

Impact of Informal Private Sector in Integrated Solid Waste Management (ISWM) In Ibadan, Nigeria - A Developing Country

Habeeb Lukman Adewale

Deecency Cleaning & Restoration, No 9, Ajibola Street beside CAC agbokojo, Ibadan

Tel: +234-805-253-3659, +234-703-378-2419, +234-805-984-7518. E-mail: deecencycleaning@gmail.com

ABSTRACT:

Solid waste management has to do with handling of solid refuse from their sources of generation and also one of the sources and causes of environmental pollution through storage, collection, transportation, recovery and treatment processes to disposal. Using this analysis and factor analytic approach, this independent study established that the relationships among significant assessment variables such as residential area type, employment status, monthly income, and size of waste generated and disposed are high, which indicate strong and positive relationships. The independent study also identified some underlying factors that influence the generation and disposal of house hold solid waste in Ibadan areas. Based on these, the study recommends for an effective, sustainable and proper household solid waste management in Nigerian urban areas, an integrated solid waste management system. This paper therefore, summarizes all important role of the informal private sector in Integrated solid waste management (ISWM) stream vis-à-vis waste collection, transportation, Recovery, recycling, job creation and poverty alleviation and reduction in line with Millennium Development Goals (MDGs) of sustainable development of the environment and reduce to half the world poverty level by year 2015.

Keywords: Determinants, Ibadan metropolis, regression, Waste contractors, Informal private sector, integrated solid waste management.

INTRODUCTION

Oyo state is one of the largest state in Nigeria with an expansive arable land area of 27,107.5 square kilometers, a working population of approximately 4.3million people, Gross State Product (GSP) of approximately 1.7billion dollars, per capita income of 276dollars, over 5 research institutes, and an estimated population of over 7.5 million people, blessed with more than 40 outstanding tourist sites, Oyo State appears to be capable of becoming the destination of choice for serious investment.

In the last few years, there has been a persistence positive changes in the solid waste management practice in Oyo State, most especially within the informal private sector participants. The state is presently divided into 33 local government areas (municipalities). It is pertinent to mention here that, under the present constitution of Federal Republic of Nigeria, it is the function /responsibility of the local (municipal) government to manage the waste generated within their respective localities. However, the peculiarity of the metropolitan status of Oyo State could not allow this constitutional framework to operate due to some factors.

According to U.N estimation by year 2015, going by 6% growth rate and Oyo state will be well recognized in the whole world and As a matter of fact, now is the time to start advocacy for the implementation of sound environmental policy and good management which of course covers Integrated Solid Waste Management (ISWM), this is also the global thinking right now and everyone in Oyo state know that the present government is working effectively together with her Ministry of Environment and Habitat in order to bring their environment back to shape. Integrated Solid Waste Management (ISWM) is a comprehensive reference for designing and implementing new waste management program, it involves several components of prevention, collection and transportation, recovery, recycling, composting and disposal / landfilling. As expected the above statistical data and realities of population explosion, serious urbanization and rapid industrial growth will have direct effect on general waste management systems in the state. The volume of waste being generated by this population and the industrial sector is so enormous and overwhelming to all Government agencies involved in the collection, transportation and disposal of solid waste in the state. The inability of government owned agencies to adequately cope with the upsurge in the volume of municipal solid waste generated led to the creation of "Strategic Action" in the collection, transportation, recovery, recycling and disposal of solid waste in the state. The vacuum that was created by selective services and irregular management of solid waste was filled by both the formal and informal private sector in solid waste management, while the formal private sector is made up of Registered Companies / enterprises who have the financial strength, some level of technical know-how experience and are generally mechanized, the

informal private sector on the other hand is made up of the *locals* (who constructs carts in large quantities for rentals). In the late 2011, the state government attempted to recognize the activities of formal private sector when it introduced a *pilot private sector participation (PSP) scheme in solid waste management in Ibadan South West and North Local Government Areas of the state*. Unfortunately, nothing has so far been done by government to recognize the activities/roles of the informal private sector who are now a major stakeholder in solid waste management in Oyo State – Nigeria.

