipment**

The respondents discussed and expressed their opinions concerning the available equipment for solid waste collection and disposal. Most of them responded emotionally to the issue of equipment as they are very short of these. There are two (2) available trucks for collecting and disposing wastes from within the local government area; "one (1) of them was lent to us by the government, so it is not for the department. Even presently, we only have one truck functioning, the other is under repair and we alternate the trucks across the local government area and also on demand by the area offices." When these trucks are overused, since just two of them serve the five communities, they wear off and eventually break down.

All the twenty-four (24) of the respondents expressed their concern towards the government's lack of show of interest towards their functionality by not making provision for equipment in the local government area. Apparently, aside lack of collection vehicles, the department lacks protective equipment which are meant to be used when they are on the field rendering their services to the communities. Simple tools for clearing, collection and disposal are not available while the available ones are already worn out.

We hardly possess enough equipment since government is not supporting the organization like before. Now we barely have enough garden folk, rakes, shovels and head pans in store. And nowadays, the officers do buy some tools for the health attendants to work just to keep the work going (KII: CEHO, WES Department Ikenne Area Office).

Thus, there is barely infrastructure in place for environmental health officers in the LGA, which provides insight into how much service they will be rendering to the communities and the reactions thereafter from the end users of these services.



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## **Theme Two: Accessibility to Solid Waste Management Infrastructure**

### **Sub-theme 1: Collection Service in Place**

Only six (6) of the twenty-four (24) respondents disclosed that they go round the communities on sanitation day: “Every month, we have the environmental sanitation activities and in all we use almost 25 trucks for all the 5 towns.” They also serve the communities on the Thursdays that fall on market days. Invariably, their crucial service period is last Saturdays and any Thursday that happens to be the market day.

It has been our practice that every Saturday our vehicles go round to collect refuse. After market sanitation, our officials make request from the local government area on the vehicle available whenever they want to go out and collect the refuse (KII: Deputy Director, WES Department, Ikenne LGA).

Just seven (7) out of the forty-five (45) focus group participants confirmed these responses that the waste collectors come around their vicinity during these periods but still do not do a clean job to collect all the waste. This service rendered might have been confirmed because some of these participants reside within the market.

My place, that side they come every environmental day to come and pack the dirty and sometimes Thursdays that fall on market day, but they don't pack all the dirty there. Because of what we have there, they can come for one trip and some dirty will still remain. We later pay truck pushers to pack them for us because after a while, the refuse start smelling all over the place (FGD: A woman, representative of households in Ilisan-Remo).

Other than the Thursdays that fall on market days, and that of the last Saturdays, thirty (30) of the forty-five (45) participants confirmed that they do not see the waste collectors on other days.

We use them but they only come on sanitation days and when they come, they don't pack all the dirt. Other times when the dustbin is full, we throw it away along the road (FGD: A male youth representative of households in Ilisan-Remo).

Also, there are twenty (20) other categories of participants who revealed they have never set eyes on the waste collectors. These participants are not just from one community but the three communities participating in the focused group discussion.

Well, from my area the place I'm living, they are not reaching that side. So we used to go far away along the bushy area to dump our refuse. What we normally do is that there's a designated cite whereby after we collect the refuse from the bins, we go there to dispose them; after a while the place will be burned. There's nothing like ... on a very good day unlike what happens in Lagos whereby there is a vehicle going street by street collecting refuses; it's not done here. We just gather them in the nylon and from that nylon we take them although a little bit far from the place; then we burn them (FGD: A man, representative of households in Ilisan-Remo).

Another respondent shed more light on the services rendered to one of the community. He revealed that the community is divided into units and one or two of the units are served in a week.



We normally collect refuse from house to house; many times we go out for the collection; we normally try our best to reach them because within the ward we have units. Within a week we try to cover at least one or two because people always store their waste at home; it is only on sanitation day they bring out their refuse because that is the day we hire tippers and all equipment needed for the job.

The standard for the collection has a lot problem because, though we have two waste vans, but one is working in this Ikenne Local Government Area especially in this Iperu area; the available dump sites are far away from the community; that is the only available refuse van for the five towns; it is not easy for a vehicle to be working to be in towns at the same day, it has been the largest town within the local government. Well, we have three wards; we cannot finish one ward within a week for the collection, so we have challenges: no available van and refuse collector (KII: CEHO, Iperu Area Office).

This bears that some units are well served: “In my own house, we do use the local government and they do come regularly,” some others are not well served: “we gather the dirt into a sack and we dispose it through the local government collectors on the last Saturday of the month. And sometimes if the local government collectors don’t show up, we dispose to the private waste collectors and we pay,” while some are not served at all since only one truck serves the five communities.

