

A CLEANER LAGOS – A COLLECTIVE RESPONSIBILITY

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Introduction

- **Lagos**

- One of the 36 states of Nigeria with 57 LGA/LCDAs
- Size – About 3577 Sq. Km (0.39% of Nigeria's 923,773 Sq. Km)
- Population of about 18 million people
- 2.5 Million household with 6% annual Growth rates
- Commercial hub of Nigeria & the West African sub-region

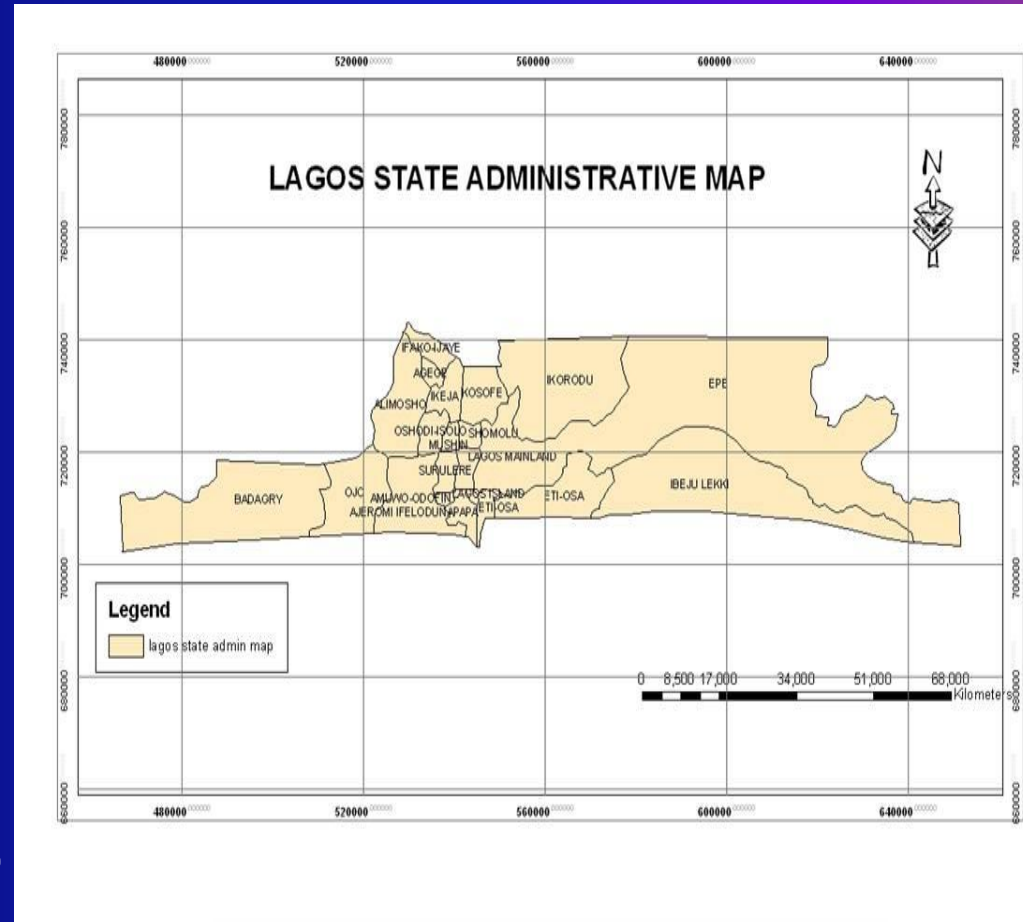


Map of Nigeria

Introduction Cont...

- **Lagos**

- By 2015, may become the 3rd largest megacity in the world
- PSP in waste management commenced in Lagos in the 80s
- Over 70% of the total industries in Nigeria are cited in Lagos
- Generate about 10,000 MT of waste daily
- The generation per capital (GPC) is put at 0.5kg/person/day



Map of Lagos state

Waste Mgt Structure in Nigeria

- **The Local Government (Municipality)**

- **Waste management** is the responsibility of the LGs, as contained in the constitution of the Federal Republic of Nigeria.
- At the LG level which is the 3rd tier of government, waste/environmental management unit handles general environmental sanitation.
- The unit is headed by a Chief Environmental Health Officer (CEHO) under direct supervision of the **Executive Chairman**
- The CEHO/Unit is responsible for policy formulation, implementation, inspection, monitoring & prosecution of defaulters of any environmental offences at that level
- They also liaise with the state government on environmental issues, through the Ministry of the Environment

Waste Mgt Structure in Nigeria Cont...