However, urbanization in Nigeria and particularly in this state has brought about concentration of population that generate waste and due to limiting resource availability, the increased population in the state capital has not witnessed the corresponding basic infrastructure or facilities that could facilitate effective disposal. The city is being characterized by heaps of indisposed refuse or open dump on streets, highways, markets, residential areas and the community at large. At the municipal government level, as the third tiers of government in Nigeria, solid waste management is handled by waste / environmental monitoring unit, with a chief environmental health officer (CEHO) *a.k.a WOLE-WOLE* at the helms of affairs under the direct supervision of the executive chairman or head of the local government. An environmental health officer is responsible for policy formulation, implementation, inspection, monitoring and prosecution of defaulters of any environmental offences at that level.

THE IMPACTS OF INFORMAL PRIVATE SECTOR

The operation of informal private sector in solid waste management streams in Oyo State have been a key issue and overwhelmingly delivery in the overall integrated solid waste management practice in the State and the Country at large particularly in the capital city of state. The sector, which encompasses all aspects of integrated solid waste management practice vis-à-vis collection, transportation, recovery, recycling and merchandise of both recovered and recycled materials, it's an Institution on its own right. They have established a very high network of operation to "*wired for waste*" for their life sustainability and development. This sector includes the following:

1. CART PUSHERS

These are the group of informal private sector involved in the Door-Door domestics waste Collection at a fee, using specially built carts built by another sector called Cart builder. Their presence in the waste industry is due to the ineffectiveness and inadequacy of the government owned agencies responsible for the collection, transportation, and the disposal of domestic waste. At a stage, they were collecting over 60% of the total domestics waste generated in the State, this they do by house-house collection and transportation of the collected waste to transfer bins strategically placed by government agency and then pay a total amount of N200(\$1.20) to the government official for any quantity of waste on any each trip.



Fig.1 shows the collection of domestic wastes being brought by the cart pushers to the transfer bin and later taken to the landfill site for proper disposal

This collection of people is also involved in waste recovery; as they go from house-to-house collecting waste at an agreed fee, they also sort and recover reusable and recyclable materials from the waste before disposing the residue. The non-formalization of the activities of the group has made it almost impossible to have accurate data/records of their activities within the waste management industry. However, they cart away several hundred tons of domestic waste per day and make an average of Four thousand, eight hundred naira (US \$30.00) per day, whereas the average basic salary of government staff is about Twelve to thirteen thousand, five hundred naira (US \$76.69) per month. In Oyo State alone, it is estimated that over five thousand (5,000) cart pushers are operating within the industry.

2. SCAVENGERS

This is the only group/organization so far identified in Oyo State that is involved in both on-site and off-site waste/resource recovery, they recover re-usable and recyclables materials like plastics, Aluminum, glass, waste tire, Dunlop slippers, paper, scraps metal, animal wastes like horn, bones etc.

Some of them go from door-to- door to recover re-usable and recyclable materials from the waste bin placed on the front-side of buildings, and even some go into the stream searching for metallic waste through the use of a magnet and they do this every day and most especially in the rainy season. While majority limit their operation to the waste brought to the disposal sites.

In some cases, the scavengers also process some of the recovered waste before selling either to the resource merchants or directly to the recycling industries. The processes include washing, burning, etc. Fig.2 shows scavengers trying to sort their recovered waste and prepare to burn recovered electrical cables/wires to retrieve copper. Majority of the scavengers live in a shanties or makeshift houses built on and around the disposal sites and also shows an aerial view of the scavengers removing electrical wire from metallic plate at one of the merchant dump-site and Fig.3 shows the scavenger finding metallic particles in the stream and later take it to the resource merchant to weigh and get paid.



Fig.2 – Different scavenger on site removing wire for burning



Fig.3 – Scavenger searching for metallic particles in the stream

It is a common sight within this community/ neighborhood to see heaps and mountains of recovered materials waiting to be purchased or transported to the recycling companies. Several million-naira worth's of materials are recovered yearly by over four thousand scavengers within this constituent of informal private sector in integrated solid waste management in Oyo state.

