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Wirtschaft in Nigeria
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Waste Resource Mapping Study for Circular Economy in Lagos, Nigeria

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Executive Summary

The amount of waste produced daily in Lagos State has consistently increased along with the state's increasing population. However, there is no efficient and well-organized method of waste collecting in Lagos. It is difficult to thoroughly analyse the state's circular economy potential because the waste generated is still not sorted, thus contributes to the burden of the waste collectors.

Waste is ultimately collected as a composite in regions of the state in which active waste collectors are located. Many of the population practices open waste burning as a method of waste disposal, while others leave trash all over the neighbourhood. Both methods eventually lead to environmental contamination and other negative consequences such as flooding from the sporadic obstruction of drainage systems.

Waste pickers, represented by the Association of Waste Pickers (ASWOL) sort waste mostly at transfer loading stations and at dumpsites. It is estimated that there are over 1,000 waste pickers permanently located at these dumpsites.

Lagos state has a variety of plastic product manufacturers, consumers of the items, garbage collectors, sorters and recyclers, most of whom are represented by associations. The survey focused on the disposal and end of use. This includes the collection, sorting and balling of the plastics. Some of the stakeholders who were surveyed are among the key players.

During the course of this waste value-chain evaluation, 22 questionnaires that were a component of the field study were successfully distributed and processed. Waste collectors (PSP) account for 59% of the value chain that was questioned and evaluated, followed by recyclers associations/recyclers (23%), government agencies/organizations (9%), waste pickers and extended producer responsibility (FBR), which make up the smallest portion with (5%).

The questionnaire primarily addressed specific questions inclusive of activities within value-chain. It also contained questions on labor inputs, awareness, perspective and their interests on digital market, obstacles encountered in sourcing for the wastes, sort of waste materials being gathered among others.

The feedback from the stakeholder interaction revealed that plastics are the most recycled material in Lagos, second only to organic waste in the waste category. This is not surprising considering that the interest in plastic waste, its production and consumption has increased sharply worldwide in recent years. Current prices for some of the waste materials found in the value chain show that metals fetch the highest price, ranging between NGN270 and NGN400 per kg.

This mapping study assesses the waste value chain in Lagos State to understand the need and requirements for developing a digital marketplace to manage the estimated 1.37 million tonnes of waste that is dumped annually. In addition, this study analysed gaps and opportunities in the value chain for plastic waste, organic waste and e-waste. These waste value chains involve large SMEs that can either be buyers of recycled materials or permanent suppliers of waste, leading to more bankable projects.

1. Introduction

Waste is a generic term for all types of unwanted materials emanating from the daily activity and living of man. These are items that have been discarded and considered unfit for further use. Waste come in various forms such as liquid, solid and gaseous and their sources of generation can either be domestic, commercial, institutional, agricultural or industrial.

In Lagos and indeed the world over, solid waste is generated from industrial, commercial, mining and agricultural operations including community activities. Most of the solid waste is composed of organic matter, plastics, paper, textiles, metals, rubber and glass.

The average estimated volume of solid waste deposited per annum in Lagos State is about 1.37 million metric tons. This figure includes informal waste deposit. Table 1 below shows a breakdown per year.

Table 1: Estimated Solid Waste Volume Deposited in Lagos State Per Year

Year	Volume (million metric tons) / Year
2017	1.35
2018	1.09
2019	1.66
Total	4.10
Average	1.37

The common waste management option in Lagos and throughout the country, involves the collection of mixed waste materials, without segregating them, which are subsequently dumped at designated dumpsites. It is also estimated that less than 30% of solid waste generated is collected through a formal system.

Solid waste management involves the collection, transportation (transfer) and eventual safe disposal of the broad spectrum of waste or the waste stream safely and hygienically to protect and safeguard the environment and promote the health and general well-being of the people. In recent times, waste management includes recovery, reuse, and recycling of waste to minimize the quantity disposed of.

DGIC International Business Services Limited desires to create a digital marketplace for the circular economy in Lagos State and to inform the features to be incorporated into the marketplace that would suit the local context of the circular economy in Lagos. This mapping study identifies and analyses the different waste value chains in Lagos State to evaluate the value of the different waste fractions from the correlating activities of the waste generators and the off takers. Furthermore, it is expected that this would help to determine the size of the potential market that is being generated by these activities and to map out any potential hubs for the various activities.

1.1 Objectives

The key objectives of the study are as follows:

- Description of the existing municipal waste management structure in Lagos
- Determination of the different waste material categories for all the waste generated in Lagos State.
- Identifying and analysing the value chains (within the waste material categories) of all the waste generated in Lagos State with respect to the waste volume, composition, description of the technological level of processing and valorisation, estimated percentage of processing and valorisation, actors, prices and profit margins per value chain, access to other national, regional and international markets, current modalities of collection (e.g., by weight, by bags, etc.), transportation (e.g., formal, semi-formal or informal) and disposal based on legal and institutional frameworks.
- Identification of other value adding activities (estimated costs and returns), potentials, standardization and quality levels, demand and supply gaps etc. in each waste value chain.
- Identifying potential direct linkages between waste generators and off-takers, including identifying business-to-business and household-to-business linkages in each waste value chain in Lagos State.
- Identifying any divisional framework that categorizes the different boroughs, council areas or suburbs of the State to regulate the activities of stakeholders/actors (e.g., for waste collection and aggregation).
- Identification of other ICT-enabled solutions for the waste management sector and assessing the level of impact of each solution.
- Description of risks and foreseeable challenges in the deployment of a digital marketplace to support the waste value chains in general and regarding the political environment, stakeholders involved and possible distortion of markets.

1.2 Country Profile - Nigeria

Nigeria is located in West Africa and borders the Gulf of Guinea, between Benin to the west and Cameroon to the east. It has a compact area of 923,768 square kilometres. The total area of the country also includes inland waters such as large rivers and lakes. Although the country has had a stable, secular, democratic multi-party system since 1999, it was recently classified as a hybrid regime in the Economist Intelligence Unit's Global Democracy Index Report 2021, ranking 107th out of 167 independent states and territories worldwide. This description refers to weaknesses in the country's political development such as electoral irregularities, a weak, non-independent judiciary and weak civil society organisations (CSOs). This description also implies that the rule of law is weak, journalists are harassed and pressured, and political participation is low. (EUI, 2022)¹

The country has a presidential system of government with three separate but equal powers, like the United States of America (USA). The legislature is bicameral, with the upper chamber (the Senate) consisting of 109 senators elected from each of the 36 states (three each) and one from the Capital Territory, while the lower chamber (the House of Representatives) consists of 360 elected members. The president is the head of state, commander-in-chief of the armed forces and head of government and exercises executive powers. However, these powers are controlled by the legislative arm. At the apex of the judiciary is the Supreme Court of Nigeria, the highest court in the land, which acts primarily as a court of appeal and last resort. It is presided over by the Chief Justice of Nigeria and 21 other judges appointed by the President on the recommendation of the

¹ EIU <https://www.eiu.com/n/campaigns/democracy-index-2021-download-success/>

National Judicial Council (NJC). General elections are held every four years for the executive and legislative branches of government at the state and federal levels. The winners are elected by referendum and serve for a maximum of eight years. There are two major political parties that dominate the country: People's Democratic Party (PDP) and All Progressives Congress (APC).

1.3 Lagos State

Lagos State is located in the south-west of Nigeria, as shown in Figure 1, and consists of 20 Local Government Areas (LGAs) and 37 Local Council Development Areas (LCDAs). It is the smallest state in Nigeria with an area of 3,577 square kilometres, which is about 0.39% of Nigeria's land area. However, it is the most populous state with an estimated population of about 14,862,000 and a growth rate of 3.44%, representing about 7.2% of Nigeria's population. Lagos is the main commercial, financial and maritime centre of Nigeria and has the seaports of Apapa, Tin Can Island, Roro Terminal Ports and Ijora Container Terminal. It is also the economic capital of Nigeria and the most important seaport in Africa, attracting immigrants from all over Nigeria and beyond, including commercial entrepreneurs and industries from around the world. Lagos is an emerging megacity and one of the fastest growing cities in the world.

1.4 Business and Investment Climate in Nigeria

In July 2016, the government established the Presidential Enabling Business Environment Council (PEBEC) and the organisation created the Enabling Business Environment Secretariat (EBES) to work with ministries, departments and agencies at federal and state levels to remove bureaucratic barriers to doing business in Nigeria and make the country an increasingly easy place to start and grow a business. The reforms implemented by EBES have resulted in Nigeria improving significantly in the World Bank's Ease of Doing Business (EoDB) ranking from 170 in 2015 to 131 in 2020, making it one of the top ten countries with the most improvements in the 2020 report. Despite these improvements, Nigeria remains a challenging environment for businesses. Registering a business, getting electricity, registering property, paying taxes, trading across borders and dealing with insolvency are some of the areas considered particularly difficult for businesses. Infrastructure deficits across the country (especially in the areas of electricity, roads and ports) also contribute to Nigeria being a difficult business destination. (World Bank, 2020)

According to the United Nations Conference on Trade and Development (UNCTAD), new Foreign Direct Investment (FDI) in Nigeria amounted to \$4.8 billion in 2021. This amount was more than the \$2.6 billion in new FDI inflows recorded in 2020, which was nearly less than the \$3.3 billion recorded in 2019. This increase in FDI inflows in 2021 was in line with the continental trend of Africa hitting a record \$83 billion (UNCTAD, 2022)². This was more than double the amount reported in 2020, when the COVID-19 pandemic weighed heavily on investment flows to the continent. Despite the strong growth, investment flows to Africa accounted for only 5.2% of global FDI, up from 4.1% in 2020. The Nigerian Investment Promotions Commission (NIPC) takes care of all investments (including foreign direct investment) in Nigeria and promotes the country as a profitable and attractive business and investment destination. The panel regulates the participation of foreign investors in the country and the NIPC Act of 1995 ensures that foreign investors can hold up to 100% of their capital. The NIPC law also guarantees investors that the government will not nationalize or expropriate any company. Investors are also guaranteed the right of access to justice and fair and equitable compensation if

² UNCTAD <https://unctad.org/news/investment-flows-africa-reached-record-83-billion-2021>

the acquisition is made in the national interest or for public purposes. They are also assured that disputes with the government will be resolved amicably through talks or arbitration and that the terms of a bilateral agreement with the investor's country will apply. Investors have the right to appeal to an international arbitral tribunal in accordance with the rules of the International Centre for Settlement of Investment Disputes (ICSID).

1.5 Waste Value Chain and Circular Economy in Lagos

Solid waste management in Lagos State starts from households or other places of waste generation (such as commercial and industrial areas, streets, dustbins, parks and other public areas) and extends to waste collectors, waste transfer stations (TLS), waste disposal/landfill facilities, waste recycling companies and waste incinerators. Waste generation at the household level consists of discarded materials of various types that are considered no longer usable. These are subsequently collected by both formal and informal collectors.

Transfer Loading Stations (TLSs): The TLSs are an important link in the waste value chain. The waste collected in the municipalities are received at this point, sorted and separated into the different waste components before transferred to the permitted landfills, dumps or recycling sites. However, the TLSs are currently not functional and therefore no sorting of waste is presently going on in Lagos.

There are three transfer loading stations in Lagos and located as follows:

- **Simpson TLS**, located around Sura Market, in the Simpson area of Lagos Island. It serves as a temporary disposal site for waste collected in Lagos Island, Lagos Mainland/Victoria Island axes of the state.
- **Agege TLS**, situated along Oba Ogunji Road, collects waste from Agege, Ipaja and Ikeja axes of the state.
- **Oshodi TLS**, located in central part of Oshodi along Apapa-Oshodi Express way. The station services Oshodi, Apapa and Mile 2 axes of Lagos.

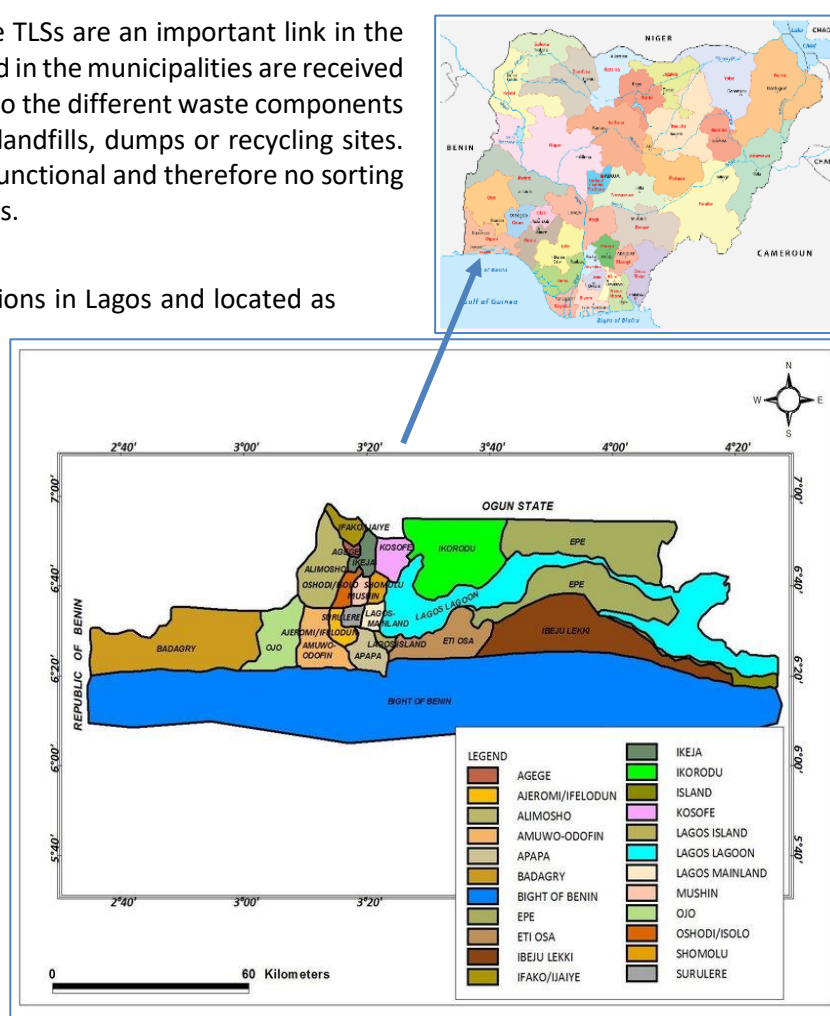


Figure 1: Lagos State, Nigeria and its LGAS and LCDAs

Landfill or dump Sites: There are four major and two satellite approved dumps sites in Lagos State. The major dump sites are:

- a. **Olusosun dumpsite:** It is located in the northern part of Lagos, in Ikeja Local Government Area, and covers an area of about 42.7 hectares with a remaining useful life of 20 years. It has been in operation since November 1992. The 100-hectare landfill is the largest in Africa and one of the largest in the world. It is expected to accommodate about 70% of Lagos' total waste deposits, averaging up to 10,000 tonnes of solid waste per day.
- b. **Abule-Egba dumpsite:** This dumpsite is about 10.2 hectares in size and is located in the western part of Lagos in the Alimosho community. It receives waste from the densely populated area and has a residual lifespan of about 8 years.
- c. **Solous dumpsites:** These are Solous I and Solous II, which are located on the Lagos State University-Iba Road. Solous I covers an area of about 7.8 hectares and has an average life of 5 years, while Solous II is a relatively new facility covering an area of about 5 hectares and has an average life of 5 years. Each of these facilities receives an average of 2.25 tonnes of waste per day and has been in operation since 2006 and 2009 respectively.

The Satellite dumpsites comprise of:

- a. **Ewu Elepe dumpsite**, which is located at Ewu Elepe, off Ijede Road in Ikorodu Local Government Area. It occupies about 8 hectares of land and has been in operation since November 2008.
- b. **Sangotedo dumpsite** in Eti-Osa Local Government.
- c. **Temu dumpsite** occupying about 8 hectares of land in Epe Local Government and has been in use since February 2009.

These landfills serve as a fallback for the three main landfills and have the advantage of proximity. The landfills receive an average of about 1.86 tonnes of waste per day.

Currently, Waste aggregators operating in collection centres receive the collected recyclables from waste collectors, aggregate and process it, and transform it into inputs for end-users or compounders, such as manufacturing and recycling companies that transform the waste, especially plastics, into products such as plastic chairs, for example. In this approach, the principles of the circular economy (CE) are fulfilled by recovering value instead of simply disposing of the waste into the environment, e.g. through landfilling or simple dumping, which usually ends up in open drains, rivers and later the sea.

The concept of the circular economy emerged from efforts to preserve the value of materials, components and products in the economy and to slow their degradation and loss of value through maintenance, repair, refurbishment, remanufacturing and recycling. In order to achieve CE, processes must be put in place to recover waste generated at all stages of the production and consumption value chain, either in the form of natural resources or man-made materials, components and products. Resource recovery from waste is not a straightforward process. It depends on the varying composition of solid waste and the diverse collection and management regimes that are implemented around the globe. Most importantly, the recovery of resources from waste depends on the process chain, i.e. the activities and performance of the value chain and the structures (formal/informal networks of actors) created and shaped by the relationships between actors throughout the value chain, linking production, distribution, access and management.

The first major attempt to extract resources from solid waste was made in Lagos in 1981. At that time, the civilian government of Alhaji Lateef Jakande built five waste incinerators across the state. The aim was to build an incinerator in every local government area. Unfortunately, the programme was not continued due to inadequate logistical analysis and the unwillingness of the municipal authorities in particular to deviate from existing practices.

1.6 Description of the Existing Municipal Waste Management Structure in Lagos

In Lagos State, various agencies are involved in waste management, with the Ministry of Environment (MoE) having overall responsibility. This section presents the institutional framework for waste management in Lagos State. The roles and responsibilities of the bodies directly responsible for waste management in the state are incorporated in the Lagos State Environment Act of 2011. Figure 2 shows the various parastatal institutions responsible for environmental management in Lagos State

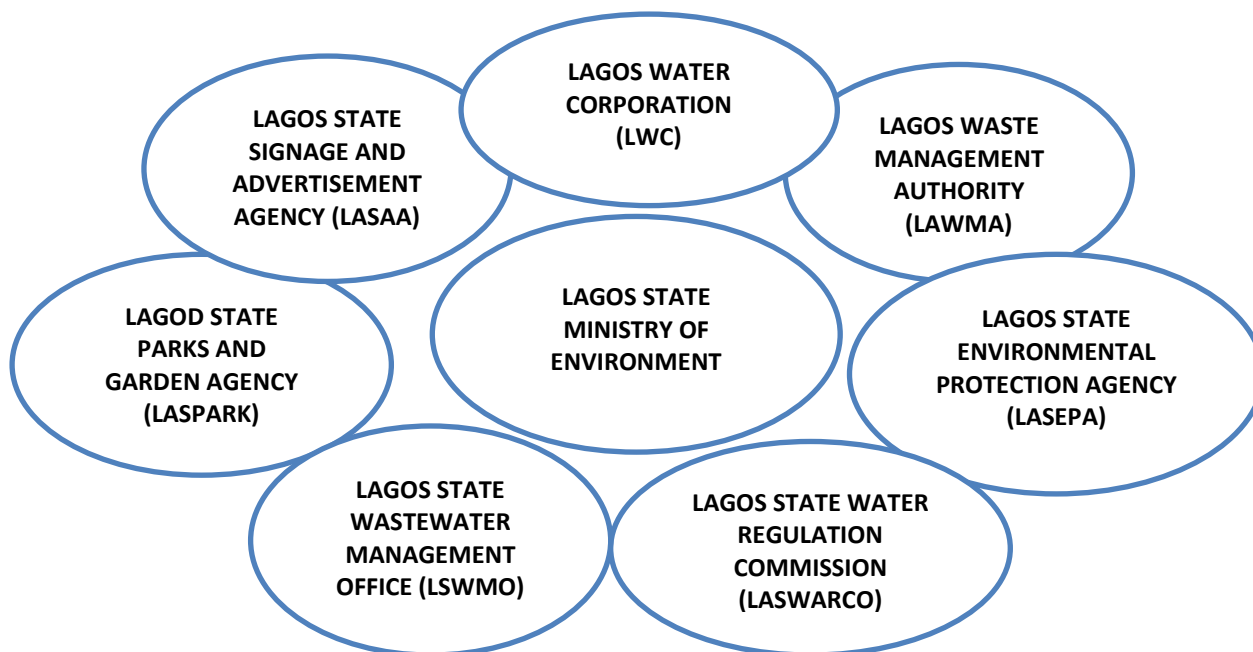


Figure 2: Parastatals responsible for Environment Management in Lagos

LASPARK, LASEPA, LWC, LAWMA, LASAA and LSWRC are semi-autonomous development agencies and parastatals of the government over which the Ministry of Environment only exercises a supervisory role, while LSWMO is an office or department of the Ministry. However, only LASEPA, LAWMA and LSWMO are directly responsible for waste management in the state. LAWMA is responsible for solid waste, LSWMO for liquid waste and LASEPA for the monitoring and control of waste management, including the enforcement of waste management laws and regulations in the state (see Figure 3).

In Lagos State, the Waste Management Authority (LAWMA) is by law responsible for the management of solid waste from residential, commercial, institutional and industrial premises in Lagos State. This responsibility includes the collection, transportation and disposal of municipal and industrial waste. To achieve its mandate, LAWMA has established a system for the collection of waste through the participation of the private sector, known as Private Sector Participants (PSPs), who in collaboration with LAWMA, carry out the daily collection and transportation of waste to the various dumpsites spread across the state.

The Lagos State Environmental Protection Agency (LASEPA), on the other hand, is responsible for protecting the quality of the environment in Lagos State, including monitoring and controlling the disposal of solid, gaseous and liquid wastes generated in the state.

LAGOS WASTE MANAGEMENT AUTHORITY (LAWMA)	LAGOS STATE WASTEWATER MANAGEMENT OFFICE (LSWMO)	LAGOS STATE ENVIRONMENTAL PROTECTION AGENCY (LASEPA)
<ul style="list-style-type: none"> • Collect and dispose of waste from public institutions. • Monitor environmental impact of the waste management system related to air, water and soil pollution and adapting standards and regulation, as well as environment protection strategy and policies as appropriate. • Inspect waste management facilities permitted by enforcing agent after the completion of their construction and on a regular basis while under operation to ensure their compliance with relevant environmental laws, regulations, standards, and conditions of operation. • Clean streets, roads, and designated public places. • Make provision for waste management services to State agencies, local governments, industries, business entities and private persons within the State by receiving waste at the Authority's facilities pursuant to contractual agreement between the Authority and such other party. • Develop guidelines and targets for waste avoidance and volume reduction through source reduction and waste minimization measures, including composting, re-use, recovery, and green charcoal process. • Regulate proper segregation and containerization of waste through policy formulation and public awareness. • Preserve proper collection, transportation, treatment, and disposal of waste by adopting best environmental practice. 	<ul style="list-style-type: none"> • Provide, improve, and extend a system of public sewers (whether inside its area or elsewhere) and to cleanse and maintain those sewers as to ensure that the area is and continues to be drained; and • Make provision for the emptying of on-site sewage collection systems and sewers and such further provision (whether inside its area or elsewhere) as is necessary from time to time for dealing, by means of sewage disposal works or otherwise, with the contents of the tanks or containers or sewers. • Enter partnership with Investors, financial institution on behalf of LASG for provision of entire sewerage or any part thereof wastewater treatment plants in designated catchment locations within the State. • Approve and monitor all wastewater disposal points and regulate all activities therefrom. • Establish and regularly review wastewater management charges in the State. • Monitor and regulate construction of wastewater treatment plants both public and private, septic tanks, Public Toilet, Mobile Toilet, Cesspool in the State. • Monitor and regulate the periodic evacuation of septic tanks in all premises in the State. • Monitor and regulate operations of wastewater on trucks, mobile toilets. • Concession, register, certify and renew I and permits to all persons or organization in the business of wastewater treatment plants consultancy and contracting, wastewater collection, treatment, and disposal. • Revoke, Suspend, transfer license, concession. 	<ul style="list-style-type: none"> • Advising the State Government on all environmental management policies. • Giving direction to the affairs of the Agency on all environmental matters. • Preparing periodic Master plan to enhance capacity building of the agency and for the development and natural resources management. • Carrying out public enlightenment and educating the public on sound methods of environmental sanitation and management. • Carrying out appropriate test on insecticides, herbicides, and other agricultural chemicals • Monitoring and controlling disposal of solids, gaseous and liquid waste generated by both government operations. • Setting monitoring and enforcing standards and guidelines on vehicular emission. • Surveying and monitoring surface underground and potable water, air land and soil environments in the state to determine pollution level in them and collect baseline data. • Promoting co-operation in environmental science and technologies with similar bodies in other countries international bodies connected with the protection of the environment; and • Cooperating with the federal, state and local Governments, statutory bodies and research agencies on matters and facilities relating to environmental protection.

Figure 3: Connections and Responsibilities of Authorities in Charge of Waste Management in Lagos

2. Policy and Regulatory Framework on Waste Management System

2.1 Existing Policies, Regulatory Framework and Enforcement System in Nigeria

Section 20 of the Constitution of the Federal Republic of Nigeria (1999) recognizes the importance of protecting and improving the environment through the safeguarding of water, air, land, forest and wildlife of Nigeria. It also states that the local governments have the power to protect and improve the environment and to protect the water, air, land, forest and wildlife of Nigeria.

The Federal Ministry of Environment administers and enforces environmental laws in Nigeria, while each State and Local Government may set up its own environmental protection body and empower them to make laws for the protection and improvement of the environment within the state or jurisdiction.

A summary of the existing relevant policies and regulations are provided in the Tables in Appendix 2.

2.2 Waste Management System Lagos State

The Lagos State Refuse Disposal Board (LSRDB) was instituted under Edict No.9 of 1977, which was the first of its kind in West Africa. The Board was entrusted with the responsibility for environmental sanitation and the collection and disposal of domestic waste in Lagos State. With the enactment of a new law - Edict No. 55 of 1991 - the board was renamed the Lagos State Waste Management Authority and given additional responsibilities for the collection and disposal of municipal and industrial waste and the provision of commercial waste services to the state and Lagos State Local Government Areas. LAWMA works closely with the Lagos State Ministry of Environment and has initiated reforms in the collection of waste bills and aims to increase waste recycling.

Solid waste management in Lagos includes the generation of waste in households, industry, commerce, institutions, and the public areas, followed by collection, transport and transfer stations where the waste is sorted and recycled before finally being disposed of in a landfill. Solid waste is also transported directly from the points of generators to dump sites for eventual landfilling.

There are many players at the various levels of management, which include the Private Sector Operators, waste pickers, waste recyclers, waste aggregators and converters, with LAWMA being the major regulator. Each of these players, as stated earlier constitutes the stakeholders in the operation of the system.

2.3 Lagos State Waste Management Authority (LAWMA)

LAWMA is an agency established by the Lagos State Government to manage waste generation across the state through an efficient waste collection, transportation and disposal system. The objective is to improve waste management and create a cleaner and more aesthetically pleasing environment, which will result in

unhindered flow of sewage, less flooding, improved traffic flow, less cart pushing and indiscriminate dumping of waste.

The Lagos Waste Management Authority (LAWMA) was established under the Lagos Waste Management Law, Cap 27 vol. 40 2007 and shall be the enforcing authority for Solid Waste Management as stipulated under the Environmental Law of Lagos State 2011 (Appendix 3). Figure 4 shows the organogram of LAWMA, showing different functional departments of the Authority. LAWMA is headed by a Managing Director, supported by an Executive Director (Finance), a Chief Technical Officer, three Assistant General Managers (AGM) and heads of different departments.

In order to fulfil its mandate under the Act, LAWMA has established a system for the management of household, industrial, construction, commercial, health, institutional and other wastes such as hazardous or special wastes. This is done through the licensing and approval of waste collectors known as Private Sector Participants (PSPs) who are granted concessions in collaboration with a Local Government Council Area to collect fees, collect and dispose of solid waste within the respective Local Government Council Area, and waste management companies who collect, store, treat or dispose of waste in the course of their business by operating waste collection vehicles or other mobile equipment or devices of any kind for all or any of these purposes.

In addition to PSP operators, LAWMA also registers waste collectors and waste recyclers who collect and recycle solid waste in the state.

2.4 Lagos State Environmental Protection Agency (LASEPA)

LASEPA was established on the 1st of November 1996 by virtue of the LASEPA Edict No. 9 of 1996 (now Environment Management Protection Law 2017 Part VI). The main function of the Authority is to protect and improve the environment and to assist public and private organisations, industries, businesses and non-governmental organisations to comply with regulations by providing environmentally friendly solutions to various environmental problems.

It is a parastatal agency of the State Ministry of Environment (MOE) and carries out its statutory functions through nine departments (seven MOE departments and two non-MOE departments) supported by ten units and four zonal offices. The technical departments are responsible for laboratory services, monitoring and enforcement, research and data, and regulations, among others (see Figure 5).

As an implementing agency of government environmental policy, the agency closely cooperates with other relevant stakeholders as well as with national and international environmental organisations. Therefore, LASEPA works under the ambit of national, state and local government environmental laws, multilateral treaties, agreements, conventions and protocols signed by the federal government relating to the environment.