- **The Ministry of the Environment**

- The peculiarity of the metropolitan status of Lagos could not allow the constitutional framework to operate, as regards waste management structure and responsibility.
- The MoE therefore oversees overall cleanliness & sanitation of the state.
- Statutorily, the ministry is responsible for the overall policy formulation, implementation, inspection, monitoring & prosecution of defaulters of all environmental offences throughout the state
- The ministry is also involved in policy implementation through her various dedicated parastatals like **Drain ducks**- *responsible for the clearance and maintenance of all drainage network in the state*, **LAWMA** – *responsible for general solid waste management and the management of all govt disposal facilities*. **LASEPA** – *responsible for the management of Liquid & Gaseous waste*.

Waste Mgt Structure in Lagos

- **LAWMA AS AN INSTITUTION**

- Established in 1977 as Lagos State Refuse Disposal Board (LSRDB) through an edict.
- In 1980 it became Lagos State Waste Disposal Board (LSWDB) & by 1991 Lagos Waste Management Authority (LAWMA)
- Between 1977 & 1999 the agency's operation was hindered by:
 - Incessant political interferences
 - Operational and Institutional instability
 - Inadequate funding and equipment
 - Non-challant attitudes of staff
 - Usage of highly sophisticated equipment, without adequate technical know-how for its maintenance.
 - Waste generators (public) not willing to pay for the services, especially when services became epileptic.

Waste Mgt Structure in Lagos Cont...

- **LAWMA AS AN INSTITUTION**

- Between 1999 & 2004 – Foundations laid for Regulatory, Operational & Institutional framework.
- By May 2005, LAWMA was restructured & re-branded
- In March 2007, the regulation of PSSPs was transferred from LMOE to LAWMA
- USTDA sponsored the ‘ Lagos Municipal Services Maintenance Training Project’
- Aimed at training government officials and PSSPs on best practices & models for maintaining municipal assets & services
- Developed a maintenance Management program for LMOE, LWC

Institutional changes in waste management in Lagos state

Years	Name of institution	Supervising Authority
1977 -	Lagos State Refuse Disposal Board (LSRDB)	Ministry of works and Transport
1980 -	Lagos State Waste Disposal Board (LSWDB)	Ministry of works and Transport
1991 -	Lagos State Waste Management Authority (LAWMA)	Ministry of the Environment and Physical Planning (MEPP)
1994 -	Local Government Councils and LAWMA	Local Government and MEPP
1997 -	LAWMA and PSP pilot scheme in Somolu & Kosofe Local government areas	Ministry of the Environment and Physical Planning (MEPP)
1998	Private Sector Participation (PSP) in domestic waste management state-wide and LAWMA handling Industrial Waste	Ministry of the Environment and Physical Planning (MEPP) / Local Governments
1999	Private Sector Participation (PSP) in waste management	All local Governments/ Ministry of the Environment/ Office of the Deputy Governor.
2004	Mega/ major PSP in waste management	Ministry of the Environment/ Office of the Deputy Governor
2007	Mega PSP in waste management	LAWMA / MoE
2009	Franchised Mega PSP in waste management	LAWMA / MoE

Faces of Old Lagos – Pre Restructuring



Waste dumped indiscriminately within the neighbourhood



Waste lined the road median



Heaps of Waste dumped within the neighbourhood – Ikate/Olaogun



Smoky disposal sites with bad access road

The Intervention

- **Private Sector Participation - The beginning**

- The PSSPs involvement was as a result of irregular & erratic services of government owned agencies (*Necessity & Invention*)
- In the early stage, neighbourhood structure determined the type of PSSPs – Formal PSSPs – High-income, low population density & Informal PSSPs – Low-income, high population density area.
- Pilot scheme project in 1996/1997
- 22 Private Sector Service Providers (PSSPs) were appointed
- Pilot scheme marked the beginning of recognition & formalisation
- Over 350 formal PSSPs operate in Lagos alone, another 300 spread across Nigeria in Abuja, P/h, Ibadan, Ogun, Edo, Kwara states etc

The Humble Beginning - Formal Sector



House to House Collection



Off-loading at Disposal site 13:21



Disinfecting the provided bin after waste collection



Even this converted truck was used!

The Intervention Cont...