### **Sub-theme 2: Level of Satisfaction of Solid Waste Collection**

The different key informants rated their services to the community on a scale of 1 to 5, with 1 being the lowest and 5, the highest. In Iperu area, the chief environmental health officer in charge rated their service 4, the principal environmental health officer rated it 3 while the two health attendants rated it 4. The chief environmental health officer in Ilisan, on the contrary, rated their service in Ilisan area as 2 while the senior environmental health officer rated it 3. The chief environmental health officer in Ikenne area rated their service 3 and so also did the two health attendants.

Some of the respondents expressed that as a result of the existing constraints in the department, service delivery can only be based on their capabilities using the available equipment.

I make sure the vehicles go out everyday to collect refuse, even in the market. The problem may be that we may not give them all total; there may be not 100% good but so far we are going there; I think it reduces our burden of refuse collection on the sanitation days. Because of the situation at hand, let me pick 3; don’t let me say very good because we are still getting better. But, you know, if the constraint is removed today all that we requested, the money is available, things will be better (KII: Director, WES Department, Ikenne LGA).

On the contrary, most of the responses from the key informants were not reflected in that of the household participants. A participant responded to the question on satisfaction with the waste collection services of the local government area with an emotional outpour:



No! I told you they don't come to our own side. They have not been coming so how am I going to be satisfied? They have not been coming at all (FGD: A man representative of households in Ilisan-Remo).

### **Sub-theme 1: How is Solid Waste Management Financed in the Local Government Area?**

All the respondents complained bitterly concerning the finance system of the government. The government finances the department in the running of their day to day activities through the local government but the funds are not regular and they are not enough to carry out their duties. This in return impedes the smooth running of the department.

No funding ... the major program we do now is only on monthly environmental sanitation. No money is given to us for any other thing; to maintain the vehicle we are even using is by force ... I'm telling you. If I tell you how much I spend on sanitation compared to other local government, it will wonder you but I just want to ensure that my own time, things have changed. There are some times I need to use my own money to do some things when I know there is a big danger because people will be talking and they may not know what you are facing. So there is no money! No money is given to the local government because they are even struggling to pay our salary. So money is the major issue and one thing about environmental health is that prevention is better than cure. If the money is given, there are lots of problem that we are going to avert and remove from the community because when you prevent accumulation of waste, there will be no spread of diseases; when you have clean water, there will be no cholera or epidemic of typhoid fever. Then when you ensure that there is no pollution of air, which can even come from the generation of the waste, so if there is money available to maintain and there is distribution of waste bags to collect wastes, vehicles available for the collection of waste, the environment will have good air and then diseases will be far away from us but everything is not money.

It's even because of pressure from the local governments that they are even doing the sanitation; you will see the people that worked and you will have nothing to give them after working for three hours. It's discouraging, somebody working under the sun from morning till evening no water, no drink, and you can only do that where there is money. I believe if money can be given to the environmental department, we will use less money on curative, we will buy fewer drugs and people will sick less and then we can enjoy good environment. (KII: Director of WES Department, Ikenne LGA).

### **Sub-theme 2: Do You Generate Funds from Other Sources?**

Some respondents reported that funds are generated from few other sources. They come from penalties and charges placed on sewage disposals by schools mostly, which are not on a regular basis and so are not dependable.

We generate by collecting license some agencies, and for school health inspection and approval and during the environmental sanitation; if you are caught not observing the sanitation you find though, very soon, the local government will be collecting money for waste disposal because to maintain those waste is costing a lot of money, planning to register private waste collectors; they





will be paying to the local government for the maintenance of that dump site (KII: CEHO of WES Department, Iperu).

### **Sub-theme 3: How Are Funds Appropriated in Order to Encourage Accountability and Transparency?**

Some respondents reported funds are appropriated by the auditors from both the state and local government. They keep tabs on the amount of money spent and what they are spent for. Memos are also written by the department when in need of funds to execute one project or the other.

Ideally before taking any money from the purse of health team of the local government, you must write a memo that states all what you want to spend the money for: fueling, maintenance. You want to hire you have to state it because at times you want a bulldozer, we make sure the money is used for a particular item and then collect receipt for the payment; even the labour man have to sign the amount collected from us we have to account for everything, because the auditor will still audit it, both internal and external auditors (KII: CEHO WES Department, Iperu).

### **Theme Four: Policies Implementation**

#### **Sub-theme 1: What is Your View on Environmental Policy?**

Some respondents stated that the environmental policy is adequate but “the only one is with the law enforcement area; the fine is not being enforced as expected.” Another submitted that the policies are not congruent to specific geographical locations as different communities have peculiar issues that may not be related to another one. So also another stated that before policy can be developed, every necessary resource needs to be in place to make the people comply and participate in what the policy says.