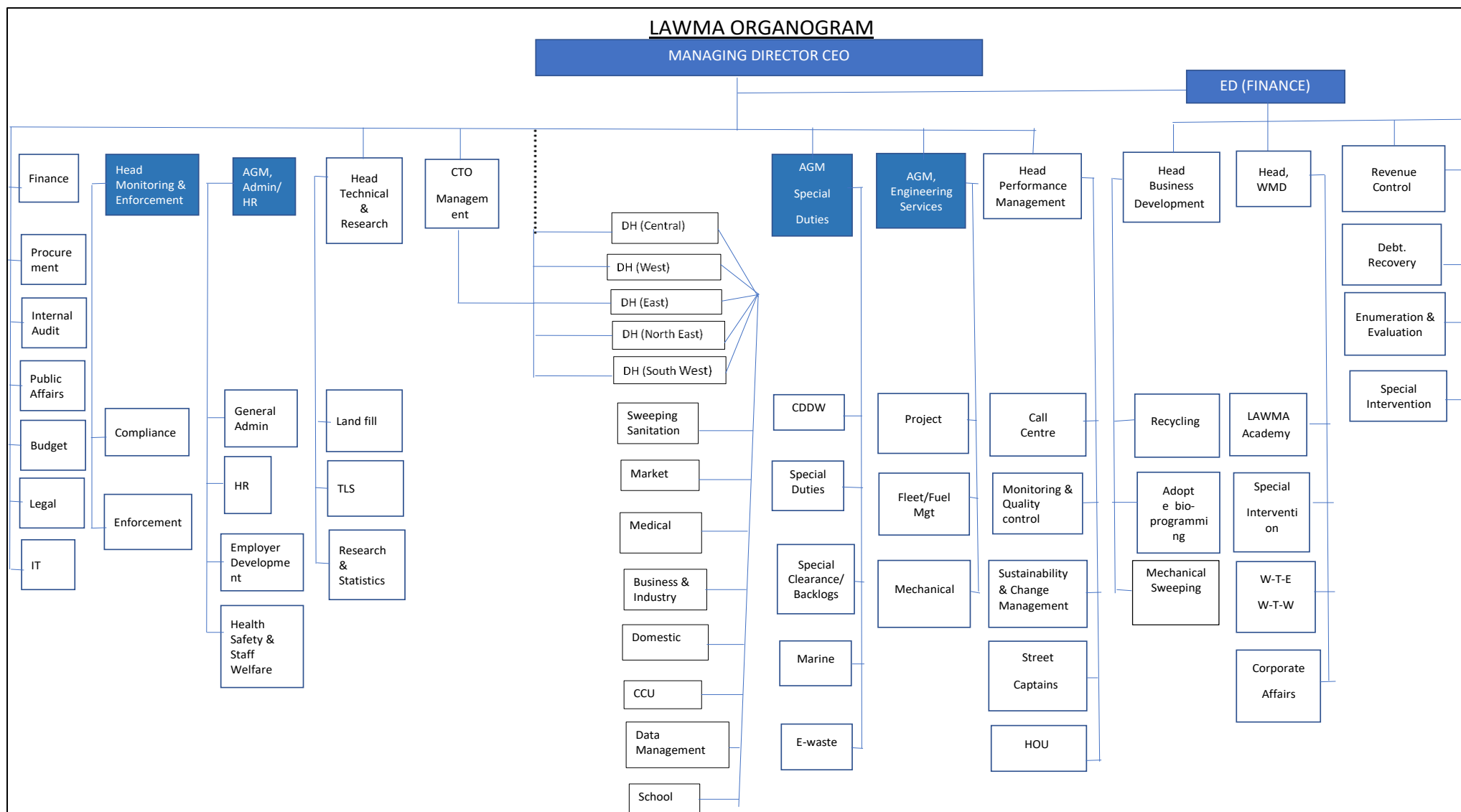


Figure 4: Organogram of LAWMA

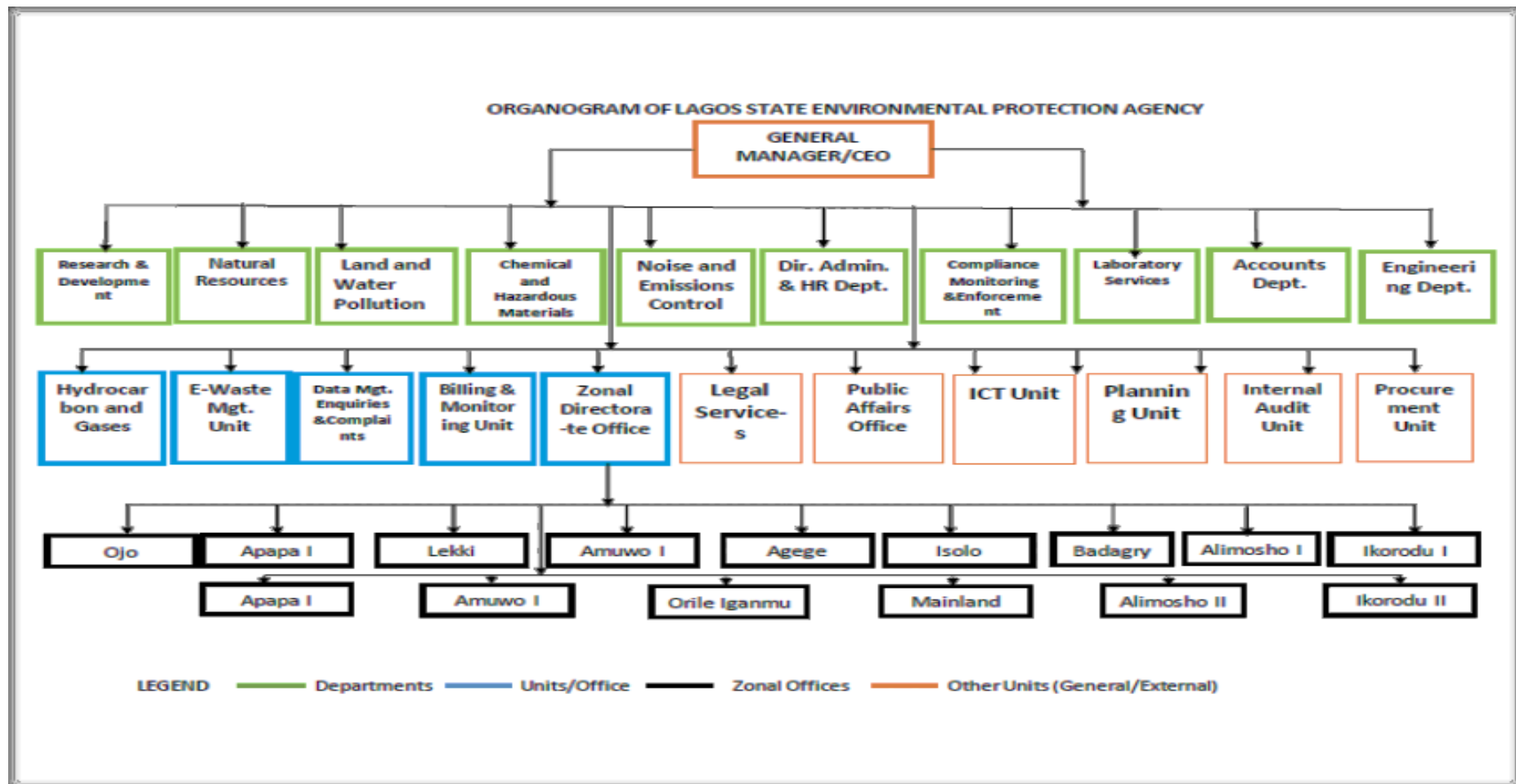


Figure 5: Organogram of LASEPA

2.4.1 Private Sector Operators (PSP)

Private Sector Participants (PSPs) are formal operators licensed by LAWMA to transport waste from households, commercial centres, industries, institutions and markets either directly to one of the TLSs or directly to a permitted landfill site in the state. Private sector participation in waste collection and transportation has been in place since 1997 under the Lagos State Ministry of Environment with pilot projects in Kosofe and Bariga LGAs. It was extended to other areas in 1999 but suffered a setback in 2002 and was then reviewed in 2004 with the appointment of new mega PSPs. In March 2007, the PSPs were transferred to LAWMA.

This initiative has offered a lot of job creation opportunities. There are 377 wards in the 20 LGAs and 37 LCDAs in Lagos State. To date, LAWMA has licensed 462 PSP operators across the state. The list of licensed PSP operators can be found in Annex 4.

2.4.2 Association of Scrap and Waste Pickers in Lagos State (ASWOL)

ASWOL formed in 2018 was registered in 2021 to represent waste pickers that collect waste from companies, dump sites, slums, streets and door to door. The association is affiliated to the Federation of Informal Workers Organizations of Nigeria (FIWON) and licensed by LAWMA to collect and handle scraps and recyclables in Lagos State. According to ASWOL, there are more than 15,000 waste pickers spread all over the state, but only 11,000 are captured in their register. Appendix 5 provides a list of their members.

ASWOL members pick waste mostly from dumpsite:

- Commercial Places
- Markets
- Streets
- Industries
- House to House

The waste is mostly transported by waste pickers using the following:

- Carts
- Vehicles (open trucks; depending on the volume)
- Bicycles

2.4.3 Lagos State Recyclers Association (LAGRA)

LAGRA is an association for waste recyclers registered by LAWMA that carry out the door-to-door pickup of recyclables in Lagos State. There are 45 companies on the register under the Lagos Recycle Initiative of LAWMA. Appendix 6 provides a list of the registered companies and their locations in Lagos State.

2.4.4 Recyclers Association of Nigeria (RAN)

Waste aggregators include members of the RAN which is the umbrella body for waste recyclers/aggregators in Nigeria, while the informal sector, which basically are waste pickers who intervene at various stages of the waste stream and collect mostly recyclable waste materials, such as plastics, packaging materials, metals, glass, electronic waste (e-waste) and others. These groups collect waste from households, along the streets, on open drains or water bodies, etc. Plastic waste collection is the most dominant within the value chain in Lagos. Appendix 6 shows some of the registered corporate RAN members (RAN, 2017)

2.4.5 Association of Waste Managers of Nigeria (AWAMN)

The Association of Waste Managers of Nigeria (AWAMN) was registered in 2008 as a membership-based organization with over 800 members across Nigeria. The membership cut across various value-chain actors/practitioners within the waste management industry, from waste collectors to recyclers, academics and consulting companies in Nigeria.

The association is the authoritative voice on waste management, resource recovery, etc. in Nigeria and seeks to achieve positive development in the industry through the establishment of mutually benefitting partnerships and strengthening relationships, collaboration, knowledge sharing and championing the implementation of international best practices and standards.

2.4.6 Food and Beverage Recycling Alliance (FBRA)

FBRA was set up as a non-governmental organization (NGO) in March 2018 as an Extended Producer Responsibility (EPR) to implement an industry lead model comprising of companies and organizations in the food and beverage sector such as producers, converters, and manufacturers. There are about 23 members within this alliance, including Guinness Breweries, International Breweries, Multinational Breweries and Distillers, Lacasera, UAC Plc and others.

FBRA is not a recycling institution, but a producer responsibility organization set up to implement EPR and to enhance the operation of the value chain and work with about ten collection partners. FBRA has collected and treated over 21,353,366 Kg of various types of packaging materials as shown below.

Table 2: Packaging Materials Collected and Treated

Period	Type of Packaging (Kg)			
	Rigid Plastics	UBC	Flexibles	Total
2018	14,900	0	0	14,900
2019	669,068	0	0	669,068
2020	5,788,722	58,495	0	5,847,217
2021	10,549,449	449,904	561,300	11,560,653
2022 (Jan - April)	2,657,903	171,871.00	431,754.00	3,261,528
Total	19,680,042	680,270	993,054	21,353,366

3. Methodology

The methodology used in this mapping included the following:

- a. Information, Data Collection, literature search and Analysis
- b. Identification of Stakeholders
- c. Development of Survey Questionnaire
- d. Conduct of Survey/Stakeholders' Engagement
- e. Analysis and Report writing

3.1 Information, Data Collection and Analysis

A literature review was conducted to identify and characterise the existing waste value chains in Lagos State that would provide the necessary information needed to create a digital marketplace.

The literature review included international and national sources and expert contributions, complemented by consultations with officials responsible for the respective topics and key stakeholders such as government agencies such as LAWMA and LASEPA, waste collectors, waste recyclers, associations and companies within the value chain.

3.2 Identification of Stakeholders

In Lagos State, there are both formal and informal actors within the value chain, which can be categorised into the following groups:

- Management, control, regulation and compliance monitoring authorities
- Private Sector Participants (PSP) involved in formal waste collection
- Waste Pickers Association (ASWOL)
- Waste Recycling Associations (LAGRA)
- Recyclers Association of Nigeria (RAN)
- Association of Waste Managers of Nigeria (AWAMN)
- Extended Producer Responsibility (EPR)
- Waste Dump Managers
- Waste Recycling Companies

3.3 Development of Survey Questionnaire

The questionnaire was developed together with BlackForest Solutions GmbH, a German consulting company. There were four questionnaires addressed to the different categories of actors, namely waste management, monitoring and control authorities, waste associations (consisting of formal and informal actors), waste recovery companies and PSP operators. Each of the questionnaires was divided into different sections covering each role in the value chain. The questions were on issues such as:

- Information on the organization, business and challenges.
- Awareness, attitude towards the environment, materials handled, policies including Extended Producer Responsibility (EPR).
- Operational issues, including type of waste collected and/or processed.
- Gender-related questions were included, where necessary.

3.4 Conduct of Survey and Stakeholders Engagement

A total of 22 questionnaires were distributed to the different stakeholder groups. It was first made available to the various stakeholders electronically and then followed up with face-to-face interviews. Furthermore, visits were made to the Olusosun landfill, the largest landfill in Lagos, to interact with some PSP operators and the operator of the landfill.

The responses gathered were summarised for each stakeholder or stakeholder group and can be found in Appendix 1.

4. Data Collection and Analysis

4.1 Data Collection

The overall objective of this study is to identify and characterise the existing waste value chain in Lagos State and determine how the various waste fractions are currently recovered through the activities of waste generators and buyers. The analysis will also help determine the potential market size of these activities and map possible nodes for the various activities.

Primary and secondary data were collected through various field activities including visits to offices to conduct direct interviews and preparation of questionnaires for the various stakeholders. On the other hand, secondary data was collected through literature review and collection of existing data from key stakeholders such as LAWMA and some previous works by organisations and individual researchers such as the World Bank, Nigeria Climate Innovation Center (NCIC) with support from GIZ Pro-Poor Growth and Promotion of Employment in Nigeria Programme - SEDIN of Deutsche Gesellschaft für Internationale Zusammenarbeit (GIZ).

The questionnaire largely contained institutional/organisational questions on awareness of activities within the value chain, knowledge of functioning digital marketplace, perceptions of the market for recyclables in Nigeria and strategies to address the likely challenges of implementing a digital marketplace.

The responses collected were analysed to draw relevant conclusions and recommendations.

Table 3: Questionnaire(s) Respondents

No.	Respondents/Respondent Groups	Number of questionnaires
1	Private Sector Participants (PSP)	13
2	Recyclers Association of Nigeria (RAN)	1
3	Lagos Recyclers Association (LAGRA)	2
4	Association of Waste Pickers (ASWOL)	1
5	Association of Waste Managers of Nigeria (AWMN)	1
6	Food and Beverages Recycling Alliance (FBRA)	1
7	Lagos Waste Management Authority (LAWMA)	1
8	Lagos State Environmental Protection Agency (LASEPA)	1
9	Waste Aggregators / Recyclers	1

4.2 Analysis

4.2.1 General Overview of Waste Value-Chain in Lagos

As part of this waste value chain assessment, a total of 22 questionnaires were successfully administered and analysed. All respondents/groups of respondents who participated in this survey volunteered and returned their questionnaires after the interviews and successful administration.

Most respondents are involved in the collection and recycling of waste, especially plastics. Only one respondent submitted the questionnaire under extended producer responsibility (EPR). The study, which involved both upstream and downstream actors in the chain, revealed that many actors are involved in waste recycling in Lagos. Table 4 gives an overview of the completed questionnaires on the waste value chain.

Table 4: Summary of Waste Value-Chain Questionnaires

Value Chain	No.
Government	2
Recyclers Association/Recyclers	5
Extended Producer Responsibility (EPR)	1
Waste Pickers	1
Waste Collectors (PSP)	13

4.2.2 Analysis of Survey of Waste Value-Chain Players

In the analysis of the primary and secondary data collected, a concise description of the main aspects related to the activities of waste recovery stakeholders in Lagos State has been provided in Table 5.

Table 5: Description of Waste Value Chain in Lagos State

S/N.	Value Chain Group	Chain Position	Activities	Notable Players
1	LAWMA	Government	Regulator and operator	Civil Servants, Private Sector Participants (PSP)
2	LASEPA	Government	Monitoring and enforcement	Civil Servants
3	FBRA	Extended Producer Responsibility (EPR)	Implementation of industry led models comprising of companies and organizations in the food and beverage sector such as producers, converters and manufacturers	Guinness Breweries, International Breweries, Intercontinental Distillers, Lacasera, UAC Plc.
4	AWAMN	Recyclers Association	Establishment of mutually benefitting partnerships, strengthening relationships, collaboration, knowledge sharing and championing the implementation of international best practices and standards	Accredited/ licensed private/ public solid waste management operating companies in Nigeria Persons or corporate bodies duly honoured as Patron/ Matron/Advisers/ Ambassadors
5	RAN (represented by Waste Recycle Point and EcoViridis)	Recyclers Association/Recyclers	Off takers from waste pickers, coordinate sales to recyclers and direct recycling plastic materials	Companies and Associations. See Appendix 6
6	LAGRA (represented by Waste Exchange Ltd.)	Recyclers Association/Recyclers	Door-to-door pickup of recyclables	Companies and Associations. See Appendix 5
7	ASWOL	Waste Pickers	Engage in waste collection from households, streets, commercial areas, dump sites markets and industries. Sorting of waste at source of generation and sale to recyclers	Informal waste pickers. See list in Appendix 4
8	Private Sector Participants (PSP)	Waste Collectors	Engage in waste collection from households, commercial areas and industries in zones allotted by LAWMA	See Appendix 3
9	Richbol Recycling Services	Waste Recycler	Off takers from waste pickers, process, direct recycling, sale to recyclers and direct recycling of plastic materials	Formal Sector

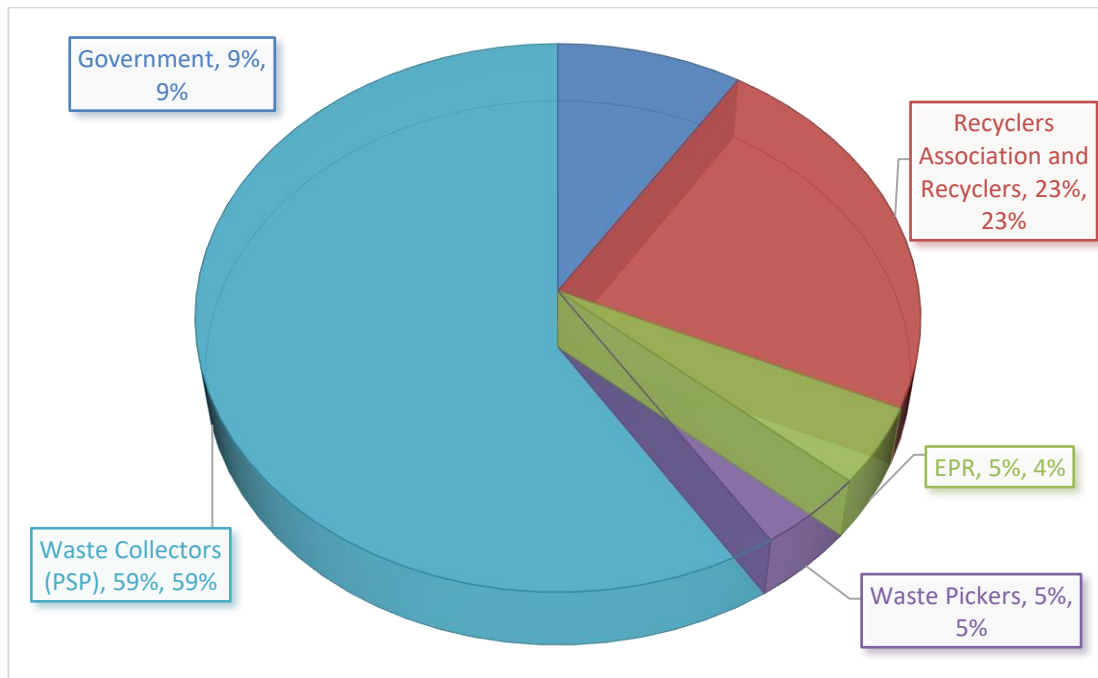


Figure 6: Percentage of Each Value-Chain Category Interviewed

4.2.2.1 Waste Collectors

Under this category, thirteen companies at the Olusosun dumpsite were interviewed and were listed as respondents. The summaries of the responses of each respondent can be found in Appendix 8.

Other interesting summaries of the responses can also be found in Tables 6 and 7, which show that three of the thirteen waste collectors collect household waste, while six collect both household and commercial waste and four collect household, commercial and industrial waste. The area of operations of these collectors covers the whole of Lagos State.

4.2.2.2 Waste Recyclers

As already shown in Table 5, five waste recyclers in the value chain were interviewed, including Waste Recycle Point, EcoViridis, Waste Exchange Ltd.), Richbol (27%) and AWOL (4.5%), representing about 32% of the value chain. Tables 9 and 10 contain summaries of the interviews.

Table 5: Summary of Waste Collectors (PSP Operators) Questionnaire Interviews (Sheet 1 of 2)

Respondent	Trips per month	Volume per month (cu.m)	Waste handling at the point of collection	Market for waste recycling	Most profitable recyclable	Perceived market leader	Av. CAPEX (N)	AV. OPEX (N) per month
1	20		Comingled	Negative	PET Bottles	No Idea	40,000,000	
2	20	240	Comingled	Positive	Irons and Cans	PSP Operators	20,000,000	1,000,000
3	80		Comingled	Neutral	PET Bottles	No Idea	100,000,000	
4	18		Comingled	Positive	Plastics and Metals	Wecyclers		
5	88		Sorted	Positive	PET Bottles	No Idea		
6	60	60	Comingled	Positive	Not sold	No Idea		4,800,000
7	40		Sorted	Positive	Neutral	No Idea		
8	30 - 34	500 - 500	Comingled	Positive	PET Bottles	No Idea	20,000,000	1,200,000
9	60 - 70		Comingled	Positive	Plastics	No Idea		
10	48		Comingled	Positive	Paper	No Idea		5,000,000
11	60		Comingled	Positive	Pet bottles, irons	No Idea		
12	48		Comingled	Positive	Plastic/ pets/iron	LESZX plastic Company		1,500,000
13	16		Comingled	Positive	PET Bottles	No Idea		

Table 6: Summary of Waste Collectors (PSP Operators) Questionnaire Interviews (Sheet 2 of 2)

Respondent	Knowledge of digital marketplace	Most important feature in the proposed digital market tool	Prospects for investment in recycling capacities	Biggest challenge in the treatment/recycling of the waste.	Perception of market for recyclables
1	Yes	Accessibility	Yes	Waste Collection	Positive
2	No		Yes	Waste Sorting Equipment	Positive
3	Yes		Yes	Logistics and Electricity	Positive
4	No		Yes	Awareness and Enlightenment	Neutral
5	No		Yes	Truck maintenance and funding	Positive
6	Yes		Yes	NA	Negative
7	Yes		Yes	NA	Neutral
8	No		Yes	NA	Positive
9	No		Yes	Capital	Positive
10	Yes	Ease and Accessibility	Yes	Awareness and Enlightenment	Neutral
11	No		Yes	Waste Sorting	Positive
12	Yes	Business Enhancement	Yes	Funding, land and knowledge	Negative
13	No		Yes	Machinery	Neutral

Table 7: Surmounting the Challenges and Other Aspects of a Digital Marketplace

Respondent	Quality/Security for the users	Transparency and avoidance of Fraud	Business model of a digital marketplace	Convenience for the users	Eligibility	Attracting traffic to platform	Laws and regulations related to - Extended Producer Responsibility (EPR)
1							
2	Security and audit						
3							
4		Monitoring			Individuals & producers		Enforcement medium
5							
6							
7							
8							
9	Quality audit						
10		Openness			Individuals		
11	Regulation and monitoring			Logistics			
12		Due Diligence	Subscription		Those who meet criteria	Follow-up	Mandatory usage
13				Preference & regulation			

Table 8: Summary of Waste Recyclers Questionnaire Interviews (Sheet 1 of 2)

Respondent	Materials collected	Perception of market for waste recycling	Most profitable recyclable	Perceived market leader	Buyers of your recyclables	Type of waste and volume pre-month	How waste is collected
AWAMN	Plastics, PET, HDPE, LDPE, PP, Metal: ferrous and non-ferrous, paper and cardboard and glass	Positive	PET, Metal	Difficult to say	N/A	N/A	
Waste Recycle Point	Plastics, Glass, Aluminium Cans, Cartons and Pure Water Sachets. However, the plastics collected are in the following forms: PET; HDPE; LLDP	Positive	Plastics	LAWMA	ALKEM, ALEF group, Kaltani, Green recycling	300 tons per month of waste	47 – 49 registered waste pickers
EcoViridis	PET bottles, cartons and glass	Positive	Aluminium and metals	Greenspace, Alkem	Sale on demand	PET bottles: 40 tons Carton: 3 - 5 tons Glass: 10 – 50 tons Aluminium - less than 1 ton	47 – 49 registered waste pickers
Waste Exchange Ltd.	Plastic, aluminium cans, paper	Positive	Aluminium and metals	Wecyclers, Recycle Point and Green E	Kaltani Recyclers and Top Polymer	Plastics, Cartons, Nylon, Aluminium & Cans; Approx. 25 to 30 tons	Waste pickers
Richbol Recycling Services	N/A	Positive	Aluminium and metals	Not determinable	N/A	PET: 350 - 400 tons	
AWOL	PET bottles, HDPE, LDPE, metals, paper/ cardboard, glass bottle, aluminium and cans	Positive	Metals	Alkem and Lexis for PET bottle; African Steel, African Foundry for Metals	N/A		

Table 9: Summary of Waste Recyclers Questionnaire Interviews (Sheet 2 of 2)

Respondent	Knowledge of digital marketplace	Most important feature in the proposed digital market tool	Prospects for investment in recycling capacities	Biggest challenge in the treatment/recycling of the waste.	AV. CAPEX (N) per month
AWAMN	N/A	Transparency and Security	Yes	N/A	
Waste Recycle Point	Yes	Financial Inclusion, data collection, storage etc. transparency and integrity in financial transactions	Yes	Land for operation, storage, huge cost of processing equipment and expensive cost of maintenance	
EcoViridis	Yes	Price regulation	Yes	Waste collection, policy challenge, access to funds, ease of doing business, laws, regulations and separation at source	
Waste Exchange Ltd.	No		Yes	N/A	165 million
Richbol Recycling Services	Yes	Ability to vet the off takers and buyers		N/A	
AWOL	No		Yes	N/A	

Table 10: Surmounting the Challenges and Other Aspects of a Digital Marketplace

Respondent	Quality/Security for the users	Transparency and avoidance of Fraud	Business model of a digital marketplace	Convenience for the users	Eligibility	Attracting traffic to platform	Laws and regulations related to EPR
AWAMN							
Waste Recycle Point	Security and right Technical staff		Education to ensure more participation and subsidy	Training in use of the application and understand the invoicing	Everyone	Transparency in the App. Prompt payment, non-mismanagement of data, training on use of the App	
EcoViridis		Government and policy advocacy, code of ethics	Subscription and commission or waivers for frequent users and long-term members				
Waste Exchange Ltd.	Transparency	Openness, price stability and ease of access	In comparison with PAKAM, there should be no subscription	Drop off by waste generators, reverse logistics by Off takers to help recyclers collect along their route	Everyone with access to an Android phone and USSD for those without android phone	Incentives and good pricing such as raffle as PAKAM	National Plastic Policy and Lagos State Plastic Policy
Richbol Recycling Services							
AWOL	Trust	Reduce human interface	Payment of commission	Create drop off centres on the streets within the local govt	Pay as you go/pick system to discourage by-pass of the platform		Mandatory use of recycled polymers

4.2.2.3 Extended Producer Responsibility (EPR)

Most of the respondents have heard of EPR, but apparently there is only one organisation, the Food and Beverage Alliance (FBRA), that addresses it. However, Lagos is yet to transpose the existing national law on EPR into national law. Therefore, there is no law on EPR in Lagos State as of now. This could be the reason for the low number of organisations implementing the strategy in the state.

EPR is generally seen as a positive development as it requires manufacturing companies to buy back their plastics, which could encourage them to use the services of waste collectors as a responsible producer organisation (PRO).

Food and Beverage Alliance (FBRA) is not a recycling company, but a producer responsibility organization set up by some producers of food and beverages to implement EPR. Table 12 presents the summary of their responses.

4.2.2.4 Government

The Lagos Waste Management Authority (LAWMA) and the Lagos State Environmental Protection Agency (LASEPA) are state agencies responsible for regulation and enforcement/monitoring within the value chain. See Sections 2.21 and 2.2.2 above for a description of their functions and institutional framework. Questionnaires were also distributed, and a summary of the responses is also provided in Table 13.

4.2.3 Specific Findings

- **Trips per Month:** Table 6 shows that the number of monthly trips made by companies to the Olusosun dumpsite and the amount of waste brought there by PSP operators range from 60 to 500 tonnes per month.
- **Nature of Waste Materials:** The waste brought to the landfills is mostly mixed. However, 2 respondents dispose of waste which is segregated at source.
- **Market for Recyclables:** Most respondents believe that the market for recycled waste is positive.

