

Changing the Face of My Local Community through Waste to Wealth Programme in Lagos State, Nigeria

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My name is Taiwo Adewole. I live in North Africa in Nigeria, in the State of Lagos and I want to talk to you this morning/afternoon about the problems of waste management in my community and how our young people have developed a program for both dealing with the problem and at the same time creating wealth for themselves.

The post independence era in Nigeria has witnessed series of political and socio-economic development. Today the nation comprises 36 states and a federal capital territory compared with initial four regions at independence in 1960. Nigeria has also experienced a continuous increase in population, industrialization and enhanced research and commercial activities since petroleum was discovered, yet this growth has not been comparatively matched by an improvement in the quality of the urban environment.

Instead, we have huge mounds of refuse and astronomical increase in the volume and diversity of solid waste that are generated and disposed any how in Nigeria, these have been unprecedented reports of coastal water, land and air pollution world-wide, but with developing countries like Nigeria thereby creating a serious detrimental effects in many carefree, slow responding developing countries like Nigeria thereby creating a serious disposal problem and a major source of environmental pollution.

In Lagos State, it has been suggested that the quantity of waste generated in the state is in proportion to population size- as population increases so also waste generated also increases.

Most cities in Nigeria (especially Lagos) are faced with the twin problems of population increase and rapid expansion. These phenomena have no doubt, brought increasing strain on urban infrastructural facilities. One area in which this strain has become obvious is in waste management where the existing system appears to be incapable of coping with the mountain load of waste generated and heaped on the surface. It has been noted that over 9 million people live in Lagos State, which is the most densely populated state in Nigeria due to its commercial activities.

Ignorance coupled with poverty may be adduced as the reason for the wasteful habits of must people in Nigeria, especially in the densely populated states. Nigerians are permanently accustomed to dirt. This is truth. Evidence of this can be seen everyday by way of indiscriminate discharge if garbage into drains and at times on the highway. In urban areas, Nigerian cities have been described as some of the dirtiest the most unsanitary and the least aesthetically pleasing in the world (Mabogunje 1996). It beats one hollow to see a man defecating in broad daylight on the side of the high way or a woman with her wrapper pulled up doing her thing on the sidewalk or gutter in full glare of the public. Or where a man parks his/her car and throws waste on the street, then one begins to wonder the reason or reasons for those dirty habits of our people.

Many industries in Nigeria discharge their waste water into surface waters [oceans, seas and streams] more often than not without any form of remediation or treatment. This has several deleterious consequences such as using partially diluted, polluted water for irrigation, reduction in the food quality and quantity of useful and beneficial aquatic flora and fauna, reduction in quality and quantity of harvested agricultural produce as a result of irrigation with unwholesome water consumption of agricultural produce.

The world health organization defines. Health as "the state of complete physical social and mental well-being and not the absence of disease or infirmity". This shows management of solid waste as on integral part of ensuring a sanitary safe and sound environment. Environmental sanitation, under which management falls, is the control of factors in the physical environment, which exercise or may exercise deleterious effects on man's health.

Safe waste disposal and management programmes are relevant to both developed and developing countries. In developed countries the focus is on improving facilities to meet higher environmental quality criteria, while in developing countries considerable investment is required to build new treatment facilities.

It should be noted that two principles of law of thermodynamics inform us that waster is an inevitable bye product of any economic activity, further more, a certain minimum amount of economic activity can be pursued without causing damage to the natural environmental. This is because the natural environment has the capacity, albeit a limited capacity, to degrade waste. For persistent solid waste the assimilative capacity of the environment may be, if not zero, quite insignificant.

Waste regulation activities depend on the culture and technologies advancement of any country throughout the world Nigeria only recognizes waste as a problem and the problems of managing waste in one country eventually overlap into waste management problems in another country.

Because of the inability to sort waste at source, household and industrial waste including toxic ones are often handled together leading to soil and ground water pollution (UNEP 2000).

The World Health Organization (WHO) defined waste as "Something, which the owner no longer wants at a given time and place and which has no current or perceived market value".

One of the few statutes in Nigeria, which attempts to define waste, is the Lagos State Environmental Sanitation Edict 19985, there in section 32, waste is defined as follow." Waste" includes.

(a) Waste of all description

(b) Any substance, which constitutes scrap materials or an effluent or other, unwanted surplus substance arising from the application of any process.