An investigation show that only about 35% of the recovered items serves as raw materials to the industries within Oyo state and the entire country, the remaining 65% is exported to some other countries in Africa like; Ghana Togo, Cameron, Mali, Republic of Niger, Sudan etc., for both industrial and personal use. (Recycling and Re-use)

3. CART BUILDERS

This is another group of locals who are also playing a serious role in the operations of informal private sector in integrated solid waste management. Though very small in number, they are the one that invest their money in the construction of the different sizes of the carts being used by the cart pushers. The number of carts constructed and put for lease/ hire to the cart pusher by individuals ranges from 5 to 50 depending on the financial capacity of each individual involved in the business. The business venture is a very lucrative one with very high return on investment; the cost of renting each cart is between N120.00 (\$0.75) and N250.00 (\$1.56) per day, depending on the area and locality, whereas the cost of constructing a standard cart is put to between N17, 000 and N20, 000.00 (\$106.25 and \$125.00 respectively). Within six months of construction, each cart would have repaid the investment cost with reasonable profit with little or no overhead.

4. RECYCLERS

This is another component of informal private sector that include both the micro and the small scale recycling companies, they converts recovered waste materials like paper, aluminum, animal by-products, plastics scrap metals etc. to valuable materials and raw materials for the consumption of the industrial sector. The recycling sector is a multi- million-naira investment, where some specialized equipment and machines are to be used for the conversion of the recovered items to finished products or raw materials that are also used in several other applications but in this case of battery recycling its process is crude and unhealthy. For instance a company in south western part of the state uses the materials(battery plastic) to produce recycled plastic pellets used in further production of new plastic product like; hangers, toys, plastic horse and also there are many of these recycler in Ibadan that used the materials(battery components) to produce lead through burning which is in very high demand; the pellet which is being used in several other application for the production of new plastic products like shoe soles, conduit pipe etc., it is also an exportable commodity for international market.

Some of these recycled products and raw materials are exportable products through which foreign exchange is obtained. These industries provide more than one thousand job opportunities for different cadre of work force.



Fig.4- Show a recycler burning battery component to produce Lead

5. RESOURCE MERCHANTS

This group is made up of traders (merchants) involved in the purchase of all recovered recyclable and re-usable materials from the scavengers and before the payment could be approve to the scavenger the materials would have been weighed to determine the quantity and weight of the material. Some members of

this group are retired scavengers who cannot scout for materials on the site again due to either age or advancement in financial capability. They are so rich that some of them are involved in the exportation of some of the recovered resources to other countries thereby earning foreign exchange; they are also very influential that they get Local Purchasing Orders (LPOs) from companies to supply recovered materials.



Fig.5 show tons of recovered metal materials ready to be supplied by the resource merchant for industrial consumption.

EXPERIENCE AND BASIC CHARACTERISTICS OF THE INFORMAL PRIVATE SECTOR

- ✓ During my research i observed that the group of people cut across every known nationality in Nigeria, unlike in some other countries where the entire operatives of the informal private sector in waste management industry is made up of people with the same cultural and religious background.
- ✓ I learnt that About 35% of the people went into the venture to raise some start-up capital for other businesses and still taking this business as means to sustain and also to reduce the effect of poverty.
- ✓ It was discovered that the group has been playing lot of roles in achieving recycling objectives and reduce the costs of disposal and space at the landfill.

PROBLEMS OF THE INFORMAL PRIVATE SECTOR IN ISWM IN OYO STATE

- Non-formalization of the entire activities of the informal private sector in ISWM, which resulted into non-regulation and coordination by government and her agencies.
- No good accommodation system with good portable water and at least basic sanitation system. The buildings are all makeshift tents.
- § Uncontrolled burning of solid waste (particularly certain types of plastics, battery particles and wires) releases smoke and gaseous contaminants into the air. The smoke commonly contains particulates, carbon monoxide and other contaminant gases including low levels of dioxins, all of which can be hazardous to health
- § No access to adequate medical facility or first aid treatment for any injury Sustained during operation

RECOMMENDATION

This section of the paper suggests sustainable solutions to the problems associated with the management of solid waste in the study area and other urban areas of the state. The recommendations for the improvement of the service of both formal and informal private firms that are involved in integrated solid waste management in the study area highlighted below:

- Public Enlightenment: The residents in all the densities need to be enlightened about the lack of sanitation and its effects on their health. This can be achieved through series of programmes organized by Government, Non-government Organisation (NGO), Community Based Organisation (CBO) and International Organisation such as UNICEF, UNDP etc. This will make the people conscious of their actions and go along way in changing their attitudes towards indiscriminate dumping of refuse in unauthorized places and the use of manual mechanism in the recycling activities and also more private firms should be registered to participate in managing solid waste in

Oyo State. This is important since the unit scale of operation of the firms is low. It is also hoped that a large number of firms will constitute enough capacity to cope with the city's daily waste generation.