Table 11: Summary of EPR Organization Questionnaire Interview

S/N	Questions	Food And Beverage Alliance (FBRA)
1	Please describe the Organizational Structure of your Organization? (Kindly provide the Organogram.)	The organization consists of a Board of Directors made up of four founding member organization alliances, namely Nigeria bottling company, Nestle, Nigeria breweries and 7up bottling company
2	How many staff do you have?	Four staff and volunteers in different locations across Nigeria
3	Who is eligible to be a member?	Producers, converters and manufacturers in the food and beverages sector as well as organizations in the food and beverages sector
4	Members of the Alliance	The members of the alliance are Guinness, International breweries, Intercontinental distillers, Lacasera, UAC, Tulip Cocoa, ENGEE, Tetrapak, Coca-Cola, Primark, Nestle, Seven-up Bottling Company, 30-mnik limited and Nigeria Breweries
5	How is the connection to the Waste Pickers Union (WPU)?	There is no direct relationship but an indirect work through LAGRA and our support with their advocacy programs. No direct relationship, but indirectly working through LAGRA and supporting their advocacy programs
6	How many collection/aggregation units and bottle treatment facilities are there in Lagos State?	We are not recyclers as we have been set up to enhance and work with the collection partners
7	What kind of technology do you employ? Does it include plastic to yarn, bottle-to-bottle xtrusion, shredding etc?	We do not use any of these technology as we do not operate a facility
8	How many bottles, cans or plastics are being collected and treated daily by your Association?	We use our score sheet. See Table 1.
9	How do you handle or process the caps and labels of the bottles/cans you collect for recycling?	We work with collection stream, collect PET, used beverage cartons and flexible plastics
10	How do you perceive the market for recyclables in Nigeria now (positive, neutral, negative)?	Positive
11	Have you heard of a digital marketplace?	No
12	What would be most important for you in the proposed digital market tool?	Waste Price Index that includes fixed price for materials, transportation and logistics
13	Have you heard of Extended Producer Responsibility (EPR) strategy?	Yes
14	Are you aware of any manufacturer who has adopted and is implementing the strategy in their product pricing? If	Members of FBRA implement EPR by paying to support the collection of the end life of a product pricing.

	any, please provide a list of such companies. Do you know how these companies are implementing the EPR strategy? Please give a brief explanation.	
15	From your experience, who is the market leader in Lagos State in terms of bottle waste recycling?	No idea
16	What do you think would be the most important feature in the proposed digital market tool?	It must encompass the whole value chain including collectors and the off takers. The comprehensive data for already existing value chain must be accessible and made easy and affordable to all players in the formal and informal sectors alike
17	Do you see an increase in demand for investment in recycling capacities? If yes, please explain?	Yes. It's a lucrative business
18	In your own view, from the list in (i) to (vii) below, explain how to surmount the challenges and other aspects for a digital marketplace.	
(i)	Provision of quality and security for users	The quality and security for users including standards like this testing, photographs of users for security
(ii)	Transparency in a digital marketplace and avoidance/prevention of fraud and inappropriate behaviour?	Control access through registration
(iv)	Convenience for the users (e.g. how to solve issues relating to logistics, sampling, invoicing etc)?	Make things simple, accessible, easy and fast for users Also make the platform mobile enabled.
(v)	Determination of who is eligible to participate?	Everybody is eligible but terms and conditions of participation should be laid down
(vi)	How do you make sure that users always come back to the platform (once they have established a business relationship on the platform)?	By providing value, creating the right synergy and equipping it with end-to-end resource for the value chain. There should also be commission and percentage to each activity carried out. There must also be a commitment to continuous improvement.
(vii)	What are the laws and regulations related to Extended Producer Responsibility (EPR), e.g. mandatory usage of recycled polymers in Nigeria, as a driver for the success of the platform?	NESRA is a regulatory platform, RPET should exist.

Table 12: Summary of Responses by Government Agency and Authority Questionnaire Interviews

S/N	Questions	LAWMA	LASEPA
1	When was LAWMA established?	LAWMA was established in 1977	LASEPA was established on 24th April 1996 and began operations in July 1996
2	Please describe the organizational Structure (Kindly provide the Organogram.)	LAWMA has five (5) operational regions in Lagos state. Each region has recycling, medical and PSP operation. There are about 400 registered waste collectors (PSPs) in all the regions operating in slots of about five to ten streets each across the State. There are landfill sites around Olusosun, Epe, Solus, Badagry axis and they are all solely managed by LAWMA. We also contribute to waste management in other states and countries (e.g., Kano and California). See Figure 3 above.	See Figure 4 above
3	How many staff do you have?	There are a total of 17,659 staff made up of 4,500 males and 13,159 females	There are a total of 188 staff made up of 84 males and 104 females
4	What role(s) does LAWMA play in the management of waste in Lagos state	LAWMA is majorly a regulator and operates waste collection through the PSPs	<ul style="list-style-type: none"> • Regulator • Operator (limited to hazardous waste destruction exercise) • Both
5	Do you maintain register of operators (operational stakeholders) in waste management in Lagos state?	Yes	LASEPA has a register of <ul style="list-style-type: none"> • Accredited used oil collectors • E-waste recyclers • Used battery collectors/recyclers
6	If the answer to question 5 is yes, are they registered by categories or types of waste they handle, or areas of operation (collection, services, recyclers, reuse, conversion, treatment etc.) registered? Kindly provide a list.	They are registered by the area of operation and type of waste	
7	Are the operational stakeholders registered per LGA/LCDA? Please provide	The operational stakeholders are registered per LGA and LCDA	The operational stakeholders are registered according to their facility address

	a list of the name, location covered and type of waste collected.		
8	What are the applicable laws regulating waste management in the state	Environmental Management and Protection Law of 2017	I. Environmental Management and Protection Law 2017: I. Part III Lagos Waste Management Authority II. Part VI Lagos State Environmental Protection Agency III. Part IX Wastewater Management Office IV. Part IV Environmental Sanitation, statutory nuisances and litters V. Lagos State Environmental (Domestic and Industrial Plastic, Rubber and Foam Sector) Regulations 2014 VI. Lagos State Plastic policy
9	How is Lagos structured in terms of waste management service providers, e.g., how many districts are served and by how many collection companies? And which are these companies? Kindly provide a Map.	There are five districts, West, Southwest, East, Northeast and Central	
10	Who is eligible to collect/treat waste in Lagos state?	PSP Operators and Recyclers	Lagos Waste Management Authority (LAWMA) is statutorily in charge of municipal and domestic solid waste management.
11	Kindly provide a list of formalized waste collection or operating companies in Lagos and the type and size of their fleet.	See Appendix 4	
12	What type(s) of vehicles are being used? Can you please provide pictures?	The waste compactors are of different sizes; <ul style="list-style-type: none"> • 24 m3 (22 tonnes), • 20m3 (18 tonnes), • 16 m3 (14 tonnes). See the Photo Gallery for Pictures	

13	Is the quantity of waste being treated/landfilled recorded, if yes, how is it recorded?	Lagos state generates about 13,000 tons of waste daily. The manual record is kept at the dump sites	LAWMA ensures that waste collection is documented per Local Council Development Areas and per Local Government Area
14	Which waste treatment facilities (sanitary landfill or dump sites) are in Lagos? Please provide a list and their locations.	The controlled dump sites in Lagos state are; Olusosun (in Ojota) Sulous, in Igando and Ewu Elepe	
15	Kindly describe the waste flow e.g scavenger to aggregator, aggregator to trader, trader to treatment facility.	Household -to- commercial facilities -to- scavengers at the landfill -to- middlemen-to- buyers-to- recycling facilities	Waste Generator-to-Consumer- to- Accredited Waste Collector -to- Recycler/Producers –to- Trader/Treatment Facility/Government
16	Are solid waste being imported or exported to Lagos state?	A few of the recyclers export waste	LAWMA keeps records
17	What type of data do you have on waste recycling rates by type of waste and energy recovery rates (e.g RDF in cement Kiln)	Weight of recyclables received	LASEPA has records on used oil, e -waste and battery waste while LAWMA has records on other solid waste streams
18	Are there standard for plastics recycling rate in Lagos state?	Yes, there are standards for plastics recycling for the dirty and clean ones which influence the purchasing rate	The Agency is not aware of their rates for plastic recycling
19	What is the current status of extended producers' responsibility?	The law is yet to be passed by the State Legislature	There is an extant law in support of Extended Producer Responsibility (EPR) in Nigeria
20	Do you conduct audit of the other stakeholders?	Yes, for recycling, w conduct audits from time to time	The Agency conducts audit of all environmental stakeholders not excluding the public and private sectors
21	Please give the list of other stakeholders	Private sector Operator (PSP), Street Sweepers, marine cleaners and Recyclers	<ul style="list-style-type: none"> • Manufacturing facilities • Commercial facilities • Warehouses • Bonded Terminals • Tank Farms • Infrastructural projects etc
22	Who is the market leader in Lagos state?	The market leader is Folasade Tinubu-Ojo, Iya-Oloja General of Lagos/Nigeria	The market leader is Folasade Tinubu-Ojo, Iya-Oloja General of Lagos/Nigeria

23	It is noted that the activities of recyclers, both the formal and informal (scavengers) is high in Lagos state. Are you able to monitor them and determine the type and estimate of how much of waste are being collected by recyclers.?	Yes, for recyclers and scavengers at the landfills	Ongoing consultations and monitoring of the informal sector is still in progress. The evaluation of waste collected by them is challenging
24	Have you heard about a digital marketplace?	Yes	Yes
25	If yes, are you currently using a digital market and what tools are you using?	No	<p>i. Lagos State Government (LAWMA) is partnering PAKAM on its digital tool for waste collection and monetization</p> <p>ii. NONDUNA is also partnering with Lagos State Government (LASEPA and other MDAs) in developing a digital market tool solely for circular economy data collection</p> <p>iii. LASEPA is working on an independent indigenous digital market tool that will both capture environmental data and provide profitable markets for recyclables and reusable waste</p>
26	Which digital market tools do you use at the moment?	None	The Agency receives technical reports from Environmental Consultants through a Digital Platform called (E-Library) and allows all payments to be made on-line. All bills, fees, fines and other charges are now payable electronically
27	What do you think is the most important feature in the proposed digital market tools?	Security in terms of quality of the product being delivered to customers and ensuring value is gotten for what is paid for	Reward incentives and an easy-to-use app
28	In your view, from the list in (i) to (vii) below, explain how to surmount the following challenges and other aspects of a digital marketplace:		

29	Provision of quality and security for users	It is a difficult one as the integrity of the app depends on it. There will be a need to upgrade frequently to prevent scamming and cyber-attack	Easy payments and credits for users
(i)	Transparency in a digital marketplace and avoidance/prevention of fraud and inappropriate behaviour?	Similar to (i)	Competitiveness with the existing prize of the informal sectors
(ii)	Convenience for the users (e.g., how to solve issues relating to logistics, sampling, invoicing etc)?		Complaints resolution centre provided along with the app site
(iv)	Determination of who is eligible to participate?	Collectors, recyclers and all who are players in the waste value chain should be granted eligibility	Registered organizations or accredited individuals by reputable government or private organizations
(v)	How do you make sure that users always come back to the platform (once they have established a business relationship on the platform)?	Quality assurance	By monitoring the registry and providing constant feedbacks and communication on new updates or news items using any of their official platforms or social media links
(vi)	What are the Laws and regulations related to Extended Producer Responsibility (EPR), e.g., mandatory usage of recycled polymers in Nigeria, as a driver for the success of the platform?	There is no law in Lagos, but NESREA has laws which need to be domesticated. National policy on plastic waste management by the Federal Ministry of Environment.	i. The National Environmental Standards and Regulations Enforcement Agency (NESREA) Extended Producer Responsibility (EPR) Programme in Nigeria – Operational Guidelines ii. National Policy on Plastic Waste Management 2020

Most Profitable Recyclable Material: Figure 7 shows that respondents consider PET bottles to be the most profitable recyclable material (47%), ahead of iron and cans (27%).

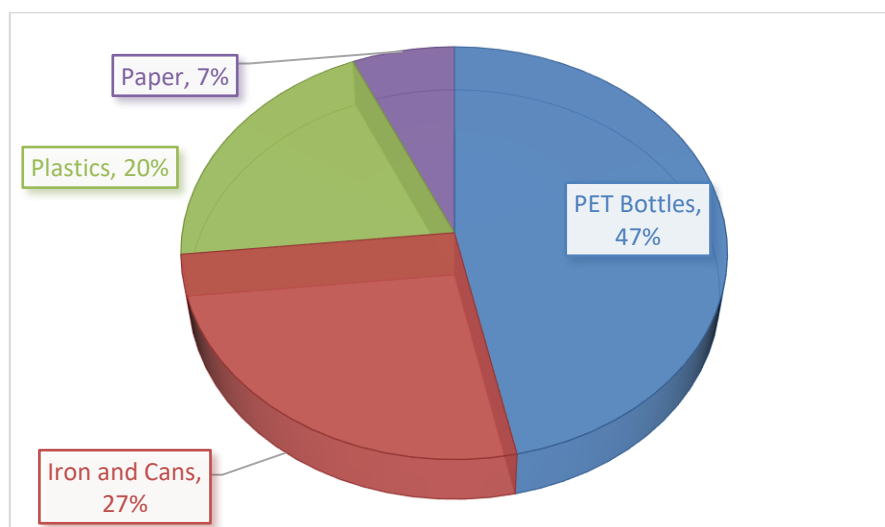


Figure 7: Most Profitable Recyclable

Prospects for Investments: More than 90 % of the respondents believe that there are good prospects for investment in recycling capacities.

Market Leader: There is no conclusion on who the market leader in waste recycling is as most respondents were unable to answer. Those that responded mentioned three different names.

Average CAPEX: It ranges between between NGN 20 million and NGN 100 million, while the average OPEX is between NGN 1 million and NGN 5 million.

Challenge(s): There is no indication of what the biggest challenge is in treating/recycling the waste as all respondents indicated different challenges.

Digital Market: The knowledge of a digital market is not universal, only six of the 13 respondents said they knew about it, while seven did not. This is also reflected in the question about the most important function of the proposed digital market platform, which was only answered by three respondents.

Table 7 shows the responses of waste pickers (PSP operators) to the questions on how to address the various challenges listed and other aspects of a digital marketplace.

4.2.4 Waste Material Categories and Waste Generated in Lagos State

4.2.4.1 Waste Sectors in Lagos State

In a study conducted in November 2015, LAWMA divided the state into six (6) sub-sectors based on similarities in population density and economic characteristics (see Table 14).

Table 13: Waste Sector Divided into Average Income Level Categories and their Locations

No	Area Categorisation	LCDA/LGA	Specific Locations
1	High Density, Low Income (HDLI)	Ajeromi, Ebute Metta	Ajgunle, Otto
2	Low Density, High Income (LDHI)	Ikoyi Obalende, Iru Victoria Island	Ikoyi, Lekki, VI
3	Medium Density, High Income (MDHI)	Ikeja, Kosofe, Oshodi Isolo	Ikeja GRA, Ogudu GRA, Ajao Estate
4	Medium Density, Low Income (MDLI)	Alimosho, Lagos Mainland	Alimosho, Ebute Metta
5	Low Density, Low Income (LDLI)	Imota, Ikorodu North, Epe	Imota, Isiu, Agbowa, Epe

Source: LAWMA/Bolcon Associates, 2015

4.2.4.2 Waste Generation on Lagos State

In 2016, LAWMA in collaboration with Bolcon Associates Ltd. calculated the per capita waste generation of households in Lagos State based on the various waste sectors developed by LAWMA, population density and income level (see Table 14).

Overall, the per capita waste generation in Lagos was estimated at 0.44kg as shown in Table 15. The table further depicts the waste generation rates in the different socio-economic groups in Lagos State. The total waste generated by households in Lagos State weekly is 13.32kg and the average waste generated per day is 2.22kg.

Table 14: Waste Generated Across Lagos State

Variable (kg)	High Density Low Income	Medium Density High Income	Low Density High Income	Medium Density Low Income	Low Density Low Income	All
Total waste generated per week	9.56 (8.61)	13.34 (11.38)	19.79(12.63)	12.17 (11.42)	11.28 (8.75)	13.32 (11.21)
Average waste/day	1.59 (1.43)	2.22 (1.90)	3.30 (2.10)	2.03 (1.90)	1.88 (1.46)	2.22 (1.87)
Per-Capita	0.30	0.55	0.60	0.30	0.25	0.44

Note: Figures in Parenthesis represent Standard Deviation

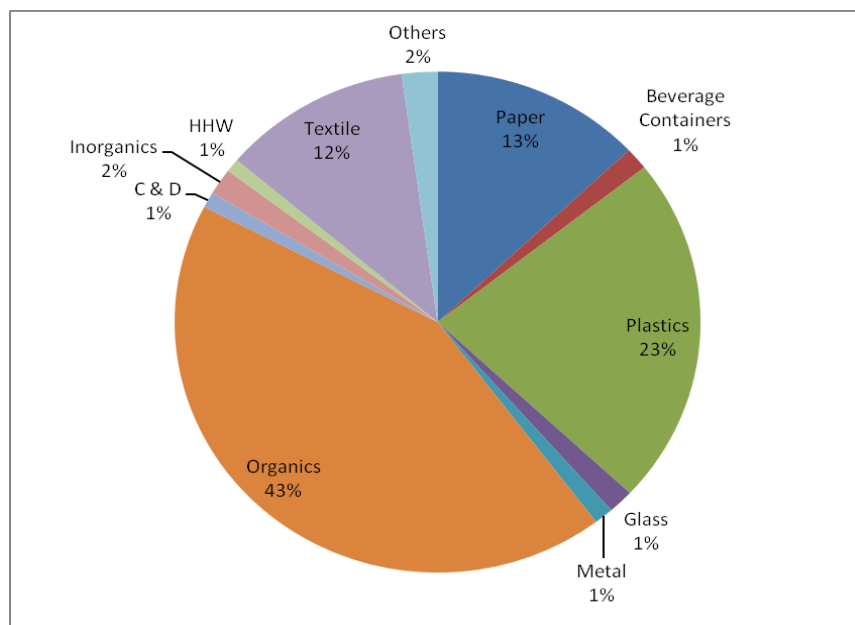
Source: LAWMA/Bolcon Associates Ltd. (2016)

4.2.4.3 Waste Material Categories Generated in Lagos State

A study carried out in 2015 by LAWMA in collaboration with Bolcon Associates Ltd provided the waste material categories generated in Lagos State and identified the top ten (10) waste classes, namely Paper, Beverage Containers, Plastics, Glass, Metals, Organics, Construction and Demolition (C&D), Inorganic and Textiles were characterized.

Figure 8 shows that the percentage composition of the organic matter, plastics and paper weight classes accounted for 79% (which is 43%, 23% and 13% respectively) of the ten waste classes in Lagos State.

Figure 8: Composition by Waste Material Class - Overall Lagos State Municipal Waste



Source: LAWMA/Bolcon Associates (2015)

Table 15: Top Ten Individual Material Categories - Overall Lagos State Municipal Waste*

Material Type	Waste (kg)	Cumulative (Kg)	Waste Composition %	Cumulative %
Food Scraps/Waste	4,097.2	4,097.2	16.1	16.1
Yard Waste – Compostable	4,009.1	8,106.3	15.75	31.85
LDPE	2,026.9	10,133.2	7.97	39.82
Trash Bags	1,980.3	12,113.5	7.78	47.6
Clothing	1,651.6	13,765.1	6.49	54.09
Boxboard	1,276.7	15,041.8	5.02	59.11
Bottom Fines and Dirt	1,163.4	16,205.2	4.57	63.68
Uncoated OCC/Kraft	911.4	17,116.6	3.58	67.26

Diapers	738.2	17,854.8	2.9	70.16
Other Textiles	698.0	18,552.8	2.74	72.9

Source: LAWMA/Bolcon Associates, 2015

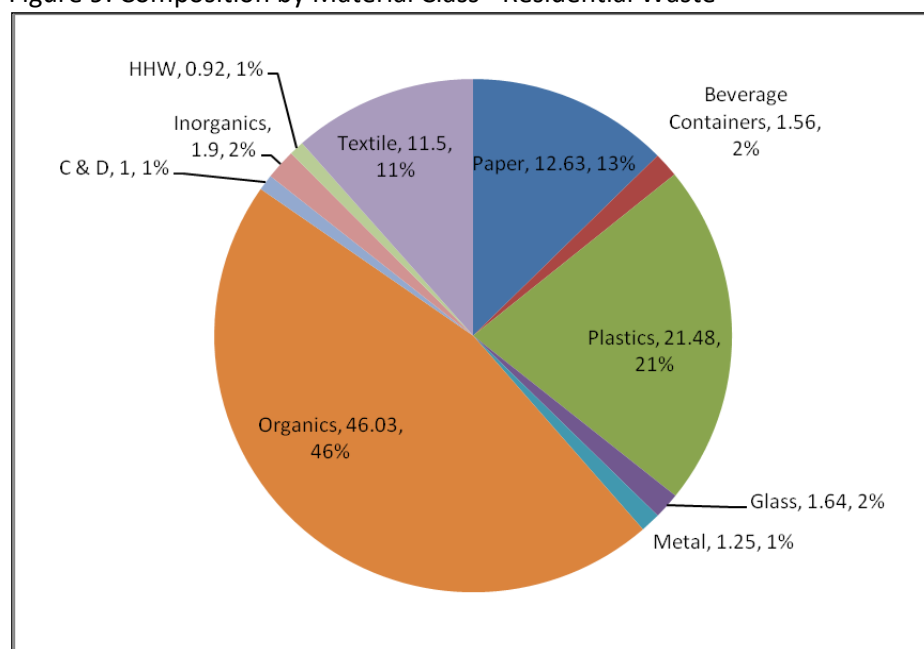
* See Appendix 8(iii) for the full Waste Profile – Overall Lagos State Municipal Waste

For the two major waste sectors, municipal and commercial waste, the study produced figures and tables in sections 4.1.5.1 and 4.1.5.2 showing the percentage by weight of the composition of the ten major waste categories in these waste sectors.

4.2.4.4 Composition of Residential Waste in Lagos

Figure 9 shows the percentage by weight of each of the ten material classes for the municipal waste sector in Lagos State.

Figure 9: Composition by Material Class - Residential Waste



Source: LAWMA/Bolcon Associates, 2015

Table 17 shows the top ten material categories included in municipal waste in Lagos State. These ten categories account for about 76% of the municipal waste. Garden waste, food waste, refuse bags and clothes account for over 50% (18.04%, 16.59%, 8.53% and 7.33% respectively) and over 11,234.50kg (3,955.70kg, 3,734.20kg, 1,931.00kg and 1,613.60kg) of the household waste stream in Lagos State.

Table 16: Top Ten Individual Material Categories - Residential Waste

Material Type	Waste (Kg)	Cumulative (Kg)	Composition %	Cumulative %
Yard Waste - Compostable	3,955.70	3,955.70	18.04	18.04
Food Scraps/Waste	3,734.20	7,689.90	16.59	34.63

Trash Bags	1,931.00	9,620.90	8.53	43.16
Clothing	1,613.60	11,234.50	7.33	50.49
LDPE	1,370.20	12,604.70	6.10	56.59
Boxboard	1,263.20	13,867.90	5.48	62.07
Bottom Fines & Dirt	1,093.46	14,961.36	4.95	67.02
Diapers	730.30	15,691.66	3.22	70.24
Other Textiles	675.40	16,367.06	2.91	73.15
Uncoated OCC/Kraft	667.90	17,034.96	2.94	76.09
Total	17,034.96		76.09	

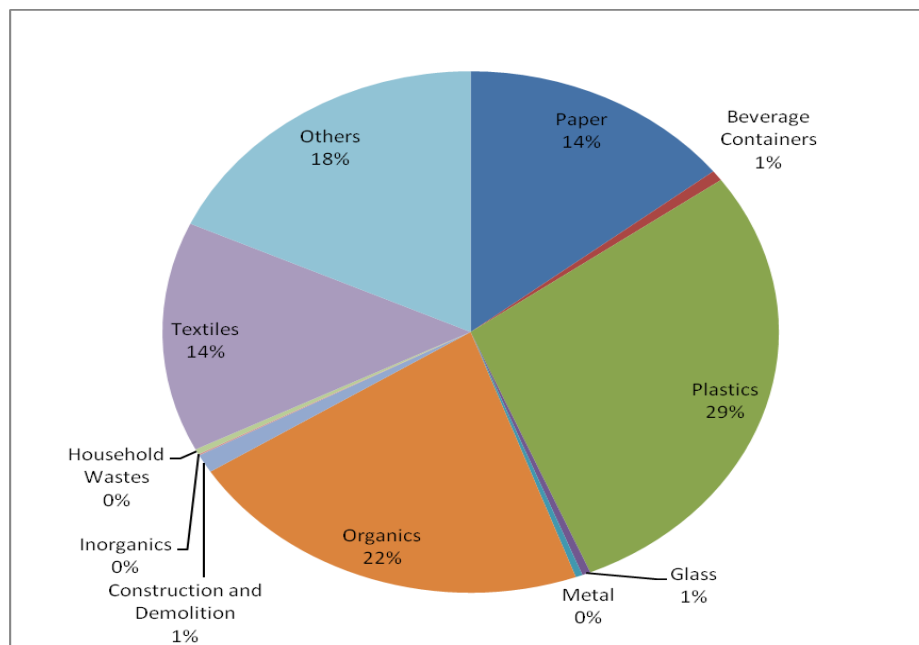
Source: LAWMA/Bolcon Associates

** See Appendix 8(i) for the full Waste Profile – Residential Waste*

4.2.4.5 Composition of Commercial Waste in Lagos State

Figure 10 shows the percentage, by weight, of each of the ten material classes for Commercial waste in Lagos. Plastics, Organics, Others (comprising mainly Factory Dust), Paper and Textiles classes account for over 96.97% (29%, 22%, 18%, 14% and 14% respectively) of the waste for this sector.

Figure 10: Composition by Material Class - Commercial Waste



Source: LAWMA/Bolcon Associates, 2015

Table 18 lists the top ten material categories found in the commercial waste sector. These ten categories account for about 86 % of commercial waste. The LDPE, factory dust (soapy) and food scraps/waste

categories account for over 50% (22.11%, 18.18% and 12.22% respectively) and over 1559.7 kg (656.7 kg, 540 kg and 363 kg) of the commercial waste stream.

Table 17: Top Ten Individual Material Categories - Commercial Waste

Material Type	Waste Kg	Cumulative Kg	Waste Composition %	Cumulative %
LDPE	656.7	656.7	22.11	22.11
Factory dust (soapy)	540	1196.7	18.18	40.29
Food Scraps/Waste	363	1559.7	12.22	52.51
Carpet Padding	270	1829.7	9.09	61.60
Uncoated OCC/Kraft	243.5	2073.2	8.20	69.80
Other Organics	142	2215.2	4.78	74.58
High Grade Office Paper	113.7	2328.9	3.83	78.41
Carpet	92.6	2421.5	3.12	81.53
Bottom Fines and Dirt	69.9	2491.4	2.35	83.88
Expanded polystyrene Packaging (EPS)	59.7	2551.1	2.01	85.89
Total	2551.1		85.09	

Source: LAWMA/Bolcon Associates

See Appendix 8 (ii) for the full Waste Composition Profile – Commercial

4.2.5 Potential Local Economic Realities

The result of the stakeholder survey shows that plastics are the most recycled product in Lagos and second only to organic waste in terms of waste categories. This is even more true considering that interest in the production, consumption and waste of plastics has increased significantly worldwide in recent years. Although the focus is on risks and impacts, it is important to recognise that the flexibility and resilience of plastics means that products made from this material fulfil many important functions in society and in various sectors. Therefore, the focus is primarily on the plastics value chain.

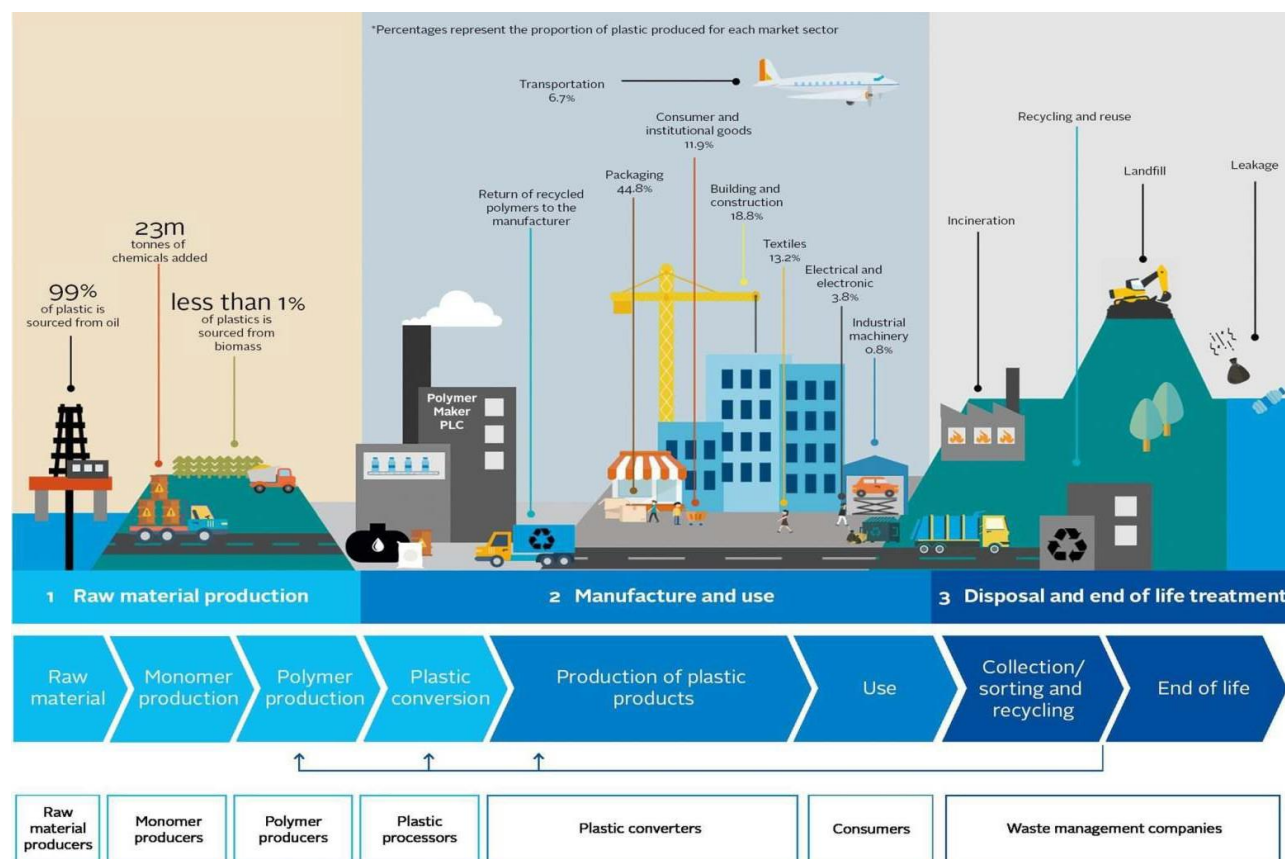
According to UNEP, the plastics value chain (PVC) includes all the activities required to take a plastic product through the various stages of raw material extraction, production, distribution to consumers and final disposal after use.