Waste management is the organized and systematic channelling of waster through practically economically and technically appropriate recovery or disposal route in accordance with acceptable public safeguards. Effective and safe waste management programmes, require a total annual investment in developing countries of \$15.7 or \$16 billion, of which \$2.7 or \$3 billion is required exclusively for safe disposal of solid waste- if the international community provides 1/5 of this amount that would be about \$3.5 billion annually of which about \$2 billion relates only to solid waste.

Stages in Waste Management

The various stages involved in Waste management are:

[1] GENERATION: This is the stage when materials becomes waste and is discarded. The generation rate is often defined as the weight of material discarded as solid waste by one person in one day

[2] STORAGE: House storage, keeping solid waste in place or containers which is the responsibility of the individual members of the household

[] Command storage, is the responsible of the refuse collection agency.

[3] COLLECTION: This has to do with transportation of the solid waste from the point of storage to the point of disposal, two stages are involved in the collection stages; the direct collection, which makes uses only one means of transportation i.e. the Solid waste is picked up from the point of storage in a truck that takes it to the disposal site, **The second stage collection** Carries the solid waste from the storage facility to the Transfer station, at the transfer station, the waste is loaded into the secondary stage, to transport the refuse to the Disposal site.

[4] DISPOSAL: The final destination of solid waste, usually it is dumped on land at a tip, this may be done in an engineered and hygienic Way: - sanitary landfill or controlled tipping, or in a careless Way: - open tipping or crude dumping.

Under managed or crude waste disposal has negative effect on the environment, individual and community health, society in general and the economy. These include:

- Toxic contamination of the environment
- Specific health problems including convulsion, chronic dermatitis, chronic irritation of mucous membranes, cancers and a wide range of other diseases that may be caused by increased populations of flies and rats.
- The creation of socially undesirable land areas that are unsightly and that could be used for other, more beneficial economic activity.

The Lagos State management authority (LAWMA) identified the following waste types as mostly generated and collected in Lagos State.

They include:

- Vegetable matter, putrescibles
- Paper
- Textiles
- Metal
- Plastics
- Glass

- Grits
- Miscellaneous, inert
- Tyres etc.

The end of the 1980S saw a radical reappraisal of our concerns over resource availability and use, the environmental consequences of resources exploitation and the relationship between the environment, poverty and economic change.

This re-appraisal has given rise to a new approach to environment and development issues an approach, which seeks to reconcile human needs and the capacity of the environment to cope with the consequences of economic systems. This approach is called sustainable development. Sustainable development is an implied development without destruction. Sustainable development can also be defined as judicious use of non-renewable resources for the present and future generations. That is, non-renewable resources must be used at a judicious rate, neither too fast nor too slow and to ensure that the natural wealth that they represent is converted into long-term wealth as they are used.

Refuse and domestic waste will not constitute a strange sight to Nigerians whose streets are littered with tons of garbage from animal to human carcass. Lately however, a lot of concern has been expressed by the well-meaning residents that the battle against refuse, especially on the streets, roads, and avenues is not being prosecuted in a way to guarantee a healthy environment.

At present in Lagos state private sector waste disposal operators diligently visits homes and carry away filled refuse bags, load them into waiting trucks and cart them away for final disposal. "That is good", the resident say. They however worry that a lot of littering goes on in the environment and the streets and avenues may have been ignored and left not cleared.

It could also be stated that the major problem caused by (domestic) wastes to the environment is pollution, characterized by various types of solid wastes, which include, "paper, textile, plastic, metals, glass, bone, wood, vegetal matter and food remnants of multiple consistency.

Nigeria urbanization trend has also been spectacular, to say the least. For instance in 1921 there was no city in Nigeria with a population of over 1,000,000, while only 10 towns had population of 20,000 and above each.

In 1931, 24 towns had urban population status (in Nigeria, town with a population of 20,000 and above are regarded as urban), with 2 having up to 100,000 and above population. By 1984 estimates showed that there were 356 towns with population of 20,000 and above. 62 with population of 100,000; 14 with 500,000 and above population respectively (see table below). In fact, by 1984, Lagos had attained a millionaire city status. Conclusively, between 1984 and year 2004 (a spate of 20 years) the population of Lagos state has increased by 19 million people. This explosion in population growth has negatively impacted on the management of solid domestic waste in the state.

In Nigeria there are three factors that mitigate against effective waste management. They are:

1. Attitudes to work
2. Inadequate infrastructure, including outdated and inadequate collection and processing tools and equipment
3. Corruption

Corruption is a canker worm that has eaten deep into every fabric of the Nigerian society. This we may not denied except to our collective demises and peril. The collapse in most of the various agencies in waste management infrastructure in my community may be traced to this menace.