*Policies are man-made. Each area has its specific problem; what is happening in Ota Local Government may be different from that of Ikenne Local Government. So that policy, we usually streamline them to be adapted to what is happening in your area. In applying policies, you need to look at the people, the environment where they live, the availability of resources; all these things must be put in cognizance. But we consider those things and we do it in a way that will benefit the people, so that they will accept it as part of them and continue even when we leave the place (KII: Director of WES Department, Ikenne LGA).*

#### **Sub-theme 2: What are the Issues of Environmental Policies, Regulation, and Law Enforcement?**

Some of the respondents raised worries concerning the implementation of the policy in place. These policies are pro-active ones in that one has to go to the field virtually everyday if such has to be implemented. But to do these, the resources needed to facilitate this process have to be in place. There are no official vehicles; the department is short of workforce as most of them are retired without replacement.

*There are a lot of problem in this country, when we make policies to implement those policies is a problem, we have a lot of environmental policies but to practice it is another problem; at times*



*there are many policies like the waste management policies. You can see that the federal government is the policy maker while the local government help to implement those policies; they make policies; they will not give necessary organ of government to implement the policies. Like this Ogun State, you see the ministry of environment, ministry of health and other agency taking over the functions of the local government. Ideally, it is the local government that is suppose to implement the policies; you see government buying a lot of tippers, lorries, instead of assisting or giving the equipment to the local government. Now they have taken over the functions of the local government because if you go to major towns in this Ogun State, you see a lot of waste dropped along the road dividers and their vehicles will now be carrying the waste, for somebody to be at the headquarter trying to control some cities within the local government. The local government are on ground; they are the one that is close to the communities; they are the one that knows, not somebody at the headquarter will want to control waste; because of that, we have been having problem. The state will buy all this equipment instead of them to give it to the community; they will want to control it by themselves.*

Some of the policies include house-to-house check to ensure sanitization of every surrounding, ensuring that there is sanitation exercises every Thursday in the markets, making sure the culverts are free of wastes to prevent clogging and eventually flooding, prosecuting environmental law offenders and most importantly, organizing sensitization programs on environmental hygiene.

But it was discovered that these programs and other activities hardly take place. Most of the participants claimed they have not spotted any environmental health officer in their vicinities and “don’t even know them. Even the law I told you that I heard of, I read it. It’s not as if they came to give it. I’ve not seen them, let’s be sincere with ourselves,” while some said they do not know them at all.

## **DISCUSSION**

The structures available for solid waste collection have to do with manpower and collection equipment. The respondents stated that there are just two collection trucks servicing the entire five communities. The stress placed on these vehicles would only last for a short while as they are liable to break down. There are also seven health attendants which are not enough to serve a ward in a community, let alone five communities. The department also lacks personal protective equipment for health attendants which ought to help them prevent infectious diseases in the course of performing their duties.

Households from the three different communities have shown their dissatisfaction towards the services rendered to the communities by the WES department. They voiced out their displeasures during the focused group discussions where most of them said they are rarely served, even on environmental sanitation days. As a result of this, many households resorted to other disposal options like burning, dumping in bushes, road parts, farmlands, close to cemeteries, culverts and very few others employ the service of cart pushers.



This buttresses the point made by Onwughara (2010), that in most developing nations like Nigeria, wastes are dumped indiscriminately on roadsides and any available open and inconspicuous place. This is not also far-fetched from those identified by Ezeah and Roberts (2012) and Beatrice and Jussi (2013): inadequate institutional facilities, shortage of expertise and manpower, collection vehicles, and financial resources, as the common factors affecting proper solid waste collection and disposal.

According to them, there is no funding from the government to help out with their work and even when this funds are given, they pass through so many processes before they are released. Most times, they are given inadequate funds and are expected to still perform by any means. The department makes little income from charges placed on environmental violators and sewage disposal which they most times use to fuel and maintain the trucks, tippers and bulldozers. According to Ezeah and Roberts (2012) and Beatrice and Jussi (2013), the financial factor remains the main constraint.

According to the interview, the respondents revealed that it is not about the policies or the regulations but the implementation of these policies. Igbinomwanhia and Ohwovoriele (2013) stated that the lack of effective legislation for waste management is the reason for the ambiguity displayed in the roles and functions of state and local waste management agencies. Hence, the problem of undefined roles and lack of coordination on the part of these agencies has to be abated as these have led to wastages in resources and depravity in solid waste management programs.