In essence, plastics lifecycle essentially consists of three main phases:

- I. Raw material production phase
- II. Manufacture and use phase
- III. Disposal and end of life phase

These phases are described in Figure 11, which shows the actors in the value chain, starting with raw material, monomer and polymer producers in the production phase; plastic processors, converters, producers and consumers in the second phase, while plastic waste management companies, including collectors, sorters and recyclers, are involved in the end-of-life phase of plastics.

Figure 11: Overview of Plastic Value-Chain



Source: (PRI, 2020)

In Lagos, stakeholders in the plastics value chain include manufacturers of various types of plastic products, users of the products, waste collectors, sorters and recyclers, most of whom are represented by the associations listed in section 3.1. The focus of this survey is on the third phase, the disposal and end-of-use phase. This includes the collection, sorting and baling of plastics. The main actors are some of the stakeholders interviewed.

Furthermore, waste sorting is generally not done at the household level. It is primarily done by waste pickers at the destination of the dumpsites and TLS. It is estimated that there are over 1,000 waste pickers at these dumpsites at any given time. On the other hand, the waste collectors, especially the PSPs, are recyclers who collect waste from house to house. Most of the recyclers are engaged in processing the recyclables.

4.2.6 Plastics Landscape along the Value Chain in Lagos

Although over 30 types of primary plastics are used worldwide, each has different properties and applications in a range of sectors. When used in combination and with different additives or barrier properties, polymers represent thousands of types of materials. However, about 15 different types of plastics can be identified in the waste composition of Lagos State (see Appendix 8). As shown in Table 19, low density polyethylene (LDPE), refuse bags, high density polyethylene (HDPE) and polyethylene terephthalate (PET) bottles are the most common and account for more than 80% of plastics in the state.

Table 18: Most Common, Accounting Plastics in Lagos State

Material	Kg	Percentage	Share
Other PET Containers 7 Packaging	8	0.14%	5.53%
PET Bottles/Jars	310.8	5.39%	
HDPE Bottles/Jars-Clear	109.2	1.90%	8.28%
HDPE Bottles/Jars-Colour	346.2	6.01%	
Other HDPE Containers & Packaging	19.8	0.34%	
Other Bottles/Jars	1.9	0.03%	
Other Containers & Packaging	4.9	0.09%	
Expanded polystyrene Packaging (EPS)	167.4	2.91%	
Commercial & Industrial Film	28.3	0.49%	
Grocery & Merchandise Bags	141.8	2.46%	
LDPE	2026.8	35.18%	35.18%
Other Film	470.7	8.17%	
Other Rigid Plastic Products	121.3	2.11%	
Remainder/Composite Plastic	3.9	0.07%	
Trash Bags	2000.8	34.73%	34.73%
Total	5761.8	100%	83.72%

Source: LAWMA/Bolcon Associates

However, it should be noted that these data refer to waste arriving at the landfills, which may mean that some of the plastic waste may have been sorted and collected by waste collectors and recyclers before the PSP collectors collect the waste from the different zones. Therefore, the percentage given in Annex 8 may not fully reflect the actual proportion of each type of plastic waste in Lagos.

4.2.7 Economic and Income Opportunities

Respondents to the questionnaire survey generally agree that the market for waste recycling in Lagos is positive and that LAWMA is making efforts to attract investment into the industry and make it profitable for stakeholders.

It was generally responded that Alkem and Lexis are the market leaders for PET bottles while African Steel and African Foundry are the market leaders for metals. It was noted that metals, followed by plastics, are the most profitable waste material.

4.2.8 Challenges Being Encountered by Stakeholders

The following are the challenges faced by waste collectors and recyclers alike:

1. High cost of land
2. logistics related to the collection and transport of waste materials within the value chain.
3. availability of the right tools and equipment such as balers and shredders,
4. Easy access to personal protective equipment (PPE)
5. Lack of awareness on the side of public and law enforcement agencies
6. ban on the use of carts by Lagos State Government and the need to rebrand the cart to a specimen that the government will accept
7. the right policies and lobbying to educate the public about the value of their waste
8. finance and high cost of operations

4.2.9 Revenue from Waste Materials

Table 20 shows the current prices for some of the different waste materials within the value chain as revealed by the survey. This shows that metals fetch the highest price at N200 to N300 per kg. The average daily income of waste pickers is between N1,000 and N2,000.

Table 19: Current prices of the various recyclables

Waste Material	Price Range (N per Kg)	
	Waste Picker to Aggregator	Aggregator to Off taker
PET	40 – 80	150 – 250
HDPE	80 – 100	100 -150
LDPE	100 – 200	200-250
Metals	270 – 300	300-400
Paper/ Cardboard	50 – 100	10 – 50
Glass Bottle (per bottle)	20 - 40	10 - 50

Figure 12 Pictures of Waste Material Types



5. Market entry strategies and risks

German companies that are interested the Nigerian waste management sector can consider the following approaches to penetrate their products into the Nigerian market:

1. Collaboration with distribution/distribution partners.
2. Technical partnerships.
3. Designation of manufacturer's representatives.
4. Establishing a full market presence/office in Nigeria.

A German company could work with local project developers and/or equipment dealers and suppliers to export its products to the Nigerian market. These companies would serve as sales/distribution partners for German products in Nigeria and handle the import process. This option requires little capital investment from the German side but finding the right distribution partner could take some time. However, it is advisable to conduct legal and financial due diligence on any potential distributor or local trader. The distributor could offer warehousing services and this option could be ideal for German SMEs that want to import large quantities of their products at once. In most cases, distributors are not able to offer installation and after-sales services, so this option may not be ideal for companies looking to build a long-term strategy. However, working with an existing distributor is more beneficial than working with a local project developer, as these companies may already have an existing customer base, supply chains, experience, and warehouses but project developers do not.

The German company could also act as a technical partner in tenders for public contracts with local developers. However, the terms of such an agreement with a local partner must be very clear, as these partnerships can sometimes go beyond the mere supply and installation of equipment. Face-to-face meetings

are very important for developing opportunities in Nigeria and a German partner must require its local technical partner to be physically present at meetings, workshops, conferences, and other networking forums.

Compared to Germany, it is not very easy to do business in Nigeria. However, the market offers a great return on investment for those companies that make the decision to enter the market. Opening a full office presence is not an easy decision, but there are advantages that this option offers that none of the other options described above do. There are several ways a German company can accomplish this:

- Registration of a 100% sales office in Nigeria with full office service.
- Appointment of a sales representative (with limited office service) with direct reporting to other offices in the Middle East and North Africa region or in South Africa. Many German companies use this approach to explore the Nigerian market and research the needs of their dealer/manufacturer representatives.

German SMEs could also explore the possibility of offering Nigerian developers the opportunity to test their products on a small scale. This could be done at no cost to the Nigerian developers and would provide the German SME with some valuable market intelligence. German SMEs could also consider organizing online training and workshops for Nigerian developers. Local developers are always looking to gain competitive advantage in the market and are always willing to pay attention to new technology providers. This could be organized in the form of free online training sessions (advertised based on general topics, but with a focus on the technology offered by the German company) or free virtual networking sessions or fireside chats with 10 to 20 local developers. The Delegation of German Industry and Commerce in Nigeria can organize these sessions and tailor them to the needs of the German SMEs.

Additionally, German companies that want to enter the Nigerian market by partnering with competent and verified local players can do so using different approaches:

- i. General partnership: In this approach, the partners fully participate in the management of the business. A general partnership is a business arrangement in which two or more persons agree to share in all assets, profits, and financial and legal liabilities of a jointly managed business.
- ii. Limited Partnership: A limited partnership is a form of partnership in which some of the partners contribute only financially and are liable only to the extent of the amount of money they invest. In a limited partnership structure, the limited partners are shielded to the extent of their investment.
- iii. Joint Venture Partnership: A partnership formed for a specific or limited time. The agreed parties gain mutual benefits by sharing costs, risks and revenues. This type of partnership accelerates a German company's expansion by providing access to scarce expertise or entry into new markets. It can be a useful strategy for German companies to leverage the local partner's infrastructure and experience in the market. These partnership agreements allow the Nigerian company to use the German company's name and logo or offer services under a licensing agreement. Licensing also comes with risks and could damage a brand in the country if the local partner is not the appropriate partner. It is important to conduct rigorous due diligence on any potential partner. Licensing could be ideal for German companies with a unique technology or solutions that have a competitive advantage in the Nigerian market, which local developers must have access to.

German companies can also establish representative offices in Nigeria. However, a representative office cannot conduct business, conclude contracts, or open or negotiate letters of credit. It can only serve as an advertising and liaison office. Through representative offices, German companies can manage the activities of local partners to gain a foothold in the market.

The biggest mistake with market entry is having the assumption that what has worked in similar markets will work in Nigeria. Through the support of the Delegation of German Industry and Commerce in Nigeria, some of these mistakes can be avoided. It is also extremely important to build your confidence level on your investment returns through feasibility study of your product and technology. The Delegation of German Business in Nigeria is a competent partner with extensive market knowledge and a strong network of contacts in the public and private sectors. Feasibility studies, market entry and business partner support services are one of the core competencies that could ease penetration in the market.

6. Market Opportunities

Nigeria undoubtedly offers attractive opportunities as a target market. German companies looking for market entry opportunities should consider the ongoing reforms when planning their activities. The Nigerian government has stated its intention to make progress and improvements in the areas of waste management. Strengthening overall economic growth and industrial development in urban and rural areas is also a priority on the government's agenda. This will create a broader customer base in the medium term.

In the chapter 4, various waste value chains were identified and described. Further in this chapter, concrete business opportunities for German companies are presented to guide investment decisions into Nigeria.

There are many avenues for German companies to become involved in Nigeria's circular economy. Most of the stakeholders interviewed expressed the need for investment, partnership, capacity building, knowledge, and awareness. The Delegation of German Industry and Commerce in Nigeria is committed to ensuring easy and successful market entry for German suppliers or businesses in circular economy in Nigeria.

The most intriguing categories of waste for German companies are plastic, organic waste, and e-waste. From stakeholder interaction, several reputable local enterprises are actively engaged in waste circularity in Lagos State, which may also provide a simple entry point for German corporations to enter the market through partnerships as either suppliers of waste or buyers of recycled projects. This is conceivable because there is a significant amount of waste that is still disposed of improperly or is not recycled.

6.1 Plastic waste recycling and packaging

Recycling and packaging made of plastic may be quite profitable. The Food and Beverage Recycling Alliance (FBRA) comprises businesses that create fast-moving consumer goods, including Nigerian brewers, Nestle and the Nigerian bottling company. Investment in recycled PET (rPET) would be advantageous for German companies given the alliance's commitment to using recycled plastics in production. Production companies would be able to increase production and would also require better technology to ensure that all rPET flakes are suitable for the food and beverage industry. In this scenario, German companies can work with waste management firms to recycle PET in flakes and pellets on a massive scale. Securing a take-off agreement while doing so would be a guarantee to protect investments.

Another possibility is to invest in the conversion of plastic waste to energy. It would be advantageous for business models to take into account turning plastic waste into energy in light of the government's commitment to reduce food and beverage packaging waste through its parastatal institutions such as the Lagos State Waste Management Authority (LAWMA). Additionally, this scenario would support the efforts of the Lagos State government to use waste to alleviate the power supply issues in Lagos.

6.2 E-waste Recycling

Aside the handling of plastic waste material, the handling of electronic waste (e-waste) has also been of large concern in Nigeria owing to its hazardous composition and poor management. At the moment, due to unreliability concerns of power supplied through the national grid and in line with the government's effort to improve the nation's energy access by targeting 30,000MW by 2030, decentralized renewable energy sector has been booming in form of mini-grids and other stand-alone solutions. These technologies require batteries for energy storage however, irresponsible management and disposal of used batteries in a country leaves the country in a dire condition. Additionally, more than 500,000 tons of used electrical and electronics equipment are imported in Nigeria, out of which 25% are unfunctional on arrival.

A courtesy visit paid to Lagos State Environmental Protection Agency (LASEPA) unveiled the interest of the regulatory institution to partner with technology or solution providers to tackle the stockpile of e-waste generated in Lagos. This is a good opportunity for German businesses to establish an e-waste collecting and recycling hub owing to the superiority in technology and expertise in e-waste management. Momentarily, there are very few companies that are involved in e-waste such as phone chargers, cartridges management in Nigeria.

Additionally, the Alliance for Responsible Battery Recycling (ARBR) is the producer responsibility organization for the battery sector in Nigeria. Under the extended producer responsibility programme of the Federal Government, ARBR oversees the end-of-life management of all used lead acid batteries and lithium batteries in Nigeria. Establishing collaboration with these waste alliances would strengthen your position in the market.

6.3 Organic Waste

Under waste composition generated in Lagos in chapter 4, it is revealed that organic under municipal, residential, and commercial sectors accounts for 43%, 46% and 22% respectively. Although the waste-to-energy market remains nascent in Nigeria, it could play a more prominent role in the waste management and contribution to the targets projected in the Energy Transition Plan 2022. German companies can partner with the Lagos State Government to build biogas plants in which sectors such as agriculture, wastewater treatment facilities, dumpsites, breweries, food processing among others could be approached as potential clients.

Owing to the influx of chemical fertilizers in the country, danger to the environment and health of persons are of key concerns. Production of organic compost from municipal wastes for agricultural crop yield presents a great opportunity for German companies as the country relies on importation of organic composts for its crop yield.

6.4 Qualification and Capacity building

The qualification of skilled workers in the technical field in Nigeria can be expanded in all sectors. The situation is the same in the field of waste management. There are a few institutions that are known to have developed a curriculum to develop capacities in waste management. However, University of Lagos is known for various waste management and circular economy project. Practical vocational training is mainly provided as needed in the company and only according to the business areas. There is therefore an enormous demand for specialists, ranging from technical know-how to complex project management. German companies that bring solutions for the qualification of local employees here have a clear competitive advantage over competitors and score points with the Nigerian authorities, who want to promote local capacity building.

7. Financing Opportunities and Support Programmes

Waste recycling is a long-term investment with marginal returns after several years of operations. There is very limited support in terms of funding from the government. In many countries, governments and other financial institutions are actively involved in providing an enabling environment for companies operating in waste recycling and circular economy through funding, waivers, and tax holidays.

The government in Nigeria hardly supports companies via funding. However, there have been some committed efforts shown through policy creation to enable the smooth operations and growth. Lagos state has very active waste management authorities.

Circular economy projects are capital intensive but commercial bank funding is often not available for smaller companies due to their lack of collateral. Moreover, it can be a very expensive option as interest rates are usually in the double-digit region, even above 20%.

However, there is an increasing number of German and other international institutions looking at Nigeria's circular economy, funding projects to boost the value chain. Below are some institutions that are currently active in this sector:

- a) Deutsche Investitions und Entwicklungsgesellschaft mbH (DEG) specializes in financing sustainable projects in developing and transition countries. The company, which is part of KfW bank group, finances its projects almost exclusively from its own funds. DEG provides German companies with a range of financing products and support programs, e.g. project support monitoring or analysis of the risks associated with the investment.
- b) With the develoPPP program, the German Federal Ministry for Economic Cooperation and Development (BMZ) supports companies that are active in developing and emerging countries and want to make their entrepreneurial activities sustainable. In doing so, entrepreneurial interests and development policy objectives should complement each other. It is also possible to enter strategic development partnerships with German and European companies and business associations. They are usually supra-regional, often cover entire sectors and bring together players from industry and commerce, non-governmental and other organizations. The develoPPP.de portfolio is currently being adapted to also support smaller projects and younger partner companies.
- c) The International Climate Initiative (IKI) of the German Federal Ministry for the Environment, Nature Conservation, Nuclear Safety and Consumer Protection (BMUV) finances climate protection projects in developing and emerging countries as well as in transition states. IKI focuses on reducing greenhouse gases, increasing adaptive capacity to the consequences of climate change and protecting and sustainably using forests and other ecosystems.
- d) African Development Bank (AfDB): The African Development Bank (AfDB) finances projects in waste and wastewater in African countries including Nigeria.
- e) The Emerging Africa Infrastructure Fund (EAIF): The Emerging Africa Infrastructure Fund (EAIF) is a public-private partnership that provides long-term loans or mezzanine financing in USD or EUR at market terms.

- f) Global Environment Facility (GEF): The Global Environment Facility has co-financed over 5000 projects globally in the areas hazardous waste, municipal solid waste, organic waste, waste agricultural biomass and wastewater. In Nigeria, GEF has financed major waste management and CE projects which include the Circular Economy approaches for the electronics sector and Environmentally Sound Management and Disposal of PCBs each with a cost of approximately USD 15 million and USD.
- g) Green Climate Fund (GCF): The Green Climate Fund (GCF), the largest climate fund in the world and a crucial component of the historic Paris Agreement was established to assist Nigeria and other developing nations in achieving their Nationally Determined Contributions (NDC) goals of adopting low-emission, climate-resilient pathways. It has carried out 9 projects with total financing of USD 173.1 million for mitigation and adaptation projects in greenhouse gas emissions and enhance their ability to respond to climate change in Nigeria.
- h) United Nations Environment Programme (UNEP): The UNEP in collaboration with the Federal government, the Global Environment Facility and the UN announced a USD 2 million investment to kick off the formal e-waste recycling industry in Nigeria to address the e-waste challenge and grasp the opportunity of the circular economy. The new investment is expected to leverage over USD 13 million in additional co-financing from the private sector.
- i) Inspired Evolution Investment - Evolution One Fund is an investment management specialist headquartered in South Africa and an authorized financial services provider for renewable energy and resource efficiency investments in sub-Saharan Africa. The fund primarily undertakes expansion financing and supports selected start-ups and environmental infrastructure projects.

Conclusions

The waste management and circular economy sectors are still in the early stages of development in Lagos, Nigeria. However, the rapid degradation of the environment has been a great concern for the Government and ongoing private-public partnership has had the effect of boosting the development and activities in the sector. Attractiveness of the market are well presented under initiatives and projects led by various key stakeholders. Additionally, following the interest of the country's ambitious target to have a net-zero emission by 2060 and other supporting regulatory laws, circular economy initiatives and projects are strongly backed by the government.

There are certainly challenges for any company interested in doing business in Nigeria, such as poor infrastructure, a lack of regulatory enforcement, political changes, a volatile exchange rate and poor financing/funding options. However, circularity is an increasingly profitable business. All along the waste value chains, there are several opportunities and projects to explore.

Recyclable materials are readily available throughout Lagos State, particularly in the Low-Density High Income (LDHI) and Medium Density High Income (MDHI) socioeconomic sectors. Furthermore, waste composition categorized in Lagos state under municipal sectors, residential sectors and commercial sectors present a high quota of plastics and organic waste.

For German businesses, the best opportunities in circular economy are sourcing the waste from the local collection points, recycling in Nigeria and marketing or trading these recycled materials in Nigeria and across borders. Business models for recycled PETs, waste-to-energy, organic waste as manure for the agricultural sector, other various recycled products for building materials as well as other economic activities are promising. Additionally, there are promising opportunities to provide supporting expertise and technology solutions for all waste categories under the waste value chains.

As the waste management sector densely involves the informal sector, creating a digital platform will create positive results in the coordination of activities of the various waste value chains. It will also contribute to achieving a clean environment and reducing trash pollution in the ecosystem at large including drains, rivers, lagoons and oceans through its tailored features that will address the constraints faced by companies.

Furthermore, results from the survey revealed that the current participants in Lagos' solid waste value chain will recognize the value of a digital marketplace and be eager to use it to advance their business endeavours as well as work with DGIC to ensure its successful development, deployment and operation in Lagos.

A digital platform will potentially encourage private sector investment and participation in the establishment of materials recovery facilities (MRFs), which may increase the use of the online marketplace and have a cascading effect that encourages replication and expansion of use across Nigeria.

Recommendations

Based on the waste resource analysis, waste value chain results and stakeholder questionnaires, the following recommendations are proposed:

- I. German companies interested in entering the Nigerian market should consult with the Delegation of German Industry and Commerce in Nigeria.
- II. appropriate outreach and awareness programmes among stakeholders and the general public on the benefits of a digital marketplace to reduce environmental impacts and increase awareness and adoption of the application.
- III. for a digital platform to gain market acceptance, there should be collaboration with key private and public actors within the value chain, especially waste recyclers and converters.
- IV. A digital marketplace must meet the needs of all participants in the value chain, taking into account that commodities are valued by weight and not by volume.
- V. To prevent misuse of a digital platform, regular updates should be made and the registration process for users should be reviewed or controlled.
- VI. to facilitate low-income, impatient and technically unskilled waste collectors and aggregators to use the platform for smooth and effective transactions, the use of Unstructured Supplementary Service Data (USSD) codes should be introduced.
- VII. promote efficiency of waste collection processes by assisting LAWMA to correctly identify drop-off points for easy access in the 20 Local Government Areas (LGAs) and 37 Local Council Development Areas (LCDAs) in the state.
- VIII. A dynamic compensation plan should be adopted. For example, a pay-as-you-drop mechanism could also be introduced. The system of recording the recyclables dropped and estimating the total drop (in kg) for payment at the end of the month could discourage waste pickers and provide a potential for fraud or manipulation.
- IX. The proposed digital marketplace should involve all participants in the value chain, especially waste collectors and waste pickers.
- X. Through advocacies, the state government should be urged to internalise, implement and strictly enforce the EPR policy set out in the NESREA.
- XI. There is need to put forward suggestions/proposals/tenders to allay the fears and concerns of operators and manufacturers about the EPR laws, possibly through lobbying.
- XII. Considering that a high percentage of recyclables available in Lagos today are mixed, promotional programmes should be undertaken with LAWMA and other government agencies to introduce a two-bin system where waste is segregated at source. This will have a positive impact on the export potential of recyclables as the quality of recyclables collected from households and recycling facilities will be greatly improved.

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Appendices

Appendix 1 - Summary of Questionnaire Responses

Appendix 2: The Existing Relevant Policies and Regulations in Nigeria and Lagos State

Appendix 3: List of Licensed PSP Operators in Lagos State

Appendix 4: List of Members of the Association of Scrap and Waste Pickers in Lagos State (ASWOL)

Appendix 5: List of Companies Registered with Lagos State Recyclers Association (LAGRA)

Appendix 6: Some Registered Corporate Rans Members (Ran, 2017)

Appendix 7: Details of Respondents

Appendix 8

(i): Waste Composition Profile – Residential

(ii): Waste Composition Profile – Commercial

(iii): Waste Composition Profile – Overall Lagos State Municipal Waste

Appendix 1 - Summary of Questionnaire Responses

RESOURCE MAPPING STUDY OF THE CIRCULAR ECONOMY IN LAGOS STATE LAGOS RECYCLERS ASSOCIATION WASTE EXCHANGE LIMITED

DATE & TIME OF VISIT	May 18, 2022(4:30 – 5:30PM)
ADDRESS OF ASSOCIATION	Opposite Oceanic Tower, along trinity avenue, Oniru, Lagos State.

S/N	QUESTIONS	RESPONSES
1	What do you do here?	We collect different waste materials such as plastic, cartons, nylon and aluminium cans. However, our emphasis is on plastics because it is more of a coastal community. There are about 47 to 49 waste pickers.
2	How do you sort the plastics into PET, HDPE	PET is the major waste material that is being collected here and it is sorted out based on their colours such as clear bottle, green bottle, blue bottle etc.
3	Do you know any company observing the EPR regulation?	Food and Beverage Recycling Alliance (FBRA) is majorly into that.
4	As a member of Lagos Recyclers Association, can you describe the organizational structure	The organizational structure comprises of the President, Vice-president, Public relation officers, Secretary etc.
5	Who are your members and how many members do you have?	There are more than 70 registered members and the registration process is through LAWMA and RAN.
6	Who is eligible to be a member?	Anyone who has a space for operation can apply after inspection has been carried out by LAWMA and RAN
7	How is your association connected or affiliated to other associations? Kindly list them and state the kind of relationship you have with them	Recyclers association of Nigeria
8	What type of waste do you recycle? Please break it down	We recycle plastics, aluminium cans, and Papers
9	How do you see the market for waste recycling now (positive, neutral, negative)?	Positive

10	From your experience, which of the recyclables is the most profitable or promising?	Aluminum is majorly the most profitable as it sells at the rate of NGN600 per Kg
11	Who are the buyers of your products and where are they located? Please provide a list	There are so many off takers. Here in Lagos, we have. <ul style="list-style-type: none"> • Kaltani • Recyclers • Top Polymer
12	From your experience who is the market leader in Lagos state in terms of waste recycling?	There are about 68 companies in Lagos. However, the like of cyclers, recycle point and Green E remains at top.
13	Have you heard of a Digital Marketplace?	No
14	Do you see a demand for investment in recycling capacities? If yes, explain	Yes
15	What is the volume of waste you collect per day or month	<ul style="list-style-type: none"> • On a monthly basis, we collect about 25 to 30 tons • Daily, we collect an average of 3 tons and sometimes about 1.5 tons
16	What is the biggest challenge or problem being encountered by your members in sourcing for the waste they collect?	Collection is the major challenge, followed by logistics
17	What do you understand by Digital market?	We know about the PAKAM app by LAWMA in Lagos state where you can make request for plastics at your own pace and convenience.
18	Q: In your view, from the list in (i) to (vii) below, explain how to surmount the challenges and other aspects of a digital marketplace. Provision of quality/security for the users (quality audits?)	Stability in the prices of plastics is one of the major challenges.

RESOURCE MAPPING STUDY OF THE CIRCULAR ECONOMY IN LAGOS STATE
RICHBOL ENVIRONMENTAL SERVICES
RICHBOL RECYCLING SERVICES

DATE & TIME OF VISIT	May 24, 2022. (3:00 – 5:20PM)
ADDRESS OF ASSOCIATION	10 Bisi Olatunji Street, Ojodu 102109, Ojodu Berger, Lagos state.

S/NO	QUESTIONS	
1.	Please describe the organizational structure of your company	<p>We work and consult for Lagos state government, LAWMA to be precise. Since 1996, we pioneered pilot schemes in work management services which was the first attempt by the Lagos state to recognize the activities of the private sector within the work management value chain.</p> <p>We invested in recycling. We recycle PET bottles. We encourage our evacuators (people that follow the vehicles) to recover plastics in particular; they collect and separate all manners of waste. At the dumpsite, we have some merchants, we encourage them to collect plastics, separate and send them to us.</p> <p>We sort PET; from PET: there are three different plastics in the PET; PVC, PE-Cap. Because our machine is automated, the whole bottle can go in and out, then our machine can do crushing, washing (hot water) and separate the labels and separate the caps and the nylon and we have the PET flakes.</p> <p>The cap, the labels are removed and then separated. After the separation the equipment itself is an automated PET recyclable equipment that can separate everything, so you have caps, which is also sellable. Then you have the clean PET which are much recyclable</p> <p>In terms of the treatment of the bottle, we do hot washing. A conveyor machine receives the bottle and conveys it to the crusher which crushes the materials. The bottle with different impurities like grease, palm oil, mud etc are washed and softened by the hot water and chemicals respectively. Then the conveyor belt drops it in the high friction machine (a scrubber) which try to wash it. As it is washing, water is introduced through 2 pipes, the water is collected at some point and it drains out and drops the plastic.</p> <p>Inside the tank, the caps are collected manually or allowed to drop into a rinsing bath where they are washed. There are two flaps that remove labels; the flaps keep rolling, the labels and caps will</p>

		<p>float. A conveyor then drops the clean PET into a drier when collected and a heater works on it to a level.</p> <p>There is a weigh bridge; takes the weight of the truck with the load and after offloading, takes the weight of the truck without load (tar weight).</p> <p>Collection of PET per month: between 350 - 400 tonnes The daily operational capacity is between 7 to 8 tonnes depending on the availability of electricity.</p>
2.	How do you see the market for waste recycling at the moment (positive, neutral, negative)	It is positive. If it's not positive I won't invest in it.
3	Which of the recyclable is the most profitable of promising one?	Metals, aluminium cans. Right now, we are adding plastics, batteries but recycling of batteries is cumbersome and requires a lot of regulations.
4	From your experience, who is the market leader in Lagos state in terms of waste recycling.	You can't determine that because a lot of people are not opening up.
5	Can you tell us some of the average Capital Expenditure (CAPEX) and Operational Expenditure (OPEX) associated with recycling?	<p>CAPEX: To be honest, except you have a strong backbone or some equilateral that you can give to the bank, it is not easy to raise CAPEX from financial institution in Nigeria. Every equipment here is done personally and privately.</p> <p>OPEX; same thing with the operational cost, except you have a good cash flow, but you must first start on your own. Most banks don't invest in start-ups, that's where the government should come in.</p>
6	Have you heard of a digital marketplace?	Yes. May be not in Nigeria. A lot of people have talked about it; a digital market app for plastics, crude oil, metals.
7	If yes, what will be the most important feature in a digital marketplace?	To be able to vet the off takers and people who want to sell

RESOURCE MAPPING STUDY OF THE CIRCULAR ECONOMY IN LAGOS STATE
RECYCLERS ASSOCIATION OF NIGERIA
RECYCLE POINTS LIMITED

DATE & TIME OF VISIT	May 19, 2022. (10.00 – 11.00 AM)
ADDRESS OF ASSOCIATION	Plot 102B, Lagos Street, Off Cemetery Street, Ebute – Metta EM 101212, Lagos, Nigeria.