Above are pictures of typical Dumpsite/Landfill in my community



Above are examples of the type of truck used by private waste managers

Waste to Wealth Programme in my Community

Now that I have set the scene I want to discuss how the youth in my community have been generating wealth from the waste in my country.

The waste – to – wealth programme has been successfully through the following: Reduce, Reuse and Recycle. but the main area of wealth creation is in the area of recycling of polythene, Plastics, Rubber and Scrap metals. These material constitute the greatest problem of waste in my community as they are non-biodegradable. Polythenes are frequently used in Nigeria as packing materials and also in the package of water popularly known as “pure water”.

The youth in my community have been working hand-in-hard to tackle the issue of polythene recycling. An association of the “Pure water manufacturer” has been set up, the youth go out on daily basis to collect used polythene bag and exchange this for cash, the manufacturer in turn reuse the polythene through recycling. In this case these youth cash in on the garbage and use what other people consider non-resources and throw away to make there own resources.

Not many people in Lagos State know that daily they squander away up opportunities to make residual income. Without disturbing their legitimate and major source of income. Locally we have not fully embraced the technology of turning waste- to – wealth; there are get few factories scattered here and there that are using these waste materials at the moment.

Polythene, plastic and rubber, waste materials are among so may other types found littered on our street and crannies of our community as stated in my earlier introduction. In most cases people economic value.

There is an urgent need for a thriving recycling industry comprising more than 1000 small, medium and large business, such as hawkers, brokers, processors, recyclers, suppliers of waste reduction equipment's, customized, collection system designers, wholesales pick up services, confidential document, shredders, waste audit consultants, energy.

All the listed above industries are present in the developed nation but in the case of Nigeria Lagos State to be precise, what we have the small and medium business whom include hawkers otherwise know as scavenger, recyclers, confidential document shredders (usually done in most offices), we also have small numbers of waste audit consultants, drum re-conditioners (convention of drums and scrap metals).

I believe with what some of the youth are presently doing in Lagos state, recycling in manufacturing activities like plastics compounding, paper, mounded paper, recycling of rubber and plastic cuts from glass wastes, scrap metal smelting and so on will definitely open up vast frontier in recycling business and making it highly beneficial to man and nature in Lagos and Nigeria as a whole beside the great potential of generating employment and income.

Approaches to waste- to- wealth programme in my Community

Solutions to waste management problem can be found using different approaches and methods. The approaches being used presently in my community to the design and implementation of waste management systems is based upon two important observations.

(1) People are the heart of the waste management problem, people generate waste and without their active cooperation and participation it is not possible to implement sustainable integrated waste to wealth management systems.

(2) Waste Management is an Income generating activity offering both large and small scale enterprises, as well as thousands of waste pickers, the opportunity to make a living train the collection recover recycling, treatment and disposal of waste.

Though the activities of this youth in the city is regarded as informal sector and especially waste pickers or “Scavenges” are a group that is active in waste to wealth creators, but they are rarely officially recognized as contributing to that system. Their activities vary from providing informal street Sweeping, and or household waste collector services, to recovering recyclable materials from different points in the waste trajectory from household to the final disposal site.

I believe acknowledging the work of this youth when planning and implementing waste to wealth programme is desirable. This youth's experience can assist in solving waste problems and by incorporating the youth in this waste management system. It is possible to help them increase their income generating possibilities and improve their working conditions.

Community Involvement

Recognizing the importance of community participation in waste to wealth projects and programme is a key factor for their success. Community involvement in the planning and implementation of projects or programme is a complex proposition. However, the benefits of wide stakeholder involvement include a clear impression of the problem to be tackled; a clear idea of the possible solutions including perspective on affordability and desirability and finally the possibility of generating both public consensus and commitment to the project.

In conclusion, the participatory approaches I used include an awareness of the importance of gender in project planning and implementation. Given their different socio-cultural roles in the generation, collection and disposal of waste, men and women are found to have different perspective when it come to its management. It is very important that these differences are considered in the planning and implementation of waste- to- wealth projects.

Finally, I am using this medium/conference to campaign for embracing of recycling because recycling uses less energy than producing goods from virgin materials and also results in fewer emissions. Although some materials; for recycling need to be transported around, the impact of this is significantly less than that of transporting raw materials from often – remote location in other parts of the world.

As more people recycle, more recycling plants will be built, and the impacts of transporting waste materials will eventually decrease.

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