- **Enforcement of Regulation:** The act of keeping the environment safe and clean by proper disposal of wastes can be enhanced if regulatory measures are enforced on the benefactors. The majority of the public do not dispose of their garbage in the designated containers, but rather dispose of it wherever is convenient for them. Littering is another behavioral problem, exacerbated by lack of monitoring and enforcement of fines and penalties and this will go a long way in achieving a sustainable waste management because people will not want to be a victim of law for fear of penalty attached to it and also this will correct the problem of irregular waste collection by the private firms.
- **Financial Strength:** It is quite obvious that the issues of the sustainable solid waste management requires adequate financial resources. The private sector and other agencies involved in solid waste management should seek joint financial support from NGOs, CBOs, International Organization, Development banks and others that are interested in the environment means.
- **Public Awareness:** This involves open, popular and broad involvement of people in decision making that affect their lives. It is a general concern that individuals need to understand the problem and how to solve it instead of shifting blames on other stakeholders. It requires the readiness of all the agencies involved and the citizens of accept the joint responsibility in development efforts and the private waste collectors should be integrated with the communities and together they should work to eliminate the problem of irregular collections, payment of charges and even adjustment of charges when desired and through this awareness dignity, improved incomes and ultimately better social recognition could be achieved.

FOCUS

- § **Employment opportunities:** The paper shown huge employment opportunities organised and implemented by this informal private sector in Oyo state, Nigeria.
- § **Foreign Exchange earning:** The services rendered by this informal private sector in solid waste management industry in Oyo state has brought about foreign exchange earning from the exportation of the recovered and recycleable materials to foreign countries.
- § **Poverty Alleviation & Reduction:** About 30% of this group went into the business of integrated solid waste to raise some start-up capital for other small scale businesses
- § **Education:** Education at all levels and in this countries is at present not properly designed to produce adequate understanding and appreciation of the very nature of environmental problems and a large percentage of this group equally sponsor themselves through secondary and tertiary schools to enhance their quality in life.

SUPPORTING THE INFORMAL SECTOR IN CONJUNCTION WITH MDGs

- I have gone through many researches and surveys on their operations, standard of living with a view of supporting it
- I have contacted some NGOs and still looking for more on the documentation of their roles and also help advocacy programme for their recognition
- My company is presently providing information on how to make you use or imitate the modern method and also creating an employment opportunity to few of them
- I am currently working on the facilitation of the following:
 - a) Training on how to effectively manage their income (Finances) in such a way that it can be re-invested into recycling and other small and medium scale enterprises (SMEs)projects
 - b) Facilitate the provision of safety and protective working tools and clothing (PPEs) to the informal operators

- c) Training of the resource recovery personnels (RRPs) i.e scavengers on how to enhance their activities/productivities
- I am presently seeking partnership/sponsorship of other NGOs AND Foundations in the facilitation of the 3rd item above.

CONCLUSION

Having summarized all impact being played by all the branches that is involved in effective integrated solid waste management in Oyo State, Nigeria, it is equally pertinent to mention that all the components of informal private sector are all sources of employment opportunities, job creation, wealth creation, and distribution, foreign exchange earnings, poverty alleviation and reduction with environmental sustenance through reduction in the quantity of waste to be landfill. In line with United Nation's Millennium Development Goals(MDGs) of sustainable improvement of the environment and reduction of world poverty rate to half by year 2015. Lastly, it is equally important to state that in an attempt to solve environmental problems, adequate efforts should be made to prevent the creation of social problems like; unemployment etc, that could lead to stealing, robbery, terrorism and others that can be created when this large and very important informal sector is not formalized. I therefore submit the Impact of informal private sector in integrated Solid Waste Management in Ibadan as a Means not an End. It is believed that if all the recommendations are rigorously implemented, the desired sustainable urban environment will be achieved.

I will appreciate it beyond measure to see the international communities, foreigners, donor agencies and other organization / foundations supporting advocacy programs on the integrated private sector participation in integrated solid waste management in Oyo State, Nigeria.

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