S/N	QUESTIONS	RESPONSES
1	Please describe the Organizational Structure of your Organization? (Kindly provide the Organogram.)	The organization, RAN started in the year 2018 with some board of members who are expert in the environmental sustainability space and the organization have many other staff.
2	How many staff do you have?	For now, there are about 15 to 20 staff/representation
3	Is there a membership fee? If Yes how much is being paid by each member? Who is eligible to be a member?	There is a membership fee depending on the organization or individual registry. <ul style="list-style-type: none"> • Corporate membership: N20,000 (per Year) • Affiliate membership: N7,000 (per Year) • Associate membership: N10,000 (per Year) • Student membership: N5,000 (per Year)
5	How is your Association connected or affiliated to other Associations? Kindly provide a list of them and state the kind of relationship you have with them.	The organization relates to other organizations such as the Lagos Recyclers Association (LAGRA), LAWMA, National and Environmental Standards and Regulations Enforcement Agency (NESREA) and Lagos state Environmental Protection Agency (LASEPA).
6	How do you see the market at the moment (positive, neutral, negative)?	The market is growing compared to 10 years ago.
7	From your experience, which of the recyclables is the most profitable or promising one?	Plastic

8	What kind of waste materials do you collect? List them	<p>The waste materials include: Plastics, Glass, Aluminium cans, Cartons and Pure water sachets. However, the plastics collected are in the following forms</p> <ul style="list-style-type: none"> • PET • HDPE • LLDPE
9	Who are the buyers of your product and where are they located? Please provide a list.	<p>We have local companies in Nigeria that collect our products like</p> <ul style="list-style-type: none"> • ALKEM, • ALIF group • Kaltani • Green recycling.
10	From your experience who is the market leader in Lagos State in terms of waste recycling?	LAWMA remains the first authority in terms of waste collection and management.
11	Have you heard of a Digital Marketplace?	YES
12	If Yes, what would be the most important feature as far as you are concerned in a proposed digital market tool?	The most important feature or what we try to achieve with a digital market space is basically financial inclusion, data collection, storage etc.
13	Do you foresee a demand for investment in recycling capacities? If yes, please explain?	YES, there is a demand for investment in the recycling space already. Most of the recyclers don't have enough to carry out their activities.
14	What type of waste do your members collect and what is the volume collected per day or month? Please list each one by type.	About 300 tons of waste is being collected monthly for recycle points.
15	How do you collect them?	Different participants from different states are being engaged by picking the material up when they are available. Waste is picked from offices, recycling banks etc.
16	What is the biggest challenge or problem being encountered by your members in sourcing for the waste they collect?	Logistics is a huge problem in sourcing for waste.

17	What is the biggest challenge or problem they face in the treatment, packaging and recycling of the waste?	For treatment, space is the major challenge. Also, availability of processing equipment poses a big challenge.
18	What is your mode of operation here?	<p>This is majorly a recycle point which involves collection of recyclables, sending to recycling banks.</p> <p>For collection of waste, there are trucks, tricycles for that.</p> <ul style="list-style-type: none"> • 3 Compactor Trucks (3 – 5 Tons) • 4 Large Trucks (3 Tons) <p>When we collect waste, we sort, bail for those that can be bailed like the PET bottles, pure water sachet, paper, cans; we try to crush the glass bottles before the next off taker comes.</p> <p>It depends on the off taker buying the waste; if it's a textile company, plastic is collected and bailed, the next process is crush it then wash it (2 phases: cold washing and hot washing) after which we pelletize.</p>
19	How do you audit? Who determines the price?	What RAN do is to regulate the prices because the prices are always dynamic.
20	What is the cost of a bail of PET. What's the cause of increase?	<p>For PET, we buy about NGN60 per Kg. however, the prices fluctuate.</p> <p>After sorting and bailing, we sell for NGN180 per Kg and goes up to NGN200/NGN250 per Kg.</p> <p>For other material:</p> <ul style="list-style-type: none"> • Glass bottle: N20 to N15 per Kg • Paper: N50 per Kg • Aluminium cans: N120 per Kg
21	Do you import or export?	Occasionally, we export in partnership with companies like Coca-Cola.
22	What is the tonnage of a bail?	A bail weighs about 80kg to 90kg but depending on the machine. There are machines that bail higher maybe 250kg. Our bail weighs 80 to 90kg.

RESOURCE MAPPING OF THE CIRCULAR ECONOMY IN LAGOS STATE
LAGOS RECYCLERS ASSOCIATION (LAGRA)
ECOVIRIDIS ENVIRONMENTAL TECHNOLOGICAL LIMITED

DATE & TIME OF VISIT	My 24, 2022. (1.00 – 2:00 PM)
ADDRESS OF ASSOCIATION	No 7 Iroko Close, Osborne Phase 2, Ikoyi, Lagos State

S/No	QUESTIONS	RESPONSE
1	What is the name of your company and what do you do there? What types of waste do you recycle?	The name of my company is Ecoviridis environmental technology limited based in Lagos. We create value from recyclable waste, we convert recyclable waste like plastics, glass, we are about the only recycling company in Lagos who process glass to an extent pre-processing; because we have a glass crushing process, that crushes the glass and moves it to off takers who produce new glass bottles. we collect cartons as well, we engage in aggregation of cartons, we bail it then sell to manufacturers as well. But for plastics, we do what we call pre-processing. In a month, we do: <ul style="list-style-type: none"> • PET bottles: 40 tonnes • Carton: 3.5 tonnes • Glass: 10 – 50 tonnes
2	How do you see the market for waste recycling at the moment (positive, neutral, negative)	It's positive. Can we have done better? Yes. What are the challenges? Policy challenge, Access to fund, ease of doing business, laws, regulations, its positive, the value in it, the market is huge, now we are starting.
3	From your experience, which of the recyclables is the most profitable or promising one?	Aluminium cans
4	Who are the buyers of your product and where are they located? Provide a list	we sell on demand, to people who use locally, we sell to people who export.
5	From your experience who is the market leader in Lagos State in terms of waste recycling?	The Market leader depends on the value chain. The market leader in Lagos now would be greenspace.

6	Have you heard of a digital marketplace? If yes, what would be the most important feature as far as you are concerned in the proposed digital market tool?	There are a lot of digital marketplaces. Example is online buying and selling like JUMIA in Nigeria. Apart from PAKAM The feature would be Pricing
7	What is the biggest challenge or problem being encountered in sourcing for waste collection?	The collection of waste has a lot of implications. It determines the kind of treatment that will be deployed. Collection procedures becomes vital in the infrastructure and is a key to developing waste treatment.
8	<p>In your view, from the list in (i) to (vii) below, explain how to surmount the challenges and other aspects of a digital marketplace.</p> <p>Provision of quality/security for the users (quality audits?) Transparency of a digital marketplace. How to avoid fraud, inappropriate behaviour?</p> <p>How do you make sure that users are coming back to the platform (once they established a business relation on the platform)?</p> <p>Laws and regulations related to - Extended Producer Responsibility (EPR), eg., mandatory usage of recycled polymers in Nigeria, as a driver for the success of the platform?</p>	<p>Commission and subscription: subscription will be at the initial stage when you want to come on the platform because that platform will be run by something. There should be subscription. But for frequent users, a waiver can be granted, which is commission or long-time membership, to encourage the use of the platform.</p> <p>Policy advocacy: we need to do a lot of policy advocacy and what do I mean, you need government backing and then data protection or laws that are in place needs to be enforced. And you need the buying of, you need to engage the right technologist who will help you put the necessary protection in place, to avoid fraud; that why I said we need government policy advocacy.</p> <p>EPR is very good; they deployed it in eastern Europe for over 20years and it worked. It has helped their recycling in the Eastern Europe and part of Western Europe. But for Nigeria, EPR is good, it's good that we are part of it; we are signatory to it, in the committee of nation, but are we implementing right? No! by now I think there should be other PRO(s), it shouldn't be only FBRA; FBRA is only looking at food and beverages. I know PROs for other aspect of recycling and even the FBRA; who has tried in its implementation to a large extent.</p>
9	<p>As the President of Lagos Recyclers Association, what is the organizational structure of the association?</p> <p>Who are your members and how many members do you have?</p>	LAGRA is a professional organisation, it's a year old. We started last year April, it's a very progressive organization for the industry. We are inclusive of all stakeholders, we have pickers as our members, (waste picker association), carton recyclers, metal recyclers are members of LAGRA. Basically, it's more like informal sector, the associations represent them and whatever we decide, we will disseminate to them. Then we have the practitioners. Our membership is in four layers, we have the affiliate members which is for student and non-recyclers even household members, consumers can become affiliate member and then you have access to our events training etc. then we have the cooperate one.

		LAGRA is run by an executive body, having the constitution, having a ten-man exco. In LAGRA we do gender balance; comprising 5 men and 5 women for sustainable development.
10	Is there a membership fee? If yes, how much is being paid by each member?	<p>Membership fee for affiliate is 20, 000 NGN for the first year then subsequently it is 15,000 NGN cooperate one is MSME, small medium enterprise, small practitioners who are just getting hands on it, they are full members, they can vote, be voted for, but it must be a company, a registered company. So those ones are 30,000 NGN for registration at start then subsequently is 25,000 NGN and then we have the cooperate 2, which is the large businesses, those in the mid and up stream. The cooperate 1, is basically the lower stream. So, mid-stream and upstream is what we call cooperate 2, their own registration is 50,000 NGN for a start and then subsequently they pay 45,000 NGN then we have what is called associations which comprises of NGO(s); we have a class for them, they pay 40,000 NGN for membership and they have the same right as cooperate 1&2 and subsequently they can pay 35,000 NGN.</p>

**RESOURCE MAPPING STUDY OF THE CIRCULAR ECONOMY IN LAGOS STATE
FOOD AND BEVERAGES RECYCLING ALLIANCE**

DATE & TIME OF VISIT	May 18, 2022. (10:30 – 11: 30 A.M)
ADDRESS OF ASSOCIATION	c/o Nigerian Breweries, Iganmu House, 1, Abebe Village Road, Iganmu, Lagos State.

S/NO	QUESTIONNAIRES	FBRA (RESPONSE)
1.	Please describe the Organizational Structure of your Organization? (Kindly provide the Organogram.) How many staff do you have?	Board of Directors comprising four founding member organization alliances. <ul style="list-style-type: none"> • Nigeria bottling company. • Nestle. • Nigeria breweries. • 7up.
2.	How many staff do you have?	4 staffs and volunteers in different locations across Nigeria.
3	Who is eligible to be a member?	<p>The EPR are:</p> <ul style="list-style-type: none"> • Producers • Converters • Manufacturers in food and beverages sector. • Organizations in the food and beverages sector. <p>The EPR were implemented based on the lead model of the industry of the food and beverages sector, members in these sectors can then become members of the alliance.</p> <p>The alliance which was set up as an NGO- Non-Governmental Organization in March 2018. Four members came to form the alliance and now 23 members. The members are listed below:</p> <ul style="list-style-type: none"> ▪ Guinness. ▪ International breweries. ▪ Intercontinental distillers. ▪ Lacasera ▪ UAC ▪ Tulip cocoa ▪ ENGEE ▪ Tetrapak ▪ Coca-cola ▪ Primark ▪ Nestle ▪ Seven-up Bottling Company ▪ 30-mnik limited

		<ul style="list-style-type: none"> Nigeria Breweries
4.	How is the connection to the Waste Pickers Union (WPU)?	No direct relationship with the waste pickers union because the need of full registration could not be met. Indirectly working through LAGRA and supporting their advocacy programs.
5.	How many collection/aggregation units and bottle treatment facilities are there in Lagos State?	FBRA is not a recycling company, it's a producer responsibility of organization to implement EPR. They work with member that have products. Nigerian breweries within the production facilities have their ways of managing their products waste internally. The alliance is set up to enhance the operation of the value chain but still work with 10 collections partners.
6.	What kind of technologies are you using, e.g. plastic to yarn, bottle-to-bottle, extrusion, shredding etc? Please list as appropriate.	No facility available
7.	How many bottles, cans or plastics are being collected and treated daily by your Association?	We use our score sheet. This is shown in the table below.
8.	How do you handle or process the caps and labels of the bottles/cans you collect for recycling?	We use beverage cartons. We now work with collection stream, and we started with PET, now expanded based on the membership and we collect PET, used beverage cartons and flexible plastics.
9.	How do you perceive the market for recyclables in Nigeria now (positive, neutral, negative)?	A lot of people are coming to the business and its lucrative with a lot of awareness which involve a lot of funds, and this makes the market of recyclable positive.
10.	Have you heard of a digital marketplace?	No; though we partner with some people to use some app like PAKAM, but it is not a digital marketplace, it is just to track collection as movement of value chain from one to another.
11.	What would be most important for you in the proposed digital market tool?	Digital marketplace is an online place to trade and for payment. The important thing there is a digital market tool, it's usually had a fixed price and for transportation. Also, with an added fee for logistics. If a digital marketplace can have that waste price index. That will be great.
12.	Have you heard of Extended Producer Responsibility (EPR) Strategy?	Yes
13.	Are you aware of any manufacturer who has adopted and is implementing the strategy in their product pricing? If any, please provide a list of such companies. Do you know how these companies are implementing the EPR strategy? Please give a brief explanation.	Our members implement EPR, that makes them belong to our alliances. Members implement the EPR which means they are paying to support the collection of the end line of a product pricing.
14.	From your experience, who is the market leader in Lagos State in terms of bottle waste recycling?	Don't know. Judgement based on the volume of monthly turnout in terms of productions, operations etc.
15.	What do you think would be the most important feature in the proposed digital market tool?	The features should have all the necessary facilities both informal and formal sector in it. Most times, solutions are provided to the top level. Meanwhile the 60% of the work are done by the waste pickers, it must be a whole value chain and then the off takers. The comprehensive data for those existing must accessible using the PAKAM app and this make digital market tool easy and affordable to collect.
16.	Do you see an increase in demand for investment in recycling capacities? If yes, please explain?	Yes. It's a lucrative business. The value placed on the material, the policy, enabling environment for business to thrive, such as Lagos State policy and the RPET in 2019. Recycling of PET material by SON - Standard Organization of Nigeria, all these policies can help with investment. A growing economy,

		international organization are being interested in the sector, all of these helps in increase of investment and demand.
17.	<p>In your own view, from the list in (i) to (viii) below, explain how to surmount the challenges and other aspects for a digital marketplace.</p> <ul style="list-style-type: none"> i. Provision of quality/security for the users (quality audits?) ii. Transparency of a digital marketplace. iii. How to avoid fraud, inappropriate behaviour? iv. Business model of a digital marketplace (subscription fee, commission – or business model etc)? v. Convenience for the users (eg., how is the logistics, sampling, invoicing etc solved)? vi. Who is eligible to participate? vii. How do you make sure that users are coming back to the platform (once they established a business relation on the platform)? viii. Laws and regulations related to - Extended Producer Responsibility (EPR), e.g., mandatory usage of recycled polymers in Nigeria, as a driver for the success of the platform? 	<ul style="list-style-type: none"> • A digital marketplace also means an online resource, technological enabled resource where you can trade. The quality and security for users, including standard like this testing. • You need to put control in place, while registration is needed. • Commission for referral. • There should be consequence for negative behaviour. • Make things simple for users, accessible, easy and fast; mobile enabled. • Let their picture be there for security. • Everybody is eligible, but you must put in terms and conditions of working • You must be able to provide value, create the right synergy and be the go-to platform. There should be commission and percentage to each activity carried out. Then always look for improvement. • NESRA is a regulatory platform, RPET should exist.

RESOURCE MAPPING STUDY OF THE CIRCULAR ECONOMY IN LAGOS STATE
INFORMAL SECTOR
ASSOCIATION OF SCRAP AND WASTE PICKERS OF LAGOS STATE

DATE & TIME OF VISIT	May 19, 2022. (2:00 to 4:00PM)
ADDRESS OF ASSOCIATION	No 3b Tunde Gabby St, Behind County Hospital County Bus stop. Aguda Ogba Ikeja.

S/N	QUESTIONS	RESPONSES
1	Please describe the organizational structure of your association	The organization is part of the informal sector which represents about 61% of the total workforce of the country. The board of trustee and executive are the main organogram of the organization and also, they are gender equality that have both men and women as members and workers
2	Who are your members and how many members do you have? Please provide a list. Is there a membership fee? If yes, how much is being paid by each member?	For now, there are about 3000 members in the organization and presently operates on a free membership registration.
3	Is your Association connected or affiliated to other Associations? If yes kindly list them and state the kind of relationship you have with them.	Presently, the organization is only affiliated to Lagos recyclers association LAGRA and Federation of Informal Workers of Nigeria (FIWON).
4	How many waste pickers are there in Lagos State? And how are they spread across the city? Please provide a Map.	They have more than 15,000 members spread all over the state, but could only capture 11,000
5	How are the groups and sub-groups of waste pickers organized?	We have a branch; Local government with a leader, executive unit; with about 10 people in 1 compound. We have a leader that reports to the local government.
6	How many are women?	About 60% of 3,000 of the members are represented by women
7	Q: Please indicate the number of waste pickers in each of the following age range. <ul style="list-style-type: none"> • 15 and below (.....) • 16 to 20 (.....) • 21 to 30 (.....) • 31 to 40 (.....) • 41 to 50 (.....) 	Even though the organization don't sort out the age of the member. However, they do not take an underage (below 18) in their workforce.
8	Where do they pick their waste?	<ul style="list-style-type: none"> • Dumpsite • Commercial Places • Markets • Streets • Industries

		<ul style="list-style-type: none"> House to House
9	What is the volume of waste per Ton that is collected per day or month? Please list each one by type.	Information on this is not available for now.
10	How are the waste transported? Please tick as many as are appropriate.	<p>The major ways of waste transportation include:</p> <ul style="list-style-type: none"> Carts Vehicles (open trucks; depending on the volume) Bicycles: LAWMA is trying to make use of bicycle so we can use it in the estate that have good road.
11	Can you describe the waste flow in the system, e.g., from scavenger to aggregator, aggregator to trader, trader to treatment facility etc	<p>The waste pickers > aggregator > off takers.</p> <p>However, it should be noted that the waste pickers detest been referred to as scavengers as the scavengers are known to pick dead things.</p>
12	Can you give the current prices of the various recyclables that are being collected?	<p>For PET plastic bottles; As a waste picker, you sell at NGN40 As a middleman: NGN80 If it's clean NGN120</p> <p>For HDPE; Cost of HDPE from waste pickers; ranges from NGN80 to NGN100 (1 Kg) Cost of HDPE to off takers; ranges from NGN100 to NGN150 (1 Kg)</p> <p>For LDPE; Ranges from NGN100 to NGN150</p> <p>For metal; Ranges from NGN 270 to NGN 300</p> <p>For paper/cardboard Ranges from NGN 50 to NGN 100</p>
13	What are the drivers in the market (when do the prices go up or down and based on what)?	Demand and Supply
14	What is an average income/revenue per day for waste pickers?	NGN 1000 to NGN 2000 per day
15	Are you exporting waste? If so, which type do you export and where do you export them to? Please give a list of the waste and the name of the countries.	At the moment, not at that level.
16	How do you see the market for waste recycling in Lagos now (positive, neutral, negative)?	With the new Manager of LAWMA, who has been trying to make recycling business profitable, there is a prospect for positivity

17	From your experience who is the market leader in Lagos State in terms of waste recycling?	In Lagos state, the major leading market in terms of waste recycling are; <ul style="list-style-type: none"> • ALKEM and LEXIS for PET bottle • African Steel, African Foundry for METALS
18	Do you foresee a demand for investment in recycling capacities? If yes, please explain?	Yes, this can be achieved with availability of necessary tools and right environment.
19	What is the biggest challenge or problem being encountered by your members in sourcing for the waste they collect?	Availability of right tools is the major challenge encountered when sourcing for waste.
20	Which recyclable is the most profitable/promising one?	Metal remains the most profitable material
21	Have you heard of a digital marketplace?	No
22	Are you using mobile payment or only cash?	Cash the major medium of payment now. However, the development of PAKAM App will facilitate a digital economy.
i.	Q: In your view, from the list in (i) to (vii) below, explain how to surmount the challenges and other aspects of a digital marketplace. Provision of quality/security for the users (quality audits?) Transparency of a digital marketplace. How to avoid fraud, inappropriate behaviour?	Fraudulent remains one of the major challenges of a digital marketplace.
ii.	Business model of a digital marketplace (subscription fee, commission – or business model etc)?	There must be a commission fee but the data you are running is part of it. They should use that. With the app, FIBRA wants to reimburse the pickers that's the type of things they should negotiate with us to bring data that they will put as part of the EPR system.
iii.	Convenience for the users (e.g., how is the logistics, sampling, invoicing etc solved)?	Logistic is an important thing here, this is to ensure that everything picked are channelled to their destination.
iv.	How do you make sure that users are coming back to the platform (once they established a business relation on the platform)?	It's what they see. Like what they're doing on the app. You can't say we download the app, call recycler to pick, they record it, they come for about 4 to 5 times at the end of the month, they record and pay. It ought to be pay as you go/ pick system. If you wait till the end of the month, it encourages manipulation. That's why many of the recyclers are not using the app. They by-pass the apps and go directly to pass.
v.	Laws and regulations related to - Extended Producer Responsibility (EPR), eg., mandatory usage of recycled polymers in Nigeria, as a driver for the success of the platform?	Right now, there is nothing like EPR in Lagos state which is however needed to be mandatory for every company involved in the production of waste.
23	When was the association formed?	We started the association after the pandemic in the year 2020. Our certificate came out this year April 8.

Appendix 2: The Existing Relevant Policies and Regulations in Nigeria and Lagos State

NATIONAL POLICIES		
Policy	Year	Brief Description
National Policy on Environment	1989	Policy Goal: to ensure environmental protection and the conservation of natural resources for sustainable development.
	Rev 1999	Strategic objectives: <ol style="list-style-type: none"> 1. Securing a quality of environment adequate for good health and wellbeing. 2. Promoting sustainable use of natural resources and the restoration and maintenance of the biological diversity of ecosystems. 3. Promoting an understanding of the essential linkages between the environment, social and economic development issues. 4. Encouraging individual and community participation in environmental improvement initiatives. 5. Raising public awareness and engendering a national culture of environmental preservation; and 6. Building partnership among all stakeholders, including government at all levels, international institutions and governments, non-governmental agencies and communities on environmental matters.
	Rev 2016	Waste related: Chapter 5 concerns waste and environmental pollution, with subsections on (solid) waste, environmental pollution and industry and environment. In Ch.5.3, it provides to ensure cleaner production and waste minimization through material recovery, reuse and recycling and prescribing strict adherence to the polluter-pay principle. Plastic related: Secure and enforce a legislative ban on plastic bags (Chapter 5.1 Policy Statements 7), Restrict and/or tax the use of polluting non-biodegradable consumer products including plastic shopping bags (Chapter 7.8 Policy Statement 12)
National Environmental Sanitation Policy	2005	The policy seeks to simulate, promote and strengthen all government regulations concerned with housing and urban development, food security, water supply, sanitation related endemic diseases and illnesses, flood and erosion control, drought control, school health services and environmental education. The policy ensures sound environmental sanitation practices that promotes sustainable development, public health and good quality of life. It is intended to put Nigeria on the map of clean nations of the world, ensure good health and

		<p>environment for its people, give major environmental responsibilities to state and local governments as major custodians, institute sanitary inspection of public places, check cattle rearing in urban centres Increase access to toilet facilities and increase school sanitation and programmes.</p> <p>Waste Relevant: The policy focuses on sanitary inspection of premises, solid waste extraction, excreta and sewage management, market and abattoir sanitation, pest and vector control, school sanitation, food sanitation, adequate potable water supply</p> <p>Some strategies relevant to plastics include:</p> <ol style="list-style-type: none"> 1. Waste minimization at household/community levels through reduce, reuse, recycle and resource recovery. 2. Promotion of appropriate technologies for recycling waste components like plastics, bottles, glass, metals, paper, organic matter, etc. 3. Establishment of small-scale waste recycling plants at household/community levels (plastics inclusive, action party not listed but not LGA because of lack of capacity, Federal/State Governments could make provision in annual budgets in addition to grants from donor partners). 4. Develop technical capacity of public and private organizations involved in solid waste management. 5. Conduct research to determine per capita waste generation database, amongst others
National Policy on Chemical Management	2010	<p>The goal of the National Policy on Chemicals Management is to integrate the management of chemicals for the protection of human and animal health and the environment.</p> <p>The policy covers extensive international conventions and agreements that govern chemicals and waste management to which Nigeria is signatory.</p> <p>The agreements regulate production, handling, transportation, storage, use and disposal of chemicals and waste, requiring extensive record keeping and a 'cradle to grave' tracking system from generation to disposal.</p>
National Policy on Municipal and Agricultural Waste (MAW) Management Draft (National Policy)	2012	<p>The policy aims at providing frameworks for all aspects of MAW management process namely, generation, sorting, storage, collection, transportation, resource recovery, treatment, and proper disposal with attendant minimization of the release of unintentional Persistent Organic Pollutants (UPOPs). It also provides a framework for development, coordination, management, supervision, and regulation of the MAW sector.</p> <p>It will guide MAW managers, policy makers, enforcement authorities on best environmental practices for MAW management in Nigeria MAW policy will ensure development of a sustainable community which seeks a better quality of life for present and future generations by maintaining nature's ability to function over time.</p>
National Healthcare Waste Management Policy	2013	<p>The goal of the Policy is to create an enabling environment that contributes to effective and efficient healthcare waste management practices with minimal harmful environmental impact.</p>

		<p>The policy supports operational research and provides mechanism for effective coordination and mobilization of resources for sustainable implementation of best practices in healthcare waste management in all health care institutions in Nigeria.</p>
National Healthcare Waste Management Policy	2013	<p>Thematic items under the policy include:</p> <ul style="list-style-type: none"> • Safe healthcare waste management. • Collection, storage, transportation, treatment, and disposal of healthcare waste • Treatment and disposal options for healthcare waste • Protection of staff, patients, healthcare waste handlers and environment from risks associated with healthcare waste • Operational guidelines with institutional framework for policy implementation • Setting up of infection prevention and control committees with healthcare waste management committees as subsets in all healthcare facilities (HCFs) with national steering committee (NSC) under the Federal Ministry of Environment • Infrastructural and human capacities development • Resource mobilization through annual budgetary allocations, ecological funds office, donor agencies • Public-Private Partnership • Greenhouse Effect • Research • Monitoring and Evaluation • Legislation
National Policy on Solid Waste Management	2018	<p>The policy treats solid waste as a resource to promote economic growth and managed as to improve the quality of human and environmental health. The policy is aimed amongst others at:</p> <ul style="list-style-type: none"> • Promoting a clean and healthy environment for sustainable socioeconomic development of the nation. • Reducing and eventually eliminating heaps of solid waste and reduction in associated public health problems. • Development of waste management infrastructures. • Promoting private sector investments in SWM. • Promoting the Reuse, Reduce, Recycle and Recovery initiative. • Restoring and conserving natural resources. • Creating wealth and employment from waste management. <p>The policy follows 13 principles amongst others: Proximity principle and self-sufficiency; Polluter pays principle; Extended producer responsibility; The precautionary principle; Separation at source; Life cycle.</p> <p>Plastic relevant:</p> <ul style="list-style-type: none"> ▪ Categories for sorting should include glass, paper, plastics etc. for reuse and promote technologies for recycling of waste components including plastic.

		<ul style="list-style-type: none"> ▪ National Waste Management Resource Action Program, Producers' Responsibility for plastic, plastic as business opportunities in waste to wealth. • ANNEX 3 Promotion of plastic recycling, especially PET bottles.
National Policy on Plastic Waste Management	2020	<p>The overall goal of the policy is to promote sustainable use of plastic as a resource through its life cycle management. The policy introduces new measures such as the following:</p> <ul style="list-style-type: none"> • Bans single use plastic bags and Styrofoam (Micron > 30 μ) and levy on thicker plastic bags and promote the use of alternatives to plastics (e.g., jute bags, leaves, paper, etc.) effective May 2020. • Ensure that all plastic packaging in the market is recyclable or biodegradable or compostable and reusable by 2025. • Sets national and state-wide targets for 65% recycling rate for municipal waste, 75% recycling of packaging waste, reduce landfill to maximum of 10% of municipal waste, 50% recycling of all plastic waste and use of plastic bags per person reduced to 50% by 2030. • Requires mandatory EPR schemes most notably on all packaging items and introduces by law a nationwide bottle deposit requirement, a 5% deposit refund schemes for beverage containers: 5% charge on all single use grocery bag by 2021. • Alternatives are exempted from ones, no mention of bio-based plastics but biodegradables being exempted from ones • Presently, there has not been any pronouncement on the implementation but there are signals that it will soon receive priority attention, it was approved in October 2020

NATIONAL REGULATIONS

Policy	Year	Brief Description
Federal Environmental Protection Agency Act	1992	FEPA regulates the collection, treatment and disposal of solid and hazardous waste from municipal and industrial sources and makes Environmental Impact Assessment (EIA) mandatory for any major development project likely to have adverse impact on the environment. FEPA Act has been repealed and replaced by National Environmental Standards and Regulations Enforcement Agency.
National Environmental Protection (Pollution Abatement in Industries and facilities generating waste) Regulations S.1.9	1991	Prohibits industry or facility to release hazardous or toxic substances into the air, water or land of Nigeria's ecosystems and imposes to have a pollution monitoring unit within its premises and to control the pollution, further detailed chemical information should be submitted to the Federal Environmental protection Agency. Industry and facility waste should be disposed of in an environmentally safe manner and none of them be disposed of in any municipal landfill.
The National Environmental Protection Management of solid and Hazardous Waste Management Regulations S.I.15	1991	Provides with respect to the handling and management of solid, dangerous, radioactive and hazardous waste. Defines the objectives of management of solid and hazardous waste, the functions of appropriate Governmental agencies and the obligations of industries. It also classifies waste and make provision for contingency plan and emergency procedure, ground water protection, ground water monitoring requirement.
Environmental Impact Assessment Act	1992	Sets out the procedures and methods to enable the prior consideration of environmental impact assessment on certain public and private projects. Gives specific powers to the Federal Environmental Protection Agency to facilitate environmental assessment on the projects. It consists of 64 sections divided into 3 parts: <ul style="list-style-type: none"> i) General principles of environmental impact assessment ii) Environmental assessment of projects iii) Miscellaneous

Harmful waste (Special Criminal Provisions) Act CAP HI LFN	2004	It is essentially a penal legislation and was enacted with the specific objective of prohibiting the carrying, depositing, and dumping of hazardous waste on any land, territorial waters and matters relating thereto.
National Agency for Food and Drug Administration and Control Act No.1 5 of 1993 Cap NI LFN 2004	1993 2004	Mandates NAFDAC to regulate and control the manufacture, importation, exportation, distribution, advertisement, sale and use of food, drugs, cosmetics, chemicals, detergents, medical devices, and packaged water (known as regulated products).
Import (Prohibition) Act CAP 13 LFN	2004	Prohibition of importation of certain goods including foodstuffs, polypropylene materials, nylon tire, fabrics, plastic bags, shing nets, plastic plates, knives, spoons, forks, cups, buckets, bowls, bins, containers and hangers, corrugated boards, and cartons, etc. Offenders are liable on conviction to imprisonment as stipulated in Section 2 of the Export (Prohibition) Act with goods, vehicle, vessel, aircraft used in importation and other assets forfeited to the Federal Government
National Environmental Standards and Regulations Enforcement Agency (NESREA)	2007	Establishes the National Environmental Standards and Regulations Enforcement Agency as a corporate body and provides rules relative to the protection of the environment in Nigeria. The Agency shall be responsible for the effective enforcement of standards, regulations and all national agreements and international agreements on environment to which Nigeria is a signatory.