- **Informal Private Sector Participation**

- **The Cart Pushers** - Involved in House-to-House waste collection at a fee using specially built hand-pulled cart. Also involved in the recovery of recyclable materials
- **The Cart Builders** – They invest their money in the construction of the carts being used by the cart pushers. The number of carts constructed and put for lease/ hire by individuals ranges from 5 to 50 depending on the financial capability of each individual involved in the business
- **The Scavengers** - Involved in both on-site and off-site waste/ resource recovery, they recover re-usable and recyclables materials. In some cases, they also process some of the recovered waste before selling either to the resource merchants or directly to the recycling facilities

The Intervention Cont...

- **Informal Private Sector Participation**

- **The Resource Merchants** - Purchase all recovered materials from the scavengers. Some are retired scavengers who cannot scout for materials on the site again due to either age or advancement in financial capability. They also Export & Get LPOs
- **The Recyclers** – They convert 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.
- It is pertinent to state that all the identified informal private sector are all sources of employment, job creation, wealth creation & distribution, foreign exchange earnings, poverty alleviation & reduction and environmental sustenance through reduction in the volume of waste to be landfill. Inline with United Nation's Millennium Development Goals (MDGs) of sustainable development of the environment and reduction of world poverty level to half by year 2015, the same year that Lagos may become the 3rd largest mega city in the world.

The Informal Sector Activities



A typical cart pusher on the street of Lagos



A cart pusher with recovered waste on the way to a disposal site



Onsite resource recovery by scavengers – Resource Recovery Officer at one of the disposal facility in Lagos



A merchant sorting heaps of shredded paper before supply

System Overhaul

- **LAWMA RESTRUCTURED**

- **The Approach**

- **Regulatory Framework** - This was strengthened through the enactment of “Lagos Waste Management Authority Law of 2007
- **New Management** – The organization was restructured by redeploying new management team which also recruited, qualified, experienced & motivated. It also outsource some of the operations
- **Privatization** – Private Sector Participation was also strengthened by raising the standards. It became a dominant factor in the implementation of ISWM and facilities management
- **Funding** – Increased SWM budgetary allocation from less than 2% to 6%. Other cities – NY-11%, London-10%. Istanbul-8%, Teheran

System Overhaul

- **RESULT OF THE OVERHAUL**

- **Environmental Impact** - Improved aesthetics, Cleaner Environment, Improved Air Quality & Environmental Sustainability, Foundation for Renewable Energy etc
- **Social Impact** – Improved effective & efficient service delivery. Improved health of Lagosians – Cleaner, Safer & Healthier Environment, Capacity Building/Exposure for staff
- **Economic Impact** – Increased investment opportunities for PSP, Employment generations (skilled/unskilled) by PSP & LAWMA, Wealth creation, distribution & poverty eradication
- **Infrastructural Impact** – **LAWMA**-Disposal sites upgrade, New ones, TLSs/MRF, Facility renovation, New operational equipment etc. **PSP**- Investment in recovery & conversion equipment/facilities, New operational equipment, Acquisition of operational yards

New Investments

- **Operational Trucks** - Both LAWMA & PSP jointly invested in the purchase of 650 collection truck within 24 months (**PSP** – 450 & **LAWMA** – 200)
- **Waste to Compost Facility** – A PPP arrangement with an American firm sited at Ikorodu. It cost over \$20 million USD. Daily conversion of about 850MT of organic waste to 250 bags of organic fertilizer.
- **Waste Processing Plants** – Several PSP have invested in plastic, paper, tyre, aluminum recycling facilities to implement the “Zero Waste Initiative” of the state government.
- **TLS/MRF** – The state govt, through LAWMA has also convert old incinerators to Transfer Loading Stations and Material Recovery Facilities. 20 more TLSs & 3 IWMPF to be established (Investors)

New Investments Cont...

- **Hydroclave Machine** - Fully automated machine for Healthcare Waste Mgt. It shreds & reduce waste by 80%, uses steam on HCW at temp of 135°C, final product safe for disposal with general waste
- **Waste to Energy Facility** – To utilise methane from Olusosun dumpsite to generate 10MW of electricity.
- **Additional 100 Compactors** – In addition to \$40M invested in the purchase of the 450 trucks, the PSP through a funding arrangement is investing another \$10M on new compacting trucks.
- **Disposal site upgrade/New Equipment** – The state govt has invested heavily on disposal site upgrade & purchase appropriate equipment
- **Recycling Village & Recycling Banks** – LAWMA has invested in the creation of Recycling village at Olusosun, while Recycling Banks were created at strategic locations to encourage waste recovery & sorting