## CONCLUSION

In conclusion, the study was able to establish that institutional constraint is the major factor militating against solid waste management systems in Ikenne Local Government Area. Every finger points towards this direction and so also, the institution admits to this fact. When there are no collection vehicles to carry waste, the available ones can only serve a few of the population. This is not to say that manpower to collect wastes from households is less important, as they are needed to transfer the wastes into the trucks and also dispose of them. Mobility for field services like conveying monitoring teams and carrying out environmental health programs will definitely aid the services rendered to the people.

When enacting policies that mostly have to do with practice, every necessary resource needed to run it should be put in place before implementation can be possible. People will do the right thing where there are motivation and reinforcements. And so implementation and enforcement will be made easy and hitch-free because the people would not have to give such a reason as unavailability of a collection system for dumping their solid wastes.

It is my hope that with the skills and unique opportunity that Babcock University has provided me in the areas of health education and promotion, I can also offer my quota to help educate households on proper solid waste management and also advocate for these households at the helm of affairs in government to put healthy measures in place for solid waste management. This will



help reduce communicable disease burdens of several sorts, improve lives and strengthen the economy.

## FUTURE RESEARCH

Recommendations for future research include:

1. Central disposal points should be installed in strategic places where collection trucks do not frequent to reduce the burden on households, and also, the collection vans will not have to go through the stress of moving from house to house especially on bad roads which most times affect the trucks.
2. Financing is very crucial, and so, appropriate disbursement of funds is needed to run the affairs of solid waste collection management within the LGA.
3. Training and retraining of health attendants and environmental health officers is required to enhance efficiency and productivity.
4. Increase in the workforce is required to improve service delivery of solid waste collection within the local government area.

## REFERENCES

- Adewole, A. T. (2009). Waste management towards sustainable development in Nigeria: A case study of Lagos state. *Int. NGO J*, 4(4), 173-179.
- Akinro, A. O., Ikumawoyi, O. B., Yahaya, O., & Ologunagha, N. M. (2012). Environmental Impacts of Polyethylene generation and disposal in Akure City, Nigeria. *Global Journal of Science Frontier Research Agriculture and Biology*, 12(3), 1-8.
- Aluko, O. E. (2012). Environmental Degradation and the Lingering Threat of Refuse and Pollution in Lagos State. *Journal of Management and Sustainability*, 2(1), 217
- Beaglehole, R., & Bonita, R. (2008). Global public health: a scorecard. *The Lancet*, 372(9654), 1988-1996.
- Brunner, P. H., & Fellner, J. (2007). Setting priorities for waste management strategies in developing countries. *Waste Management & Research*, 25(3), 234-240.
- Chandak, S. P. (2010, March). Trends in solid waste management: Issues, challenges and opportunities. *In International Consultative Meeting on Expanding Waste Management Services in Developing Countries*, 1-12.
- Ezeah, C., & Roberts, C. L. (2012). Analysis of barriers and success factors affecting the adoption of sustainable management of municipal solid waste in Nigeria. *Journal of environmental management*, 103, 9-14.
- Lukeman, Y., Bako, A. I., Omole, F. K., Nwokoro, I. I. C., & Alakinde, M. K. (2014). Environmental Health Condition of Slum Dwellers of Ijora-Badia Area of Lagos State, Nigeria. *Academic Journal of Interdisciplinary Studies*, 3(4), 79.
- Murray, C. J., & Lopez, A. D. (1996). Evidence-Based Health Policy---Lessons from the Global Burden of Disease Study. *Science*, 274(5288), 740-743.



- Nabegu, A. B. (2008). Municipal solid waste characteristics in three residential zones of Kano metropolis. *Maidugri Journal of Arts and Social Sciences*, 6, 199-210.
- Nyang'echi, G. N. (1992). Management of solid and liquid waste. *Nairobi: AMREF*.
- Olufisayo, A.A. (2014). Solid waste management in Ado municipality, south-western Nigeria. *International Journal of Engineering Science Invention*, 3(1), 37-43.
- Olukanni, D. O., & Akinyinka, M. O. (2012). Environment, Health and Wealth: Towards an analysis of municipal solid waste management in Ota, Ogun State, Nigeria.
- Onwughara, N. I., Nnorom, I. C., Kanno, O. C., & Chukwuma, R. C. (2010). Disposal methods and heavy metals released from certain electrical and electronic equipment wastes in Nigeria: adoption of environmental sound recycling system. *International Journal of Environmental Science and Development*, 1(4), 290-296.
- Stock, R. (1988). Environmental sanitation in Nigeria: colonial and contemporary. *Review of African Political Economy*, 15(42), 19-31
- United Nations Centre for Human Settlements (Habitat) (1996). An Urbanizing World: *Global Report on Human Settlements*. Oxford University Press, Oxford.