<p>National Environmental (Sanitation and Waste Control) Regulation S.I.28</p>	<p>2009</p>	<p>The purpose is the adoption of sustainable and environmentally friendly practice in environmental sanitation and waste management to minimize pollution in Nigeria. Consists of seven parts:</p> <ul style="list-style-type: none"> • Part1 (provisions of application, object, purpose) • Part 2 (environmental sanitation matters) • Part 3 (provisions on the control of solid waste, effluent discharge and hazardous and health care waste) • Part 4 (institutional roles and responsibilities of the Federal, State and Local Governments) • Part 5 (effective implementation of the regulations, promotion of stakeholder involvement) • Part 6 (effective coordination of Agency's Strategic Alliance Programme on Environmental Sanitation and Waste Control); and • Part 7 (key terms such as specific guidelines including wastewater, hazardous waste and others). <p>Plastics related:</p> <ul style="list-style-type: none"> • Section 13(1) Every household or dwelling unit shall have safe and adequate waste collection bins for storage of domestic waste • Section 13(2) All vehicle owners shall provide appropriate litter for the use of occupants or passengers • Section 13(3) Relevant authorities shall provide appropriate and adequate litter bins in public places • Section 13(4) A person in care, management or control of any commercial business premises or construction sites shall: <ul style="list-style-type: none"> a) provide adequate litter bins and receptacles for recyclable materials in appropriate and easily accessible locations b) service and maintain the receptacles regularly, keep the premises and all public or private lands, streets, lanes, walkways, beaches or docks within 5 meters of the boundary of the property free from litter always c) ensure that waste are collected and disposed of d) ensure that all recyclable materials are neatly packaged and stacked before disposal • Section 13(5) A custodian of a venue or person who organizes a public, private recreational or religious event shall: <ul style="list-style-type: none"> a) provide adequate number of waste receptacles in appropriate and easily accessible locations to prevent littering. b) ensure that such waste are appropriately segregated c) service, maintain and empty the waste receptacles as required; and d) ensure that the venue where an event takes place and all public or private lands, streets, lanes, passageways, beaches or docks within at least 15 meters of the boundary of the venue or property are free from all litter within 24 hours after the conclusion of the event.
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		<p>Section 18</p> <p>The use of the following specification of plastic bags is banned in the country:</p> <ul style="list-style-type: none"> a) the manufacture, trade and commercial distribution of plastic bags, made of plastic film, with a wall thickness of less than 80 micrometres b) notwithstanding paragraph of this regulation, bread bags, made of plastic films, with a wall thickness of between 25 and 80 micrometres may be manufactured, traded and commercially distributed for use within the country and, unless otherwise required by law, have printings or marks of any kind c) Section 66(c) In order to ensure effective implementation of Regulations and promote stakeholder involvement in environmental sanitation, the following Plastic film Phase-out Programme shall be implemented by governments in collaboration with the public and the private sector among other Programme including waste minimization, Extended Producers Responsibility, etc.
<p>National Environmental (Food, Beverages and Tobacco Sector) Regulations, S. I. No. 33</p>	2009	<p>The purpose of the Regulations is to prevent and minimize pollution from all operation and ancillary activities from the sector in the Nigerian environment. It is divided into nine parts with structure similar to the Regulations on Food, Beverage and Tobacco Sector.</p> <p>Plastic relevant:</p> <p>Section 6 (3) All recyclable, damaged and disused packaging materials such as glass, plastics, metals, paper, wood, nylon, etc., shall be recycled.</p>

National Environmental (Domestic and Industrial Plastic, Rubber and Foam Sector) Regulations, S. I. No. 17	2011	<p>The principal goal is to prevent and minimize pollution from all operations and ancillary activities of domestic and Industrial Plastic, Rubber and Foam Sector to the Nigerian environment. The regulations also require every facility or corporation to prepare a voluntary action programme for global warming control measures and such measures shall consider energy-saving and best available technology in their production processes.</p> <p>Plastic relevant: Section 6(2) The collection, treatment, transportation and proper disposal of waste shall be the responsibility of the facility generating the waste within the specified standards and guidelines.</p> <p>Section 7(3) All recyclables, demand and disused packaging materials (e.g., glass, plastics, metals, paper, wood, nylon, etc.) shall be recycled.</p> <p>7(4) Where applicable, the 5Rs namely – Reduce, Repair, Re-use, Recycle and Recover shall be encouraged. Schedule VII (Pollution Prevention and Control Techniques) Scraps from thermoplastic polymers should be reground and mixed with virgin materials</p>
National Environmental (Construction Sector) Regulations, S. I. No. 19	2011	<p>The objective or purpose of preventing or minimizing pollution from 'Construction, Decommissioning and Demolition Activities' to the Nigerian environment.</p> <p>Plastic relevant: Section 6(1) The operator/facility shall submit a Site Waste Management Plan (SWMP) to the Agency for all new construction projects that will require mandatory Environmental Impact Assessment (EIA) or such projects that may generate significant waste. Section 6(2) A SWAMP shall contain:</p> <ul style="list-style-type: none"> a) types of waste to be generated on site b) identity of the waste manager/contractor and the registration number c) waste destination; and d) environmental permit held for the site where the waste is to be managed.
National Environmental (Electrical/Electronic Sector) Regulations, S. I. No 23	2011	<p>Regulations to prevent and minimize pollution from all operations and ancillary activities of the Electrical/Electronic sector of the Nigerian environment. They cover both new and used Electrical/Electronic equipment (EEE/UEEE).</p>

		<p>Plastic relevant:</p> <p>Section 8(4) All damaged and disused equipment including wires, Cathode Ray Tubes (CRTs), metals, motors, transformers, plastics etc., shall be amenable for recovery under Extended Producer Responsibility Program by NESREA accredited Recyclers in an environmentally sound manner;</p> <p>Section 8(5) All waste from Electrical Electronic product assembly or manufacturing with hazardous properties shall be clearly labelled and stored separately from the general waste and contained in storage areas that are chemically resistant before disposal in an environmentally sound manner.</p>
National Environmental (Base Metal, Iron and Steel Manufacturing/Recycling Industries Sector) Regulations	2011	<p>Regulations to prevent and minimize pollution from all operations and ancillary activities of the sector in the Nigerian environment. They also provide for polluter-pay principle, where there is pollution during operation of any facility.</p> <p>Plastic relevant:</p> <p>Section 11 Every facility, corporation or organization shall have Pollution prevention and control measures and shall further include:</p> <ul style="list-style-type: none"> a) Separating metal dust or scrap by type to promote recovery and recycling. Schedule V (Global Warming and the Steel Industry's Voluntary Action Programme) b) reduce its energy consumption by establishing an effective logistics system through utilizing waste plastics in blast furnaces.
Lagos State Environmental Protection Agency Law	2017	<p>Establishes the Lagos State Environmental Protection Agency (LASEPA). LASEPA advises Lagos State on all environmental management policies. Enlighten public on sound environmental sanitation and management. Monitor and control all forms of environmental degradation from agricultural, Industrial and government operations. Cooperate with Federal, State and Local Governments, statutory bodies and research agencies on environmental protection matters and facilities.</p>

Lagos State Environmental Pollution Control Law	2007	Provides control of pollution and protection of the environment from abuse due to poor waste management the Law requires the Ministry of Environment to educate the public on the types of disposal methods acceptable by the State Government for domestic and Industrial waste.
Lagos State Plastic Waste Management policy	2021	<p>The main goals are to:</p> <ul style="list-style-type: none"> • Achieve sustainable plastic waste management in Lagos State that will protect public health • Develop sustainable legislative instruments, administrative, trade measures and systems that will support plastic waste management while boosting economic growth • Ensure that all plastic packaging in Lagos will be recyclable and reusable by a targeted year 2030. • Support efforts to reduce our dependence on single use plastics • Incorporate informal sector into the plastic waste Management approach • Delineate roles and responsibilities of the public sector, the private sector and individuals in plastic waste management and aim at harnessing the capacities of all to achieve best practices • Target to achieve approximately 50% plastic waste recovery by2035 and 70% by2050 and establish realistic timeline for zero plastic pollution • Encourage companies and individuals to embrace Alternatives to plastics • Encourage participatory approach that involves all stakeholders, including communities CBOs, NGOs and relevant MDAs at State and LG levels; and • Establish compliance (monitoring, evaluation and enforcement) measures to ensure attainment of set goals and objectives.
Environmental Law of Lagos State	2011	<p>This is a Law to provide for the Management, Protection and Sustainable Development of the Environment in Lagos State. The law decrees that The Ministry of the Environment shall be responsible for the overall management of the environment of Lagos State while also outlining the various authorities and boards under the supervision of the Ministry of Environment.</p> <p>Additionally, the law establishes the Lagos Environmental Trust fund.</p> <p>The law is broken down into the following sections covering the following</p> <ol style="list-style-type: none"> 1. Administration.

		<ol style="list-style-type: none"> 2. Integrated Pollution 3. Solid Waste Management 4. Statutory Nuisance and Litters 5. Wastewater Management 6. Flood and Erosion Control, Land Reclamation and Water Resources Management 7. Conservation and Ecology Management 8. Citizen participation in Environmental Protection including access to information 9. Establishment of Environmental Sanitation Corps, Environmental Administrative Complaints Panel and The Environmental Court 10. Establishment of Law Enforcement Institute for the Training of Law Enforcement Officers in Enforcement Agencies in Lagos State <p>Provisions of Section 4 (1) of the Lagos State Waste Management Authority Law Cap 27 vol. 40 2007.</p> <ol style="list-style-type: none"> a. Provisions of section 7(1) and 2 of the Lagos State Waste Management Authority Law Cap 27 vol. 40, 2007 b. Provisions of Paragraph 5 (1)b of the 1st Schedule to the Lagos State Waste Management Authority Law Cap 27vol. 40, 2007 <p>Solid Waste Management</p> <p>This law establishes the duties and authority of the Ministry of Environment in solid waste management in Lagos State. This law repeals the following previous laws</p> <p>The law replaces all residential, public, commercial and industrial waste generators prior waste collection and disposal service fee with a public utilities levy fee.</p> <p>The law establishes the procedures and regulations regarding solid waste, Healthcare, Industrial and Biomedical Solid Waste collection licensure, disposal and fines.</p>
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Appendix 3: List of Licensed PSP Operators in Lagos State

LIST OF REGISTERED PSP OPERATORS AND THEIR AREA(S) OF OPERATIONS

LGA/LCDA	WARDS	PSP NAME	No.
AGBADO OKE ODO	ABORU I	GOFMERC NIG LTD	1.
	ABORU II	MOJAK GOLD ENT	2.
	ABULE EGBA II	FUMAB ENT	3.
	AGBADO	CHRISTOCLEAR VENT	4.
	AGBELEKALE I	ULTIMATE STEVE VENT	5.
	AGBELEKALE II	BATIGOAL	6.
	AGBELEKALE II SLOT B	OLA TRANS ATLANTIC	7.
	AGBELEKALE III	METROPOLITAN	8.
	COMMAND	SPALLETE	9.
	EKORO/OLD OTA ROAD JUNCTION TO ILE-EJA BUS STOP INWARD AJASA COMMAND ROAD	TOPDEL ENT.	10.
	AGBULE EGBA I	WOTLEE & SONS	11.
	AMIKANLE	TRAM WASTE LTD	12.
	IGOKE	BEST BUY TADING	13.
	IKOLA	DE ENHANCER BC	14.
	MEIRAN	JOFK EEGINERRING	15.
	MEIRAN II	BOIISE TRUST	16.
	AJASA		
	MOSHALASHI	AJ MERCY ENT	17.
	OKE ALAGUNTAN	GRACE EMMA INTL VENT	18.
	AGBELEKALE SLOT B	OFFSHORE	19.
	AGBELEKALE SLOT B	DOVE ROOST	20.
	OKE ODO II	HCI ENGINEERING	21.
AGBOWA IKOSI	ALL WARDS	B S PASSIONS	22.
AGBOYI KETU	AGIDI	ELAWSUND NIG ENT	23.
	AROWSEGBE/ALAPERRE	DOPEC NIG ENT	24.
	BAMGBE ELEBIJU	KUNLEK VENT	25.
	ERUKAN ORISIGUN		
	ODOGUN AJEGUNLE	SHETA BAY NIG LTD	26.
	OSHOGUN	BUSOL GLOBAL VENT	27.
AGEGE	ATOBAJE I	LAM AKINBAMI & SONS	28.
	ATOBAJE II	AKINSJOHN ENVIRONMENTAL	29.
	AWORI ONIWAYA	DOTYEM ENT	30.
	DOPEMU	LETOK & COMPANY	31.
	ISALE OJA	FOLAGOLD ENT	32.
	KEKE I	TK & P ASSOCIATES	33.
	KEKE II	COSMOPOLITAN	34.
	PAPA UKU	PADAAO ENT	35.
	SANGO	GUESTIMATE ENVIRONMENTAL	36.

	AJEGUNLE	BAMOWO ENT	37.
AJEROMI	ALAKOTO	DISCOVERY LOGISTICS	38.
	TEMIDIRE		
	ALAYABIAGBA	MCKING NIG LTD	39.
	AWODIORA I	SYNERGY X	40.
	AWODIORA II	ANGEL FAD ENT	41.
	AIYETORO	DAPTOL INVESTMENT	42.
	IBAFON	SAMSPALOG	43.
	TOLU	VERAKLEAN SERVICES	44.
	OLUWA	EVABOL VENT	45.
	IBAFON II (CSR)	SELMIC GLOBAL RESOURCES	46.
ALIMOSHO	AKOWONJO I/EGBEDA	OLAOLU GRACEX ENT	47.
	AKOWONJO II	AMAZING AAA	48.
	ALABATA	AKIN FASHINA & SONS	49.
	ALAGUNTAN	DANHIT FOCUS VENT	50.
	IFELODUN/ORISUMIBARE	JET LOTS ENT	51.
	OGUNTADE/BANMEKE	NAKOD VENT	52.
	OMITUNTUN	IYALAJE WASTE COMPANY	53.
	SANTOS/ILUPEJU	GOLDEN RISING SUN	54.
AMUWO ODOFIN	ABULE ADO/TRADE FAIR	NEXT TO GODLINESS ENT	55.
	ADO/FESTAC	DOMOK NIG LTD	56.
	EKO AKETE	OLUWASEUN INVEST COY LTD	57.
	IFELODUN	GLORIOUS RISE ENT	58.
	IREPODUN	CARLYDINE INVESTMENT NIG LTD	59.
	ORIRE	JOEATI NIG LTD	60.
	MILE 2 ESTATE/DURBAR AXIS	RICHIE BEST SERVICES	61.
APAPA	ABRAHAM ADESANYA	CONTINENTAL WASTE	62.
	ABRAHAM ADESANYA II	CROWN & MINE	63.
	ANJORIN	AUDU & SONS	64.
	ANJORIN II	SELMIC GLOBAL	65.
	IJORA OLOYE	MICBEE GLOBAL	66.
	ODUDUWA	GAFISTA CONCEPT	67.
	ODUDUWA II	OLIVE STORES LTD	68.
	WARD II	BRIGHT ENVIRONMENTAL WORK LTD	69.
	TINCAN	TOCH & CLEAN	
APAPA IGANMU	ABETE/OWOSEN	BIOSPHERES TECHNOLOGIES	1.
	BADIA		2.
	GASKIYA	NEW ROSSY VENT	3.
	ALAAFIA	MANIFEST NIGERIA LIMITED	4.
	SARI	CONTINENTAL WASTE MNGT	5.
AYOBO/IPAJA	ATAN	GBOLA AGBEKE & SONS	6.
	BADA/MEGIDA	LAB CLEANING SERVICES	7.
	AYOBO	ADESOLA GRAE OLANIYAN (AGO) ENT	8.
	BARUWA I		

	BARUWA II	FAITH & BLESSING ENT	9.
	IPAJA	TAKAR NIG COMPANY	10.
	SLOT A, AYOBO IPAJA WARD B	SHUKURAH ENT.	11.
	SLOT B, AYOBO IPAJA WARD B	IMPERIUM WASTE SERVICES	12.
	ISEFUN	SOMES MULTI DYNAMICS	13.
BADAGRY CENTRAL	BADAGRY	AMULEYA NIG LTD	14.
BADAGRY WEST	ALL WARDS	LAIBOLA LINK LTD	15.
BARIGA	AKOKA/ANUOLUWAPO	FIRST MAY NIG LTD	16.
	APELEHIN	ST MATHEW DANIEL CONSULTING	17.
	AYETORO/MAFOWOKU	DIVYN EXCLUSIVE	18.
	PEDRO	JANNEY GLOBAL	19.
	IBUOWO/OWOTUTU	EXPRESS GENERAL LOGISTICS	20.
	ILAJE	FJD CLEANING	21.
	OWODE ORILE	WALIRADSOT LTD	22.
	OBANIKORO	SANITATION SOLUTION	23.
	SERIKI OKUA	COGENCE CONTINETAL	24.
COKER AGUDA	BAALE	TRIOLINK INDUSTRIES LTD	25.
	COKER	ZUKIKHA BINT NOAH INV LTD	26.
	IRONE I	ANAYAS VENTURES	27.
	IRONE II	ABLAD GLOBAL RESOURCES	28.
	JINADU AYETORO	HAKOLAN WASTE SERVICES	29.
	NURU ONIWO	ROTKAS NIG LTD	30.
	OSHO	JOLAYEM STARLITE	31.
	SAVAGE	MUSIMOT ABIKE DAVIES	32.
EGBE IDIMU	EGBE AGODO	AISAOO NIG LTD	33.
	EGBE AGODO II	MUIZ & KARIS INTL LTD	34.
	EGBE LIASU	ASIYMO INVESTMENT	35.
	EGBE LIASU	ROYAL INTEGRATED	36.
	IDIMU I	DALSSON WASTE BUS VENT	37.
	IDIMU II	HAKBASS VENTURES	38.
	ISHERI OLOFIN I	JIMMY RESOURCES	39.
	ISHERI OLOFIN II	OLUTOYE GLORIOUS SENT	40.
	ISHERI OLOFIN III	SHINAOLA VENT	41.
	UNITY ESTATE I	EMMYOLA	42.
	UNITY ESTATE II	FAITH & BLESSING LTS	43.
	SLOT B, EGBE IDIMU	MAPRENA NIGERIA LIMITED	44.
EJIGBO	AIGBAKA	JIBLAD NIG LTD	45.
	AILEGUN	JOSEPH FALODE & SONS	46.
	FADU	DOROSAS GLOBAL SERVICES LTD	47.
	IFOSHI	PROVIDENT GLOBAL SOLUTION	
	AIGBAKA 1		48.
	ILAMOSE	CLEAN HARBOUR	49.
	JAKANDE	GOLDEN POND LTD	50.
	OKE AFA	VEEDIC NIG LTD	51.

	BUCKNOR	FUTOL ENVIRONMENT	52.
	AILEGUN II	DAN CLEANING	53.
EPE	WARDS A1, A2, A3	SOLADEX	54.
	WARDS A1A4, A5, A6		
EREDO	SLOT A	PEERS AND MENTORS	55.
	SLOT B	COMPOST INTEGRATED	56.
ETI OSA EAST	ADO	JET STREAM GLOBAL	57.
	ADO/OKE IRA	BACKHOME ENV SERVICES	58.
	AJAH	D NIGERIA LTD	59.
	BADORE	KONGI WASTE MGT	60.
	KOFO ABAYOMI STR. VI	THE NEXT INFRASTRUTURE LIMITED	61.
	LANGBASA	DENZIOT INTEGRTAED SERVICES	62.
	OKUN AJAH	RICO CLEAN	63.
	SANGOTEDO I	KOLOG NIG LTD	64.
	SANGOTEDO II	VUITTON LTD	65.
	ILASAN COMMUNITY (AARE BASHIR FAKOREDE ROAD)	OYINDAMOLA CLEANING SERVICES	66.
	ADDO ROUNDABOUT TO LOTHAM NUR/PRI SCH LEFT SIDE	MODESIRE MODERN VENTURES	67.
	ADDO ROUNDABOUT TO RCCG right side	JIGZACK CLEANING SERVICES	68.
	UNITY/HARMONY ESTATE TO LANGBASA COMMUNITY	DUSTBIN BOY SOLUTION	69.
	BADORE ROUNDABOUT TO JETTY ROUNDABOUT	SAMENESS INVESTMENT LIMITED	70.
	JUBILEE BRIDGE AJAH TO TOTAL FLLING STATION, ADDO	ENDEAVOUR ENVIRONMENT SERVICES	71.
	ILASAN left TO JAKANDE FIRST GATE	IROKO-AWE SERVICING LIMITED	72.
	LEKKI RESIDENTIAL SCHEME 1	HAMMER ENGINERRING	73.
ETI OSA WEST	AJIRAN	RAYLAW GLOBAL SERVICES	74.
	IGBO EFON I	TAJUDEEN TAOREED & SONS	75.
	IGBO EFON II/CHEVY VIEW	ZAC-OLABETH VENTURES LTD	76.
	IKATE	HEPZIBAH INTEGRATED LTD	77.
	ONIRU/IGBOSERE	HIDEF CONCEPT	78.
	CHEVY VIEW/BERA ESTATE	UPSERVE WASTE	79.
	IGBON EFON 1	WESTGATE SLEEK SYSTEMS	80.
	OKUN AJAH SLOT A	FELSO ENVIRONMENT	81.
	OKUN AJAH SLOT B	UNIQUE LIBRA GLOBAL VENTURES	82.
	OKUN AJAH SLOT C	STELLAR'S SAM & CO	83.
	ILASAN ORILE	TITATBIF NIG LTD	84.
	LEKKI PHASE I	CUTTYSARK WASTE LTD	85.
	LEKKI PHASE I	ALBA NIG LTD	86.
	LEKKI PHASE I	UNIDELSA NIG LTD	87.

	LEKKI PHASE I	KINGS & AKINS LTD	88.
	LEKKI PHASE I	CARMEL (NIG) LTD	89.
	OGOMBO	BLESSING BOLU VENT	90.
	CHEVRON/JAKANDE	BROOKEHOUSE LEANING	91.
	OSAPA/CHEVRON	DEBBY HEFISBAH CONSULT	92.
	IKATE WARD B 1	SANIPLEX LIMITED	93.
	CHEVRON DRIVE TO VICTORIA CREST ESTATE	IMPERIAL FACILITY SOLUTION	94.
IBA	AJANGBADI	F A UNIQUE CONCEPT	95.
	IGBO ELERIN	SHINAOLA VENT	96.
	IBA I		
	IBA II	ARIESMIKKY ENT	97.
	ISASHI		
	IBA HOUSING ESTATE	SYROCO ENVIRONMENTAL SERVICES	98.
	KEMBERI	ARINIK GLOBAL RESOUES LTD	99.
	OKOKOMAIKO	J K DOWNY GLOBAL SERVIES	100.
	MILE 2 BADAGRY EXPRESSWAY	FEMFASH	101.
	AFROMEDIA/CELE NISA MEBANU	STRATHMORE GLOBAL	102.
	INWARD IYANA-ISASHI TO SUNDAY BADA ROAD TERMINATING AT OGBENE ACHIKE	QUICK CLEANAWAY NIG	103.
	KEMBERI WARD	OMEJA GOLDEN	104.
IBEJU-LEKKI	AKODO	MOHBALKO VENTURES	105.
	IBEJU LEKKI		
	BOGIJE	GREENKLEANERS	106.
	IBEJU LEKKI		107.
	LAKOWE	NEW DAWN	108.
	LAKOWE	VUITTON	109.
	ABIDJON TOWN (LIFE SIDE) AWOYAYA	OMARLINK INTEGRATED	110.
	ALAHUN TOWN TO ELEKO (RIGHT SIDE)	ANJYWEMMY ENVIRONMENTAL	111.
	ALAHUN TOWN TO ELEKO (LEFT SIDE)	J.OLU.OSHIN	112.
	OKO ADO TO SANGOTEDO (RIGHT)	DIADEM INTERNATIONAL	113.
	OKO ADO TO SANGOTEDO (LEFT)	ENIMARIA NIG.ENT	114.
	ELEKO JUNCTION TO IBEJU VILLAGE	HES SOLUTIONS	115.
	ORIMEDU TO FREE TRADE ZONE	2 NODES ENTERPRISES	116.
	ELEKO JUNCTION TO OROFUN	BILLIETAIWO CONCEPT LIMITED	117.
IFAKO-IJAIYE	IFAKO OKE IRA	ONIRAKUNMI ENT	118.
	IFAKO PELE	LASBINJO INTEGRTAED VENT	119.
	IFAKO/OYEMEKUN		
	IFAKO PELE SLOT B/IFAKO OYEMEKUN	TIMAC VENTURES	120.
	IJU ISHAGA I	ASHYBAY NIG LTD	121.
	IJU ISHAGA II	FIRST LAD OLA SERVICES	122.
	IJU/OMO OINLE	FOUNTAIN MULTIPLE VENT	123.
	OBAWOLE	DEJYLE ENT	124.
	OBAWOLE II	MAJESTY WASTE SEVICES	125.
	OGUNDIMU	ADE'S TEMITOBİ VENT	126.

IFELODUN	ALABA	WCB VENTURES LTD	127.
	AMUKOKO	M A AJAO ENT	128.
	APAPA	SEUN DANSU ENT	129.
	ATAKOFO	DISCOVERY LOGISTI	130.
	LAYENI	CLEAN & CONVERT NIG LTD	131.
	OJORA	AVIEL PROWESS SERVICES LIMITED	132.
	OKE OJA	DUVAK GLOBAL RESOURCES	133.
	OWOYEMI	IFELODUN WASTE COLLECTORS	134.
IGANDO-IKOTUN	ABARANJE	DELOLA VENT	135.
	ABARANJE OKERUBE SLOT 1 (WARD 3)	TIME SERVICES LTD	136.
	ABARANJE/OKERUBE SLOT II (WARD 4)	MAC WASTE	137.
	AKESAN	HOBAJETY VENT	138.
	BADORE	GOLD DUKE ENT	139.
	EGAN	PE ALAFIA INTL LTD	140.
	IGANDO/EGAN	KENNY JPS	141.
	IGANDO	BISIOLU VENT	142.
	IKOTUN CENTRAL	ADEPT CLEAN LTD	143.
	ISHERI OSHUN I	CLEAN CRAFT NIG LTD	144.
	ISHERI OSHUN II	BOSUNAND GLOBAL	145.
	IJEGUN I		
	OKERUBE	JIMMY RESOURCES	146.
	IJEGUN II	WISE LEGACY VENT	147.
	IDOWU EGBA & ABULE ONILU	GREEN ENVIRON SERVICES	148.
IGBOGBO BAIYKU	ABOSAN	TADE VENT	149.
	WARD C1 SLOT B, ABOSAN	LELERITI NIGERIA LIMITED	150.
	WARD C1, ABOSAN	DEFSOLUT LIMITED	151.
	BAIYKU/OFIN/ORETTA	CAROFAD GLOBAL VENT	152.
	WARD C3 SLOT B (OFFIN ORETTA)	ZENITH WASTE SERVICE	153.
	IBESHE	JIMDEL & COMPANY	154.
	IBESHE SLOT B	JEFFREY ABIODUN	155.
	IGBOGBO	BLUE LINE CONCEPT	156.
	SLOT B IGBOGBO	MECS BLOSSOM	157.
	EWU ELEPE	MASKOT ADE NIG ENT	158.
IJEDE	WARDS A,D	ABIKE GLOBAL VENT	159.
	WARDS B,C	NOTOB ENT	160.
IKEJA	AGIDINGBI	MAHBOK TRADING	161.
	ALADE	ARCHER ENVIRONCLEAN	162.
	ANIFOWOSHE		163.
	ORILE IKEJA		
	ONILEKERE	OLASHAMS WASTE COMPANY	164.
	ALAUZA BD	ROMILA INVESTMENT LTD	165.
	ALAUZA	PROCHFORD VENT LTD	166.
	MARUWA GARDEN	HEADMASTER NIG LTD	167.

	AREA F POLICE BARRACK & MOPOL 20 BARRACK GRA	DAY FACILITIES MANAGEMENT	168.
	SERIKI ARO	YETLAW ENVIRONMENTAL SERVICES	169.
IKORODU CENTRAL	AGA/OJOMU	JEMON VENT	170.
	AGA/OJOMU SLOT B	SHEKAYATE GLOBAL	171.
	AGURA/GBERIGBE	GIDIUM NIG	172.
	ITA ELEWA	PETER & PRECIOUS ENT	173.
	ITUPATE	ANNYSTAR	174.
	ITUPATE WARD, SLOT B	JUVICOLE INTL.NIG.LTD	175.
	LOWA	KRESTABOL WASTE MANAGEMENT	176.
	OLAJOMEHIN	AFOSCO NIG LTD	177.
	OTA ONA	LAKAYSAKS NIG ENT	178.
	OLAJOMEHIN SLOT B	THE 06 NIG	179.
IKORODU NORTH	AGBALA	OLA JENDOR INTL COMPANY	180.
	AGBEDE	BIMKEN ENT	181.
	ERIKORODO	SAMELU ENT	182.
	ITAMAGA	OLAMPER ENVIRONMENT	183.
	ODONLA/INDUSTRIAL /ODOGUNYAN	M A ALLISON & SONS ENT	184.
	ODUYEBO/ROFO/ODOGUNYAN	FT BAYLEK ENT	185.
	OLOPOMEJI/ODOGUNYAN	BAKOM NIG COMPANY	186.
	PARAFA/LUCKY FIBRE (SLOT B)	GABWASTE GLOBAL VENTURES	187.
	PARAFA/LUCKY FIBRE (SLOT A)	GEE MONEY GLOBAL RESOURCES	188.
	ADAMO/MAYA/OLORUNDA	JOKOTEX NIG ENT	189.
IKORODU WEST	EBUTE/IPAKODO	AKIN CLEAN VENT	190.
	IGBO OLOMU/OKE OKO	OLAOLUWAKITAN VENT	191.
	IGBO OLOMU II	ELU K & SONS	192.
	ISAWO	OLU ADETAYO NIG ENT	193.
	MAJIDUN	OLASUP VENT	194.
	OWUTU	BISMITOP	195.
IKOSI-ISHERI	AGILITI/MAIDAN	GREEN COVE LTD	196.
	GODS FIRST ESTATE, OWODE ONIRIN	LENTE GLOBAL	197.
	ISHERI/UNILAG ESTATE	MARIE GOLD VENT	198.
	MAGODO/SHANGISHA	XRA CLEAN SERVICES LTD	199.
	MOGODO ESTATE/AVOSEH	MAKLAD VIBRANT	200.
	OMOLE PHASE II/OLOWOORA	KLEANPOINT LTD	201.
	ORILE IKOSI	BRUKIEL ENT LTD	202.
	ORILE KETU	YERIMA CLEANING SERICES	203.
	IKOSI OKE		204.
	OSHORUN HERITAGE/ISHERI NORTH	JIMSIF	205.
	SLOT A ISHERI NORTH ESTATE/HONEY BROOKS		
	ISOKAN-IFESOWAPO COMMUNITY OF MILE 12		206.
	ISHERI NORTH ESTATE SLOT A	DENIKS	207.