New Trucks with low carbon emissions



New Skip-loader for market waste collection



New PSP trucks at one of the disposal site



New TLS with some of the waste hauling trucks



Waste discharge into the haulage trucks



New Face of Lagos Highways



New Face of Lagos Roads



New Face of Lagos – Lush Green



Compost Plant, Ikorodu



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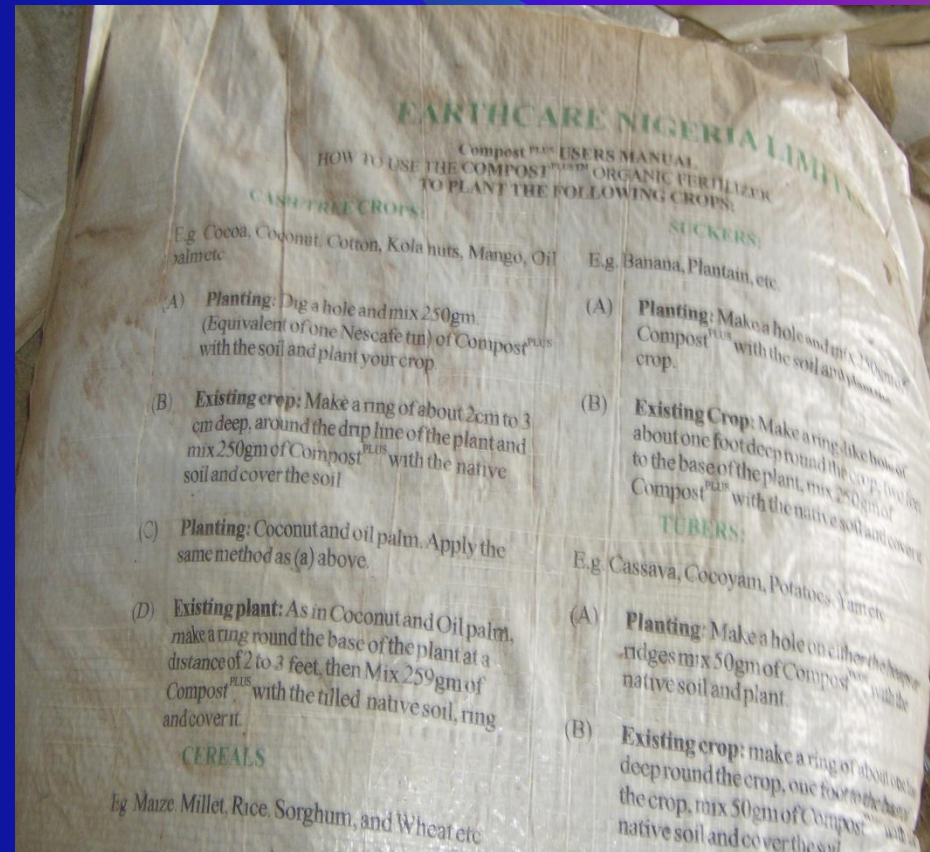
Compost Plant



Bagged Organic Fertilizers ready for market



Bagged Fertilizer with planting/usage instruction



240L Wheeler bins purchased for distributions



Bin used to encourage payment of Landuse charge



Challenges

- **Funding** – Still inadequate compared to other developed cities of the world
- **Cost Recovery** – Still a major challenge (CR is key).
- **Energy crisis** – No stable electricity to power equipment needed for Recovery, Recycling & Conversion – Powered by Gen set expensive
- **Poverty Level** – Inability to pay for WM services, Many informal operators went in to escape poverty – May become social problem
- **Climatic Condition** – Heavy rains affect access to the disposal sites
- **Chaotic Traffic** – Affect the turn around time (TAT) of operational trucks & effective service delivery

Conclusions

Using the Lagos approach as a my guide and benchmark, it is pertinent to emphasise that it takes the collective responsibility and actions to have an effective & sustained integrated waste management system in Africa. I will also like to recommend the following to the African government, funding and development agencies ;

- Creation of enabling environment through legislation & institutional frameworks.
- Increase budgetary allocation on WM
- Develop local technology for WM (Think Global - Act Locally)
- In developing a WM model, every identified stakeholder must be carried along – Sustained Public Enlightenment & Education
- Funding & Development agencies should support both the public and private WM initiatives through sustained funding



Thanks for your attention!

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