IKOYI-OBALENDE	DOLPHIN/ABDULAH ADAMU EST	HOUSEKEEPERS LTD	208.
	DOLPHIN/DOLHPIN EXT	AUGUSTINE E. OKEKE & SONS LTD	209.
	IKOYI	DOUBLE D MEDLEY LTD	210.
	IKOYI	BOD ENVIRONMENT SERVIES LTD	211.
	IKOYI	GRENSTONE LTD	212.
	IKOYI	KENRATE VENT	213.
	IKOYI	AMOTE ENT	214.
	IKOYI	LION UNISCO	215.
	IKOYI	MILES END	216.
	IKOYI	IYENOMA OMOROTIONMWAN & SONS	217.
	IKOYI	DENIKS	218.
	NORTHERN FORESHORE	TOCH & CLEAN LTD	219.
	OBALENDE I	BAMITONIA & COMPANY	220.
	OBALENDE II	FADUN NIG LTD	221.
	OSBORNE FORESHORE	D NIGERIA	222.
	OSBORNE FORESHORE EXT		
	PARK VIEW	KELKERRY NIG LTD	223.
	ILUBIRIN SLOT	MEGATOUCH INVESTMENT	224.
IMOTA	ATERE	MUREWAH INTEGRATED	225.
	MAYA		
	WARD B	ADEL INTEGRATED	226.
IRU/VI	1004 ESTATES	MZO ENTERPRISES	227.
	VICTORIA ISLAND	WASTE-POINT LTD	228.
	VICTORIA ISLAND	CLEANWAY LTD	229.
	VICTORIA ISLAND	KIM ENVIRONMENTAL	230.
	VICTORIA ISLAND	THE NEXT INFRASTRUCTURE LTD	231.
	VICTORIA ISLAND	MICRO WASTE NIG LTD	232.
	VICTORIA ISLAND	JP AMOTA	233.
	DIDEOLU ESTATE	SAAB GLOBAL	234.
	SLOT A-EKO ATLANTIC CITY	SVV INTERNATIONAL	235.
	ONIRU PRIVATE ESTATE	WORTHLINE INTERNATION SERVICES	236.
ISOLO	AGO PALACE	JELOTS LTD	237.
	AJAO ESTATE I	KM & O HERITAGE LTD	238.
	AJAO ESTATE II	CLEANER ROYAL VENT LTD	239.
	AKINBAIYE	CONVENANT BUSINESS VENTURES	240.
	ALAAGBEJI	ATLANTA INTEGRATED	241.
	ALAAGBEJI SLOT B	YINKA FOLSON NIG.LTD	242.
	APENA	UNIVERSAL CARE LTD	243.
	CANAL VIEW	BREK NOK NIG LTD	244.
	CANAL VIEW, AGO-COMMUNITY ROAD	KENAAL ENTERPRISES	245.
	ILASAMAJA	NURENI SAKA ENT	246.
	ISHAGA/IRE AKARI	SHEKAZ GLOBAL LTD	247.
	OKOTA	SAROBOL NIG LTD	248.

ITIRE-IKATE	AGUNBIADE	SHAFAT GLOBAL VENT	249.
	AIRWAYS	SODRIS VENTURES	250.
	BARUWA	TEE BLACK VENT	251.
	ODO OLOWU	SALAMI AJANI ENT	252.
	OGUNSANMI/KAROUNWI	GLORIOUS RISE ENT	253.
	RAMONI	G STREAMS & GEARS	254.
	SANUSI	NEXT TO GODLINESS	255.
KOSOFÉ	IFAKO GBAGADA	KENT & KELLY NIG LTD	256.
	IFAKO SOLUYI	BIVITOL WASTE MANAGEMENT	257.
	MEDINA ESTATE	TASER INTERNATIONAL	258.
	MENDE	OLASHAMS WASTE	259.
	OGUDU GRA	IMMACULATE ENV SERVICES LTD	260.
	OGUDU ORI OKE	AKIN CLEAN VENT	261.
	OJOTA	SEMASE NIG LTD	262.
	OLUBORI/MOSAFEJO	AYOMIDE OLAYINKA VENT	263.
	ORILE OWORO	REAL HOPE GLOBAL CONCEPT	264.
LAGOS ISLAND EAST	ODAN	STABLE CLEANSING	265.
	LAFIAJI		
	OLOSHUN/OJO		
	ARAROMI ODO		
	AJELE	AYOLADE OLUWABUKOLA	266.
	ANIKANTANMO	SANWA ENT	267.
	OKEPOPO WEST	CRESTERLOT WASTE MANAGEMENT	268.
	EPETEDO	JIMLANK	269.
LAGOS ISLAND WEST	WEST E1	LARRYKAY GLOBAL WASTE SERVIE	270.
	OLUWOLE WARD	JIMLANK NIGERIA ENT	271.
	IDUMOYINGBO WARD		
	ISALE GANGAN WARD	SONIKA INTERNATIONAL LIMITED	272.
LAGOS MAINLAND	ALABA/DESALU	NIGERIAN CLEANING SERVICES	273.
	ARAROMI	GREAT ABBEY DISCOVERIES	274.
	BOTANICAL GARDEN	FABSET GLOBAL CONCEPT LTS	275.
	GLOVER FREEMAN	ITECHSOL GLOBAL	276.
	IPONRI/OLALEYE	OLUWABUNMITOYIN ENT	277.
	OKO BABA	SLEYFO GLOBAL SERVICES LTD	278.
	OTTO TOWN	SHO ENT	279.
	OYINGBO	PROGIUM INVESTMENT INTL LT D	280.
	OJO ONIYUN	CABISTOLAT NIGERIA LIMITED	281.
LEKKI LCDA	SLOT B OF LFTZ (AKODO TO OSOROKO	NOVATEUR	282.
	ILEGE TO OKUN ISE	SEZ ENVIRONMENTAL LTD	283.
MOSAN OKUNOLA	ABESAN I	CORNERSTONE UNIQUE CONCEPT	284.
	ABESAN II	KAYGIE ENT	285.
	GOWON ESTATE	HADAL & SONS NIG LTD	286.
	MOSAN/AKINOOGUN	ADEY SLEEK ENTERPRISES	287.
	OKUNOLA I	RANTIOLU COMMERCIAL SERVICES	288.

	AKINNUGBUN SHAGARI ESTATE	OWO IGBE KIRUN ENVIRONMENTAL SERVICES	289.
	OKUNOLA II	BOIISE TRUST LTD	290.
MUSHIN AJINA	ALAAFIA ADEOYO	BAUH BON ENVIRONMENTAL	291.
	ATEWOLARA		
	PAPA AJAO		
	BABALOSAH	LOLLYBOD COMMERCIAL COMPANY	292.
	IDI ARABA	DANAD WASTE SERVICES	293.
	IGBEHINADUN I	DOSETWILL	294.
	IGBEHINADUN II	H.H DIAMOND	295.
	IGBEHINADUN III	CAPITAL GEE VENT	296.
	IGBEHINADUN/ILASAMAJA	GBOGUNGBORO OMMERIAL AGENIES	297.
	MOSHALASHI AGORO	WAWA INTL VENT LTD	298.
	ODESELUOLA	GALAXY WASTE SERVICES	299.
	ODO ERAN/OGUNLANA	TOM BROWN VENTURES	300.
	ONITIRE	ALOY UDESON	301.
	ALAKARA	MATRIX ENVIRONMENTAL SERVICES	302.
ODIOLOWO/OJUWOYE	BABALOSHA	DEK ENT	303.
	IDI ORO	AYOBAMI WASTE COMPANY	304.
	ILUPEJU	TOSKAD ENT	305.
	ILUPEJU INDUSTRIAL	ALLIED WASTE	306.
	KAYODE/FADEYI	RISING STAR TECHNICAL LTD	307.
	OJUWOYE	ESTEY DEE VENT	308.
	OLATEJU	TADJAK ENGR SERVICES	309.
	OWODUNNI	ABAKE TOYIN ENT	310.
	IRA	AMOBOES TRADING COMPANY	311.
OJO	OJO TOWN	F.A. UNIQUE CONCEPT	312.
	SABO ONIBA	BAILAS NIGERIA COMPANY	313.
	AGUDA	DAMILOLA CONSOLIDATED	314.
OJODU	AKIODE I	FENIDOLS INVESTMENT LTD	315.
	AKIODE II	SUPERIOR WASTE SOLUTION	316.
	BERGER	SOFT TOUCH	317.
	OGBA	DUNQUBE CLEANING SERVICES	318.
	OGBA II /ADENIYI JONES	YETLAW ENVIRONMENTAL	319.
	OJODU	SAY SUPER GLOBAL SERVICES	320.
	OKE IRA/POWERLINE	CROWNFIX ENT	321.
	OKEIRA CENTRAL I	GREAT WUYI VENT	322.
	OKEIRA CENTRAL II	CLEAN CLEAR VENT	323.
	OLUWOLE/SHOGUNRO/ENAHORO	COGENCE CONTINNETAL	324.
	OMOLE PHASE I	OPEN DOOR SYSTEMS	325.
	ABULE EGBA	OYE BALOGUN & SONS	326.
	AJEGUNLE	JUDITH ENT	327.
OJOKORO	ALAKUKO	AFO VENT	328.
	IJAIE GBINIRIN	KAMJEK NIG ENT	329.

	IJAIE/OJOKORO	SANITIZERS VENT	330.
	AGBADO KOLINGTON		
	ILUPEJU	LK-EDNUT ENT	331.
	JANKARA	O & O ENT	332.
	OKO OBA I	SEMOLINK VENT	333.
	OKO OBA II	YET & YEM ENT	334.
	PANADA		
OLORUNDA	ARADAGUN -BADAGRY ROUNDABOUT (LEFT SIDE)	MILADEX NIG LTD	335.
	AGBARA-ARADAGUN MILE 2 BADAGRY EXPRESSWAY (LEFT SIDE)	URBAN CARE	336.
	AGBARA-ARADAGUN MILE 2 BADAGRY EXPRESSWAY (RIGHT SIDE)	WALOK	337.
	ARADAGUN -BADAGRY ROUNDABOUT (RIGHT SIDE)	AACHENER	338.
ONIGBONGBO	GRA	URBAN SPIRIT VENT	339.
	OLUSOSUN	MALIB ENVIRONMENTAL COMPANY	340.
	ONIGBONGBO	OLUWATOSIN VENT	341.
	OPEBI	TEMI ENVIRONMENTAL	342.
	OREGUN	PETER BRADFORD & ASSOCIATES	343.
	WASIMI	TABORAH VENT LTD	344.
ORI-ADE	AGBOJU	NGO ENT	345.
	IJEGUN EGBA	AMBOES TRADING OMPANY	346.
	KIRIKIRI	AJWACO NIG ENT	347.
	KUJE	PRECIOUS ADDY	348.
	KUJE	KLEENRITE LIMITED	349.
	IJEGUN EMURE	PERIVALLION INTEGRATED	350.
	SATELLITE SLOT C	WEST AFRICAN ENGR.	351.
	SATELLITE SLOT B		352.
	SATELLITE SLOT A	UNION GUARD	353.
ORILE AGEGE	AYIGE	TEMI ADAMS & ASSOCIATES	354.
	ISALE ODO	MUIZ & KARIZ	355.
	OKE KOTO	MAKLAD VIBRANT	356.
	ORILE	WASTE PROJECT PARTNERS	357.
	OYEWOLE ALAAGBA	STANDARD PURITY VENT	358.
	PAPA ASHAFA I	AFO VENT	359.
	PAPA ASHAFA II	GUESTIMATE ENVIRONMENTAL	360.
	POWERLINE/OKO OBA SLOT 2	LANDPHILL & ASSOCIATION	361.
	POWERLINE/OKO OBA SLOT 1	ADVANCED WASTE PROJECT	362.
OSHODI	EWU TUNTUN	TUNAP WASTE COMPANY	363.
	IGBEHIN ADUN		
	SHOGUNLE		
	AFARIOGUN	EXCELLENS LINK LTD	364.
	MAFOLUKU		
	OGUN OLOKO		

	OLUYEYE		
OTO AWORI	ETEBIN	EUGBEST IND CONTROL NIG	365.
	IJANIKIN	AL-WAJUD LABOM INV LTD	366.
	SLOT BWARD	MACLON GENERAL MERCHANT	367.
	ILOGBO	RICOMMY ENT	368.
	WARD A	ZONIS HARRITON	369.
SHOMOLU	BAJULAIYE	TRIPPLE HAY COMPANY	370.
	IGBARI/AKOKA	JIMSIF NIG LTD	371.
	IJEBUTEDO	NIKERON LTD	372.
	KAYODE/FADEYI	RICHBOL ENVIRONMENTAL SERVICES LTD	373.
	BASHUA EAST/WEST		374.
	ONIPANU	SANRENCE KLEEN VENT	375.
	OKESUNA/ALASE	HARRITON	376.
	ORILE SHOMOLU ALADE	PROFICIENT LOGISTICS SERVICES	377.
	SHOMOLU WARD B		
SURULERE	IPONRI ERI MOORE	CENTURY CLEANERS	378.
	ADENIRAN OGUNSANYA		
	ARALILE		
	BABATUNDE/AYILARA	DEVISE NIG LTD	379.
	GBAJA OBELE ODAN	GIVE & KEEP TURNING POINT	380.
	AKINHANMI	WAWA INT'L VENT LTD	381.
	MOSAFEJO/OJUELEGBA	TFOB GLOBAL INV. LTD	382.
	OBELE ONIWALA	BANUSO COURT LTD	383.
	SHITTA BANK-OLEMOH	FAVORENO GLOBAL SERVICES	384.
	RANDLE WARD	LATOY VENTURES LIMITED	385.
	ARALILE/IPONRI ERICMOORE	T-BLACK	386.
YABA	ADERUPOKO/IJEBU QTRS	JERRIMUG VENTURES	387.
	SALAMI AYEWU		
	MAKOKO		
	ADEKUNLE/AYETORO	ALPHA WASTE MANAGEMENT SERVIES LTD	388.
	ALAGOMEJI		389.
	HARVEY		390.
	ONIKE OYADIRAN	TEMMY VENT	391.
	ABULE OJA/IJESHA	UNION WASTE VENTURES	392.
	ABULE-IJESHA COMMUNITY/RAILWAY CORPORATION	TOLLYDAVE VENTURES	393.
			394.

Appendix 4: List of Members of the Association of Scrap and Waste Pickers in Lagos State (ASWOL)

No	Registration No.	Name of Company	Office Address	Area of Operation	Recyclables Collected	Name of Representative
1.	SS/RECY/00395	Abass Bala Kumasi	10, Alhaja Seriki ST, Alaba Rago, Lagos	Oko Filling	PET, Cartons, Iron	Yakubu Bala
2.	SS/RECY/00159	Abdu Enterprises	27 Olasupo street Ikorodu Lagos	Ewu elepe ikorodu	PET	Abubakar Modi
3.	SS/RECY/00363	Abdul Rasheed Garba	Okofilling B/Stop, Along Isheri/ Lasu Road, Lagos.	Solous Landfill Site	PET, Cartons	Abdul R. Garba
4.	SS/RECY/00364					
5.	SS/RECY/00400	Abdulahi Jafary	Solous Dump Site	Oko Filling	Plastic, Iron	Kareem Amidu
6.	SS/RECY/00817	Abdulrashid Garba	3, Oko filling, LASU Isheri Rd, Lagos.	Collection	Self Use	Mr Abdulrashid
7.	SS/RECY/00431	Abdulrauf Mustapha	By Jumat Central Mosque Igando Lagos	Solous Landfill	Carton/Paper	Yawo Abdulrauf
8.	SS/RECY/00293	Aberugba Femi Abolaji	Epe Landfill Site	Epe Landfill Site	Pet	Mr Aberugba
9.	SS/RECY/00403	Abigail Robert	14, Ogbonnaga St, Ashipa Ayobo, Lagos	Solous Landfill Site	Waste Papers	A. Robert
10.	SS/RECY/00279	Abiodun Ola-Inukan Nig. Ent	46, Orimenumu Road, Off Lagos Ibadan-Express Way, Asese, Ogun State	Olusosun Dumpsite	Pet, LDPE, Al Cans, Iron Scraps	Abiodun Ajadi
11.	SS/RECY/00410	Kemi Enterprise	4, Segun Fela Street Mowe Ogun State	Igando Dumpsite	Pet, LDPE	Miss Kemisola
12.	SS/RECY/00414	Abu Enetrprises	Ewu Elepe Dumpsite	Ewu Elepe Dumpsite	LDPE, Cartons, Bottle	Mr Abu
13.	SS/RECY/00398	Abubakar	Kataguwa, Lagos	Oko Filling	Pet, Al Cans, Iron	Muhammad
14.	SS/RECY/00415	Abubakar & Ismail Scraps Enterprises	7, Apero Bolah St, Lekki, Ajah, Lagos	Epe	Al Cans and Others	Ismail Yusuf
15.	SS/RECY/00354	Abubakar Muhammed	11/13 Celestial Church St. Gatankowa, Abule Egba.	Solous Landfill Site	Recyclables from Compactors	A. Mohammed
16.	SS/RECY/00412	Abubakar Sahabi	Ewu Elepe Landfill Ikorodu.	Ewu Elepe Dumpsite	LDPE, Cartons	Mr Abubakar
17.	SS/RECY/00201	Abubakar Usters Ventures	Ewu-elepe Landfill, Ikorodu, Lagos.	Ewu-elepe Landfill	Aluminium Cans, Iron, Camphor, Brass	Abubakar Ustaz
18.	SS/RECY/00183	Abubakha Nigeria Ent.	26, Banana Estate, Ijede, Ikorodu.	Ewu-Elepe dumpsite	PET	Abubakar
19.	SS/RECY/00202	Abu-Smail Nigeria Enterprises	26, Banana Estate, Ijede, Ikorodu.	Ewu-elepe Landfill	Aluminium Cans	Mr Abu
20.	SS/RECY/00298	Adamu Lawal Nosiru	Epe Dumpsite, Afero Rd., Lagos	EPE Dumpsite	Viju Plastic	Mr. Adamu
21.	SS/RECY/00396	Adamu Yawo	35, Akorede ST, Abule Egba, Lagos	Oko Filling	Al Cans, Plastic, Iron	Aminu Sule
22.	SS/RECY/00637	Adebisi Adesanya Enterprises	348 Herbert Macaulay Street Yaba Lagos	Oko filling Landfill	Empty Drums	Adesanya
23.	SS/RECY/00242	Adlas Project Int'l Com. Ltd	Pisces Block, Right Wing, 1st Floor, Eleganza Plaza, Apapa	Ewu Elepe Environment	Pet	Olayiwola Abiodun

24.	SS/RECY/00157	Afolake Ajanaku	Elepe Dumpsite Ikorodu	Ewu Elepe Ikorodu	Pet	Afolake Olokunola
25.	SS/RECY/00346	Aghaulor Precious	8, Oyinade Sobowale St., Baruwa, Lagos	Oko filling Landfill	Cartons, Aluminum Cans	Aghaulor Precious
26.	SS/RECY/00263	Ahmadu Bello Umar	3, Bawoje Close, Ojota Dumpsite, Lagos	Olusosun Dumpsite	Pet, LDPE, Al Cans, Glass, Tyres	Ahmadu Bello
27.	SS/RECY/00306	Ajala Fausat Olalekan	11, Karimu Lane, Ijora Oloye, Lagos	Epe Landfill Site	Glass	Ajala Taofik
28.	SS/RECY/00357	Akeem Alatishe	Ijako Sugar B/Stop, No 19, Unity Street, Sango Ota.	Solous Landfill Site	Recyclables from compactors	Akeem Alatishe
29.	SS/RECY/00250	Akinwale Akinlade Asaleye	9, Anuoluwapo Street, Akute, Ogun State	Olusosun Dumpsite	Nylon & Plastic	Mr Akinwale
30.	SS/RECY/00397	Akuru Uchenna	No. 2 Alhaji Kamoru Off, Odunbanku ST, Okunola, Egbeda, Lagos	Oko Filling	Plastic, Iron, Rubber	Ben Akuru
31.	SS/RECY/00491	Alatise Kemi Victoria	24b Akinyimika Street, Agric Busstop Ikorodu.	Ewu Elepe Dumpsite	LDPE, Plastics	Alatise Kemi
32.	SS/RECY/00805	Alegria Recyclers Ltd	9, Omotayo Close, Ketu Lagos	Collection	Self-Use	Mr Fatudimu
33.	SS/RECY/00215	Ali Usman Ventures	25, Kogberegbe Street, Ojota, Lagos	Olusosun Landfill	Pet, Aluminium Cans, Iron, Aluminium, Copper, Brass	Ali Usman
34.	SS/RECY/00143	Aliban Nigeria Enterprises	No 26 Banana Estate Ikorodu, Lagos State.	Ewu Elepe Ikorodu	Pet	Abubakar Modi
35.	SS/RECY/00220	Alin Marketing Ventures	Plot 8 Igbe Road Off Ijede Ikorodu	Ewu-Elepe Dumpsite	Pet, Plastic, Rubber	Mr Ali
36.	SS/RECY/00266	Aliyu-Yahuza Enterprises	Bawoje Close Olusosun Ojota, Lagos	Olusosun Dumpsite	Pet, Al Cans	Mr Aliyu
37.	SS/RECY/00198	Alma Investment Nig. Ltd.	64, Oregun Rd, Ikeja, Lagos.	Ewu-Elepe Landfill	Cartons	Mr Arama
38.	SS/RECY/	Al-Mureeh Rental Services Nig Ltd	Plot 38, Ajibola Oluwatoyin, Off Ogbomosho St, Unity Estate, Ikorodu		Pet, LDPE, Aluminium Cans, Cartons, Glass, Tyres, Others	Adenekan
39.	SS/RECY/00430	Aloysus Ejifor	49, Oyinlola Street Dopemu Lagos	Solous Dumpsite.	Bottle	C.Y Chukuma
40.	SS/RECY/00402	Alpha Recycling	44, Shosanya Street, Ijegan Lagos.	Alimosho	Pet	Mr Olukoya
41.	SS/RECY/00144	Ambalite Nig Enterprises	No 26 Banana estate Ikorodu, Lagos state.	Ewu elepe ikorodu	PET	Fulani
42.	SS/RECY/00290	Amodu Nura Kabiru	Epe Landfill Site	Epe Landfill Site	Iron Metals	Mr Amodu
43.	SS/RECY/00271	Andrew A. Saboru	7, Ojota, Off Ogudu Road, Ojota, Lagos	Olusosun Dumpsite	PET, LDPE, Cartons	Andrew Saboru
44.	SS/RECY/00267	Anuoluwapo Investment Ltd	7, Adelowo Town Street, Ibafo, Ogun State	Olusosun Dumpsite	LDPE, Cartons	Mrs Iyabo Akeem
45.	SS/RECY/00806	Aqos Global Resources Ltd	3, Olaniyan, Oke-Ira Aguda Ogba.	Collection	Lexus-Z	Mr Alaka Kazeem
46.	SS/RECY/00977	Aregbesola Executive Presidential	108, Ejirin Road, Ijebu-Ode	Collection	Self Use	Mrs Aregbesola

		Hotel Enterprises				
47.	SS/RECY/00276	Arome Ocheje Victor	Epe Landfill Site	Epe Landfill Site	Glass	Mr Arome Victor
48.	SS/RECY/00388	Atahiru & Abubakar	35, Akorede St, Abule Egba, Lagos	Oko Filling	Pet, Al Cans,	Muhammad
49.	SS/RECY/00785	Atinoj Multiple Services Ltd	Boa Plaza, Plot 7, Nerdc Road Agidingbi	Collection	Individual Buyers	Mrs Agbelusi
50.	SS/RECY/00155	Ayodele Adenuga Enterprises	13, Sholanke Street Akoka Yaba.	Epe Landfill	Cartons	Adenuga Ayodele
51.	SS/RECY/00246	Bala Suberu Enterprises	25, Kogberegbe Street, Ojota, Lagos	Olusosun Dumpsite	Cartons, Nylon, Plastic	Mr Bala
52.	SS/RECY/00142	Balogun Micheal Ent.	2, Otaja Street Along Ushuti Road Ega, Igando	Epe Landfill	Pet,Sachet And Aluminium Cans	Balogun Micheal
53.	SS/RECY/00297	Bashiru Yahkubu Babangida	Epe Dumpsite, Afero Rd., Lagos	EPE Dumpsite	LDPE, Pipe	Mr. Bashiru
54.	SS/RECY/00148	Belafis Nig	26 Banana Estate Ijede Ikorodu Lagos	Ewu elepe ikorodu	PET	Alhaji Zayannu
55.	SS/RECY/00154	Bliss Recycling	No1 Dumpsite Elepe	Elepe Dumpsite	Pet	Mrs Caroline
56.	SS/RECY/00307	Bolagade Akanni Nig Ent	5, Labowo Ogunpa Street, Ibadan	Epe	Aluminum Cans	Mr Bolagade
57.	SS/RECY/00177	Charles Oboh Enterprises	5, Ewu-Elepe Dump site, Ikorodu, Lagos.	Ewu elepe ikorodu	PET, Plastic	Charles Oboh
58.	SS/RECY/00304	Chidex Recycling	11, Abayomiwa St, Ajamgbadi, Ojo Lagos.	Olusosun Landfill Site	LDPE, Aluminium Cans, Cartons.	Man Joe
59.	SS/RECY/00147	Chister Ventures	Km 48 Lagos Ibadan Express way	Ewu elepe ikorodu	hdpe, pet	UMAR LIMAN
60.	SS/RECY/00152	Chrisdamas Nig Enterprises	107 Ikorodu Road Ojota New Garage	Olusosun Landfill	PET	Damola O. O.
61.	SS/RECY/00434	Christian Chukuma	15, Adeegbe Street Abule Egba Lagos	Solous Dumpsite.	Bottle	C.Y Chukuma
62.	SS/RECY/00262	Comic Global Dimension Ltd	Km 60, Ibadan-Sagamu Expressway, Ogun State.	Olusosun Dumpsite	Slippers	Christopher
63.	SS/RECY/00804	Cyp-Rose Concept	127 Ilaje Volks Iba Lagos	Collection	Uche & Sons Ltd	Mrs Rose
64.	SS/RECY/00620	Cyrus & Umus Global Services	No 12 Ayinde Baruwa Street, Afobaje Estate Lagos			
65.	SS/4RECY/00426	Dada Bashiru	Ewu Elepe Dumpsite, Ikorodu, Lagos	Ewu Elepe Dumpsite	LDPE	Mr Dada
66.	SS/RECY/00476	Dahiru Abubakar	Ewu Elepe	Ewu Elepe Dumpsite	PET, Plastic	Dahiru
67.	SS/RECY/00247	DAI General Contractors	Plot 8, Block 3, Industrial Area 1, Opic Estate, Agbara	IGANDO DUMPSITE	Cartons	Prince Bayo Ikujenyo
68.	SS/RECY/00036	DESIRE ENTERPRISES	20 Akintunde Street Magboro Ogun State.	Olusosun Landfill	PET, LDPE, Carton	Mrs. Lilian Iruke
69.	SS/RECY/00465	Dogo Enterprise	Banana Estate, Ewu-Elepe, Ikorodu, Lagos.	Ewu-Elepe Dumpsite, Ikorodu	PET	Mr Dogo
70.	SS/RECY/00308	Dorathy Jeffrey	14, Albert Street, Palm Groove, Shomolu, Lagos.	Ewu Elepe	Paper, Nylon & Plastic	Mrs. Dorathy

71.	SS/RECY/00073	DUPSY MONIQUE VENTURES	2, Bode Amao Close, Adeniyi Jones, Ikeja-Lagos	Across the State		Mrs Elugbadebo.M
72.	SS/RECY/00339	Divine Favour Ent.	9, Olaseinde str, Agiliti-mile 12	Olusosun Landfill	pet and cartons	Mrs Obagwu paulina
73.	SS/RECY/00039	DYNOTECH BUILDERS NIGERIA LTD	23 Daramola Street Isheri Ojodu Berger	Olusosun Landfill	Tyres	Mr. Ashiru Taiwo
74.	SS/RECY/00283	E. Amoni General Supplies LTD	55, Ajayi Road, Oke Ira Ogba, Lagos	Ewu Elepe	Cartons	Oluchi Nwogbe
75.	SS/RECY/00305	Eboh Henry	Plot 3, Omodudu Close, Ketu Alapere, Lagos	Ewu-Elepe Dump Site/Olusosun	PET, LDPE, Al Can, Carton	Eboh Henry
76.	SS/RECY/00448	Edwin Egbosionu	5, Juliana Estate, New Mebamu Okoko, Lagos	Oko Filling Landfill	PET, Glass	Nkeiru Egbosionu
77.	SS/RECY/00178	Ehiomo Global International	18, Alhaji Ajibola Adekunle Street, Odogunyan,Ikorodu, Lagos.	Ikorodu, Ojota, Epe & Badagry	PET,LDPE,Cart ons,Tyres	Mr Ehiomo
78.	SS/RECY/00185	Ejime Patience Enterprises	3, Powerline Behind Nepa Estate, Surulere, Igbodu,Ikorodu,Lagos.		RP HDPE	Miss Ejime
79.	SS/RECY/00366	Elaigwu Victory	Alakpako St., Unity Estate, Ijako, Ogun State.	Solous Landfill Site	PET	Elaigwu Victor
80.	SS/RECY/00129	Endea Ventures	13, Ize Iyamu street Oregun Ikeja	Olusosun Landfill	PET, Cartons, Aluminium Cans	Leonard Ani
81.	SS/RECY/00195	Enpel Multinational Resources Ltd	182, Mulikat Atinuke Close, Oshorun Ibeshe, Ikorodu, Lagos.	Ewu-elepe Landfill, EPE, Solous Igando.	PET, Nylon (LDPE), Aluminium Cans, Cartons.	Idris. I. Akinwunmi
82.	SS/RECY/00445	Eunice Aigbedion	14, John Kay Christian Estate Lasu Road	Oko Filling	LDPE And Cartons	Mrs Eunice
83.	SS/RECY/00338	Excellent Brothers	17b, Oja-oba market Adeniji Adele Road	Ojota Landfill	carton and broken bottles	Chigo eium
84.	SS/RECY/00483	Exemplar Printz & Corporate Service	5, Akinyemi Street, Awoyaya, Ibeju Lekki, Lagos		Aluminum Cans, Cartons	Oladosu Ekerin
85.	SS/RECY/00816	Expedite Agro-Allied Enterprise	Aiyedoto Farm Settlement, Agric Complex Ojo Lagos	Collection	Self-Use	Mr Emmanuel
86.	SS/RECY/00374	Ezekiel Nwaloka	Block 255, Flat 3, Jakande Estate, Mile 2, Amuwo Odofin, Lagos	Okofilling Landfill	Cartons, Aluminum Cans	Ezekiel Nwaloka
87.	SS/RECY/00280	Favoreno Global Services (West-North City Services)	4, Dabira St, Somolu, Lagos.	Olusosun Landfill Site	PET, LDPE, Al Can	Mrs Adeola
88.	SS/RECY/00	Fem Fresh Ventures	11 Alhaji Jinadu street, ijesh, surulere	Ewu elepe ikorodu	PET, Cartons, Glass	Okunoye Babawale
89.	SS/RECY/00239	folasayo Bunmi Enterprises	4, Olusosun, Hassan Close, Ojota, Lagos	OLUSOSUN DUMPSITE	PET,Al Cans, LDPE	Folasayo
90.	SS/RECY/00244	Funbotech Nigeria Ltd	64, Oregun Road Lagos State.	ELEPE DUMPSITE	Carton	Arama
91.	SS/RECY/00506	Funke Osho	12, Mercy Avenue, Onibudo,Akute	Solous Dumpsite.	Wastepaper	Funke Osho

92.		SS/RECY/00209	3 Bawoje Close, Ojota Dumpsite Lagos.	Olusosun Dumpsite	PET, LDPE, Aluminum Cans	Mr Garba
93.		Gbolaru Nig. Ltd.	56A, Agege Motor Road, Mushin, Lagos		Buckets	ALH K. Olalekan
94.		Gbolaru Nigeria Ltd	56 A, Agege Motir Road Mushin	Collection	Puckit Industry	Alhaji Olalekan
95.	SS/RECY/00241	Glorious One Ventures Nig.	1, Elias street, Owode-Elede, Ikorodu Road, Mile 12, Lagos	Olusosun Dumpsite	PET, LDPE, Al Cans, Cartons, Glass, Tyres	Emmanuel Anara
96.	SS/RECY/00206	God's Time Investment	3, Bolaji St, Itamaga, Ikorodu.	Ewu-elepe Landfill	Nylon (LDPE)	Olugbenga
97.	SS/RECY/00287	Godwin Uche Agunwa	Epe Landfill Site	Epe Landfill Site	PET	Mr Godwin
98.	s	Grace Bon Nig. Ent.	19, Omibiyi Street, Ogba, Lagos	ELEPE DUMPSITE	Plastic & Nylon	Bright Ogwu
99.	SS/RECY/00138	HERO DIKE	2, CAC,Street	Epe Landfill		Dike C. Hero
100.	SS/RECY/00074	Horlag-Global investment company Ltd.	5 Iyana-Odo Junction Iyana-ipaja	Epe Landfill	PET, Aluminum Cans.	Mr Akinjobi Oladimeji
101.	SS/RECY/00055	Hybrid Plastics				
102.	SS/RECY/00429	I.K Amanie	26, Pastor Balogun, Ijegan Estate, Ikotun Lagos	Solous Dumpsite.	Bottle	Amaka
103.	SS/RECY/00296	Ibraheem Ismail Gbadebo	Epe Landfill Site	Epe Landfill Site	Aluminium	Mr Ibraheem
104.	SS/RECY/00399	Ibrahim Aliu	35, Akorede ST, Abule Egba, Lagos	Oko Filling	PET, Iron, Plastic	Muhammad Rabi
105.	SS/RECY/00226	Ibrahim Umar	3 Bawoje Close, Ojota Dumpsite Lagos.	Olusosun Dumpsite	LDPE, Aluminium Cans, Glass , Tyres	Mr Ibrahim
106.	SS/RECY/00216	Ify & Precious Global	15, Adesina Street, Ojota, Lagos	Olusosun Dumpsite	Aluminium cans	Ifeanyi
107.	SS/RECY/00512	IHANEHI ABISOSE	31, Abatan st, Agric road,Egan Igando,Lagos	SOLOUS DUMPSITE.	Nylon	I. Abisose
108.	SS/RECY/00313	Ijebusms	11, Shobaloju Str. Epe	Epe / Ojota	Nylon, Carton	Akeem Bolaji
109.	SS/RECY/00361	Iloh Christopher	203, Abaranje Road, Ikotun, Lagos	Solous Landfill Site	Bottle	Iloh Christopher
110.	SS/RECY/00196	Isa Nig. Enterprises	Mile 12, Lagos	Ewu-elepe Landfill	LDPE, Paper	Aliyu Isa
111.	SS/RECY/00227	Isiaka Nigeria Enterprises	16 Fangore street Lawma Landfill ewu-elepe.	Ewu-Elepe dumpsite	PET, Aluminium Cans, Cartons	Mr Isiaka Ibrahim
112.	SS/RECY/00166					
113.	SS/RECY/00166	Isikaku Maxwell Chibueze	10, Odumade Street, Amukoko, Lagos	Epe Landfill	PET, Aluminium cans	Ben Ayara
114.	SS/RECY/00041	IYABO ARINLADE ENTERPRISES	14, Fatiregun Street Ebute-Metta (West)	Across the State	PET, LDPE, Al, Cartons, Glass, Metal drums	Mrs. Iyabo Arinlade
115.	SS/RECY/00072	Jaf Mass Feeder Enterprises	16, Bamifayose Street, Ileke Estate, Meiran Lagos.	Epe Landfill	PET, Aluminium Cans, Plastics, Viju Milk Container.	Mr J. F. Fadipe

116.	SS/RECY/00365	Jemilu Abdullahi	Okofilling B/Stop, Along Isheri/ Lasu Road, Lagos.	Solous Landfill Site	PET, Iron	J. Abdullahi
117.	SS/RECY/00288	Jenty Akeem Olarenwaju	Epe Landfill Site	Epe Landfill Site	PET	Mr Jenty
118.	SS/RECY/00189	J-I Nigeria Enterprises	25, Agbowo-Ikosi, Lagos	Ewu-Elepe dumpsite	Nylon (LDPE)	Johnbull
119.	SS/RECY/00305	Jofimat Ventures	25, Atinuke Olabanji Street off Unity Road Ikeja	EPE Dumpsite	Al Can, Cartons	Mr. Tijani Ismail
120.	SS/RECY/00992	Jogun & Sons Nig . Enterprise	Block 10, Shop 10, Ketu Ikosi , Market , Ketu Lagos	Collection	Individual Buyers	Mr Jogun
121.	SS/RECY/00378	Jonas Oloja	21, Ajike st. Nice Estate, Otta	LAWMA Landfill	paper,PET, Alluminium can	Jonas Oloja
122.	SS/RECY/00764	Jp-Amota Cleaners Co Ltd	12 Oweh Street, Jibowu Yaba	Collection	Bua Group	Mr Taiye Taiwo
123.	SS/RECY/0035	Julius Enterprise	122, Abimbola way Isolo	Ojo dumpingsite	Cartons	Julius
124.	SS/RECY/00186	K.M Ayesope-Otan Nigeria Ent.	20, Ifesowapo Ayobo, Iyana Ipaja, Lagos.	Ewu-elepe Landfill	Nylon (LDPE)	
125.	SS/RECY/00200	Kamila Nig Ent	30, Onitiju Adamo, Ikorodu, Lagos.	Ewu-elepe, Epe Landfill	Shoe scraps	Kamiludeen
126.	SS/RECY/00199	kanu Investment Nig Ltd	4, Ajeniya St, Ogolonto, Ikorodu, Lagos	Ewu-elepe Landfill	Bottle	Anyaele Kanu
127.	SS/RECY/00165	KAY LACH Nigeria Enterprises	26 Banana Estate Ijede Ikorodu Lagos	Ewu elepe ikorodu	PET, HDPE	Umar shehu
128.	SS/RECY/00359	Kevin Okalla	4, Church Street, Eleta, Abule Tailor, Lagos	Solous Landfill Site	PET	K. Okalla
129.	SS/RECY/00358	Kolawole Ojo	72/74, Old Otta Road, Ile-Epo, Oke-Odo, Lagos	Solous Landfill Site	Recyclables from compactors	Kolawole Ojo
130.	SS/RECY/00055	Lakunle Forwarder Enterprises	Suite li Npa Container Office Tin-Can	Olusosun Landfill	Tyres	Mr Olakunle
131.	SS/RECY/00748	Lara Olumide Nigeria Ltd	22, Idumagbo Avenue, Lagos-Island Lagos	Collection	Individual Buyers	Mrs Lara
132.	SS/RECY/00273	Lawal Ismail Ent. Nig. Ltd.	7, Akingbade Street, Epe, Lagos	EPE Dumpsite	Al Can	Mr. Lawal Ismail
133.	SS/RECY/00291	Lawal Olayemi Basiru	Epe Landfill Site	Epe Landfill Site	Metal Iron	Mr Lawal
134.	SS/RECY/00261	Lemo Maintenance services	House 4, Road 3, Olaonipekun, Green land Estate, Ajah, Lagos	EPE Landfill	Al Cans	Adeoye Adeleye
135.	SS/RECY/00386	Leti Investment	Ikorodu	Ewu Elepe Dumpsite	Ldpe, Cartons	Amudu
136.		Lihad Nigeria Enterprises	No 6, Tijani Oduwoga Street Ijede Ikorodu	Ewu Elepe Ikorodu	Pet	Shehu Bello
137.		Livinus Ekesiobi	6, Afulodi Street Meran Lagos	Solous Dumpsite.	Bottle	Nonso Ekesiobi
138.		Mamfast Enterprises	1, Olowu Street, Agege Lagos	Ewu Elepe dumpsite, Olusosun dumpsite	PET, Aluminum Can	Mr. Adebayo Mukail
139.		Mansir Bello	ByOko filling B/stop	Solous Landfill Site	Pet, Cans	Mansir Bello

140.	SS/RECY/00232		1 Ashagbo line, Iseri eko.	Ewu-Elepe dumpsite	Bottles, Aluminium cans	
141.	SS/RECY/00264	Mike & Co. Business Enterprise	5, Baba Ahmed Street, Odo-nla Ikorodu, Lagos	Ewu-Elepe Dump Site	PET, LDPE	Mr. Idah Micheal
142.	SS/RECY/00668	Mike More Enterprises	No H2A Bank-Bus-Stop Alaba	Owode Onirin	Scrap	Mr Mike
143.	SS/RECY/00351	Modinat J. Abiola	24, Alafia St., Ile-Epo, Eko-Odo, Lagos	Solous Landfill Site	Bottle	M. J. Abiola
144.	SS/RECY/00394	Mohammed Yakubu	18, Adeshina ST, Katanguwa.	Oko Filling	PET, LDPE, Al Cans	
145.	SS/RECY/00190	Morayo Trading Store	Osaqwe St, Agric Ikorodu, Lagos	Ewu-elepe Landfill	LDPE	Mrs M. Ogunleye
146.	SS/RECY/00307	Mr. Bolagade	5, Laboowo Ogunpa Street, Ibadan, Oyo State	EPE Dumpsite	Al Can	Mr. Bolagade
147.	SS/RECY/00745	Mri Investments Ltd	16, Amodu Ojikutu Street, Victoria Island	Collection	Across the State	Mr Koyejo
148.	SS/RECY/00277	Mrs Kolawole Shola	11, Temidire Close, Isawo Rd, Agric, Ikorodu, Lagos	Ewu Elepe	PET, LDPE, Aluminium Cans, Cartons.	Kolawole Shola
149.	SS/RECY/00416	Mrs. Olaide Risikat	3, Rotimi Olaide Close, Idimu Lagos	Solous Landfill	Rubber Slippers	Rotimi Olaide
150.	SS/RECY/00360	Mrs. Olawoyin Ruth	9, Sadiku Olowora St., Igando, Lagos.	Solous Landfill Site	Waste Nylon	Mrs. R. Olawoyin
151.	SS/RECY/00439	Muhammed Faruk Trading Ventures	24, Lawma Road, Elepe	Oko Filling Landfill	Cartons	Muhammed
152.	SS/RECY/00149	MURPHY PLASTOTECH	Plot 6, Gberigbe Owa Road Ikorodu	Ijede Ikorodu	Plastics	Abraham A
153.	SS/RECY/00222	Musa Mohammed Nig	3 Bawoje Close, Ojota Dumpsite Lagos.	Olusosun Dumpsite	PET, LDPE, Aluminium Cans	Mr Musa
154.	SS/RECY/00245	Musa Umar Ventures	17, Ile-ile Street, Ketu, Lagos	Olusosun Dumpsite	PET, Cartons, Plastic	Musa Umar
155.	SS/RECY/00218	Musraf Enterprises	1 Adelaja drive ojota lagos	Olusosun Dumpsite	Iron, Plastic	Mr Saheed
156.	s	Nextsol Nig. Ltd	4, Makanjuola Close, off Bode Fakunle Street, Harmoy Villa, Isheri, Ogun State	OLUSOSUN DUMPSITE	LDPE	Mokansuola Olabisi Folake
157.	SS/RECY/00268	Nickdeb Investments Ltd	15A, Ladipo Street, Mushin, Lagos	Olusosun Dumpsite	Cartons	Yemi Lawal
158.	SS/RECY/00212	Obas bee scrap ventures	27 Ikorodu road, cane village maryland lagos.	Olusosun Dumpsite	PET, Plastic, Rubber	Mr osas
159.	SS/RECY/00161	Okeke Ernest enterprises	5 CAC Busstop , Mushin Lagos.	Solous Landfill	PET	Mr Okeke
160.	SS/RECY/00176	Okinex Swift Ventures	4, Tanimowo close off Oyebulo St, Fadeyi, Lagos	Ewu-Elepe dumpsite	PET, LDPE, Cartons	Mr. Obnina Obata
161.	SS/RECY/00193	Okpara Investment	41, Ajaguna St, Ogolonto, Ikorodu Lagos.	Ewu-elepe Landfill	Cartons	Mr Anyaele
162.	SS/RECY/00408	Okunoye Oluwa Segun	Km3 Lasu Igando Road Lagos	Solous Dumpsite.	Pet, Rubber Slippers	Mr. Segun
163.	SS/RECY/00405	Oladokun Johnson	13, Olaisa Street, Okoko Lagos.	Solous Dumpsite.	Sole & Bata	Mr Johnson
164.	SS/RECY/00233	Olaji Nigeria Enterprise	17, Okebola Street Molete, Oyo State	Elepe Dumpsite	Iron	

165.	SS/RECY/00274	Olanbof Integrated Services	10, Rafiu Oloyede Street, Ikorodu, Lagos	ELEPE DUMPSITE	Cartons	Femi Aboyeji
166.	SS/RECY/00289	Olaniyi Sunday Dare	Epe Landfill Site	Epe Landfill Site	HDPE	Mr Olaniyi
167.	SS/RECY/00355	Olaosebikan R. Akin	18, Holy Peace Crescent, Ijaye Ojokoro, Lagos	Solous Landfill Site	PET/Waste Carpet	Olaosebikan R. A.
168.	R	Olasomi Asande Nig. Ltd	15, Onitire Str, Itire, Surelere, Lagos	Eti-Osa and Epe Dumpsite	PETs, Aluminium Cans	Gbenga Awolere
169.	SS/RECY/00356	Olawale Arowolo	No 1, Alhj Rabiun Close, Onifade Ayetoro, Ogun State	Solous Landfill Site	Recyclables from compactors	Olawale Arowolo
170.	SS/RECY/00295	Olayide Adelaja	Epe Landfill Site	Epe Landfill Site	Aluminium	Mr Olayide
171.	SS/RECY/00503	OLUGBEDE TOYIN	2, Odunlami Eso street, Ipaja, Lagos	SOLOUS DUMPSITE.	Bottle	Deborah Adebayo
172.	SS/RECY/00187	Oluwanisola Recycling Venture	1, LAWMA Rd, Ewu-elepe, Igbe Ikorodu, Lagos.	Ewu-elepe Landfill	PET	Alabi Dayo
173.	SS/RECY/00156	Omotoke Olutayo Ent.	Behind Ginti palace off Ijede	ELEPE DUMPSITE	PET AND Plastics	Mrs Omotoke olutayo
174.	SS/RECY/00309	Onuegbu Eucharia	1, Udo Orung Street, Efularaja, Ikorodu, Lagos State.	Elepe Dump Site Ikorodu	PET, Al Cans	Mrs. Onuegbu Eucharia
175.	SS/RECY/00130	Otao Nigeria Ent	No 26 Banana estate Ikorodu, Lagos state.	Ewu elepe Ikorodu	HDPE, PET	Alao Mohammed
176.	SS/RECY/00160	O'Ville	8 adamokebiawu street orile agege lagos	Ewu elepe Ikorodu		Opeyemi
177.	SS/RECY/00179	Owo Scrab Dealer Nig. Ent.	2, Fagbamila St, Ebute Ikorodu, Lagos	Ewu-elepe Landfill	Iron, Paper	Mabadege Owolabi
178.	SS/RECY/00365	Ozegbe Udoka Loveth	9, Baba Sule St., Oregie, Ajegunle, Lagos.	Solous Landfill Site	PET	Ozegbe U. L.
179.	SS/RECY/00224	Paol Nigeria Enterprises	14, Obatedo Street, Agbowa-Ikosi, Lagos	Epe Landfill	Aluminum cans	Samuel
180.	SS/RECY/00417	Parallel Point Consult	5, Mercy Eneli St, Surulere, Lagos	Abule Egba	PET, Al Cans, Cartons	Aromolaran Adeyemi
181.	SS/RECY/00164	Precious Rose Global ventures	12 Shobanke street Owutu AGRIC Ikorodu Lagos	Ewu elepe Ikorodu	PET	Adenuga ALIYU
182.	SS/RECY/00141	Pride hygiene int'l Nig Ltd	748 Mobolaji Bank Anthony way Ikeja		PET AND Glass	Emma Essien
183.	SS/RECY/00393	Rasheed Abdullahi	18, Adeshina ST, Katanguwa.	Oko Filling	Iron, Shoe	Rasheed
184.	SS/RECY/00352	S.A Adebayo Awe	3, Olukayode St., Igando, Lagos State	Solous Landfill Site	Waste Papers	S.A Awe
185.	SS/RECY/00368	Saminu Salisu	Okofilling B/Stop, Along Isheri/ Lasu Road, Lagos.	Solous Landfill Site	PET	Saminu Salisu
186.	SS/RECY/00412	Sani Mohammed Kumasi	8, Bakare Street Ikotun Lagos	Solous Landfill	PET, LDPE, Al Cans	Salisu Garba
187.	SS/RECY/00278	Shanusi Adebimpe G. Ent. Nig. Ltd.	9, Nasfat Irewole Street, Ogijo, Ikorodu, Lagos.	EPE Dumpsite	Al Can	Mrs. Adebimpe Ganiyat
188.	SS/RECY/00440	Shefiu Umoru Trading Ventures	24, Lawma Road, Elepe	Ewu Elepe Landfill	PET	Shefiu

189.	SS/RECY/00210	Shehu Abubakar	3 Bawoje Close, Ojota Dumpsite Lagos.	Olusosun Dumpsite	PET, Aluminum Cans, Cartons	Mr Abubakar
190.		Sifau and Sons Recycling Ventures	21, Unity St, Orelode B/s, Ishawo, Ikorodu	Ewu-elepe Landfill, Olushosun Landfill	PET, Nylon (LDPE), Aluminium Cans, Cartons, tyres, Glass and Others.	Oseni Akeem
191.	SS/RECY/00037	Sodowak & Sons Enterprises	No. 9, Idowu Buhari Street Ibaragun Road Abule Ijojo Ogun State	Olusosun Landfill	PET, LDPE, Cartons	Mr. Adedoyin Akinbobola
192.	SS/RECY/00197	Sogunle Olalekan	10, Giwa Efunbotun St, Benson, Ikorodu.	Ewu-elepe, Epe	PET, Shoe Scraps	Sogunle Olalekan
193.	SS/RECY/00299	Solomon Samson Abiodun	Epe Dumpsite, Afero Rd., Lagos	EPE Dumpsite	Zinc	Mr. Solomon
194.	SS/RECY/00373	Suleman Adamu	22, Akwa Yan kagi Alaba	Solous Landfill Site	buy recyclable from compactor	S. Adamu
195.	SS/RECY/00353	Sunday Nwoke	2, Corner House, Suberu Oje, Alagbado Lagos.	Igando	Nylon	Sunday Nwoke
196.	SS/RECY/00223	Sunday O. Uzor Ventures	10, Abule-Eko Road, Eru-Owa, Gberigbe, Ikorodu, Lagos	Epe Landfill	PET, Aluminium cans, LDPE	Sunday Uzor
197.	SS/RECY/00217	Sunih Nigeria Enterprises	26 Banana Estate Ijede Ikorodu Lagos	Ewu-Elepe dumpsite	PET	Mr Sanni
198.	SS/RECY/00011	Tec High Profile Nig. Ltd.	Block E Along Shagamu, Ikorodu Road Erefun Village Ogijo Ogun State	Olusosun Landfill & across the State	Tyre	Mr. Adeyemi
199.	SS/RECY/00270	Technovaa Industries Ltd	23B, Emmanuel Plaza, Fatai Atere way, Matori, Mushin, Lagos			
200.	SS/RECY/00192	Thanniolodo Nig. Ent.	35, Akorede St, Abule Egba, Lagos	Ewu-elepe Landfill	PET, HDPE	Mrs Amidat
201.	SS/RECY/00080	Toynad Ventures	16, Ogunmokun Street, Mushin Lagos.	Olusosun Landfill	PET, Aluminium Cans, Tyres	Wale Thompson
202.	SS/RECY/00153	Trade Limit Enterprises	252 Ashade Market Ikeja	Olusosun Landfill	Cartons	Johnson Ekweme
203.	SS/RECY/00150	U.B.G Nig. Ltd	Kosofe	Ewu elepe ikorodu	PET, Cartons, Aluminum	Seriki Mohammed
204.	SS/RECY/00254	Uche C. Chimieze Enterprises	1, Olufemi Olufawo Street, Hamaga, Ikorodu, Lagos	Elepe Dump Site Ikorodu	Al Cans	Mr Uche
205.	SS/RECY/00228	Ultrafirm global enterprises	2 Bode Bewaji street Olusosun Oregun	Olusosun Dumpsite	PET, Cartons, Aluminum Cans	Mr Francis
206.	SS/RECY/00362	Umar Haruna	By Powerline busstop, Along Isheri, Lasu Road, Lagos.	Solous Landfill Site	PET	Mrs D. Adeyemi
207.	SS/RECY/00146	Umaru Hame Nigeria Enterprises	No 26 Banana estate Ikorodu, Lagos state.	Ewu elepe ikorodu	PET	Umar Mohammed
208.	SS/RECY/00213	United Brain Enterprises	3, Olorunfemi Street, New Garage Ojota, Lagos	Olusosun Landfill	PET, Aluminium cans, Cartons, Glass, Tyres, LDPE	Mr Adeosun

209.	SS/RECY/00230	Wealth of Gold	3, Olusanya Close, Ire-akari estate ijede ikorodu	Ewu-Elepe Ikorodu	PET, LDPE, Aluminum Cans	Mr Ijalana
210.	SS/RECY/00194	Wemembu and Company Nig. Ent.	7, Walter St, Irawo, Ajegunle off Ikorodu Rd, Lagos	Olusosun Landfill, Ewu-elepe Landfill.	Aluminum Cans, Non-Ferrous Metals	Etule Festus
211.	S	Yakubu Bala Kumasi	10, Alhaja Seriki ST, Alagbarago, Lagos	Oko Filling	PET, Al Cans, Cartons, Iron	Abass Bala
212.	SS/RECY/00221	Yemgrace Enterprises	10 Olorunredo street Old Otta Road Ijaiye	Olusosun Dumpsite	Aluminum cans	Mr Oluyomi
213.	SS/RECY/00211	Yemsam Enterprises	5 Ogbimi street Obawole Iju	Olusosun Dumpsite	Aluminum cans	Mrs Oyekanmi
214.	SS/RECY/00300	Zahadu Bawale Usman	Epe Dumpsite, Afero Rd., Lagos	EPE Dumpsite	Glass bottles	Mr. Zahadu
215.	SS/RECY/00118	Zyntomax Ventures	27 Ikd Road, Toludayo complex Maryland	Ewu elepe ikorodu	Aluminum Cans, Plastics	Mrs Modupe Adeleye
216.	SS/RECY/00141	Pride hygiene int'l Nig Ltd	748 Mobolaji Bank Anthony way Ikeja		PET and Glass	Emma Essien
217.	SS/RECY/00307	Mr. Bolagade	5, Laboowo Ogunpa Street, Ibadan, Oyo State	EPE Dumpsite	Al Can	Mr. Bolagade
218.	SS/RECY/00256	Loreded Investment LTD	Plot 2, Kurata Dumping, Off Amara Street, Agidingbi, Ikeja, lagos	Kurata Agidingbi	Al Cans	Mrs Shakaria Sidiki
219.	SS/RECY/00225	Lakabo Ventures Ltd.	57 Simpson Street EbuteMetta	Lagos Mainland	PET, Cans , Cartons.	Mr Okegbenro
220.	SS/RECY/00275	Grace Bon Nig. Ent.	19, Omibiyi Street, Ogba, Lagos	ELEPE DUMPSITE	Plastic & Nylon	Mr Johnson Company
221.	SS/RECY/00214	Fountain Resources Global Services Ltd	8, Cardoso Street, Kirikiri, Lagos	Amuwo-Odofin	PET, Aluminium Cans	Nanle Daniel
222.	SS/RECY/00239	folasayo Bunmi Enterprises	4, Olusosun, Hassan Close, Ojota, Lagos	OLUSOSUN DUMPSITE	PET, Al Cans, LDPE	Folasayo
223.	SS/RECY/	Bunorr Integrated Energy Ltd	Suite J194 Road5, Ikota Complex, Ajah Lagos	Nbc , 7up , Landmark	Used Engine Oil	Osemoboh Bright
224.	SS/RECY/00307	Bolagade Akanni Nig Ent	5, Labowo Ogunpa Street, Ibadan	Epe	Aluminum Cans	Mr Bolagade
225.	SS/RECY/00151	Baka Halilu/Ivarm Global Nig. Ltd	27 Olasupo Street Ikorodu Lagos	Ikorodu	Pet and HDPE	Bala Halilu
226.	SS/RECY/00182	4sight Connect Nigeria Enterprises	6, Tijaru Oduwoga Street, Ijede, Ikorodu Lagos.	Lawma Landfill Elepe	Scrap Iron & Bata	Mr S.A. Olujajo
227.	SS/RECY/00264	Mike & Co. Business Enterprise	5, Baba Ahmed Street, Odo-nla Ikorodu, Lagos	Ewu-Elepe Dump Site	PET, LDPE	Mr. Idah Micheal

Appendix 5: List of Companies Registered with Lagos State Recyclers Association (LAGRA)

S/N	Recycler/Aggregator	LG/LCDA
1	RecyclePoints Limited	Alakija, Festac
2	Wecyclers Nigeria Limited	Lagos Island
3	Watco Global Services	Surulere
4	Horlag Recycling	Eredo. Epe
5	Zebaj Recycling	Ojokoro
6	Green Janitors	Badagry
7	Street Waste Company Ltd	Ikoyi- Obalende
8	Negand Integrated services	Eti-Osa
9	Ecoviridis Environmental Services	Eti-Osa East
10	Lasgidis Recyclers	Eti-Osa East
11	Waste point Limited	Iru-VI
12	FAN Renewable System Ltd	Ikeja
13	D'monte greene	Ikosi-Isheri
14	Urban Spirit (Monttainai Recycling)	Onigbongbo
15	Wrm integrated Nig Ltd	Lagos Mainland
16	Laputa rubber industry limited	Mushin
17	Cycled Technology	Mushin
18	Westafrican ENRG	Igandokotun/Ikeja
19	Planet Savers	Ikorodu West
20	Ecoprune	Alimosho/ Ifako-Ijaiye
21	HISL Recyclers	Ibeju-Lekki
22	Trashusers Services	Ibeju-Lekki
23	3R Recycling	Ibeju-Lekki
24	Scrap Empire	Ibeju-Lekki
25	Thermal Initiative	Lekki
26	MEDIC	Lekki/Apapalganmu
27	GIVO Solutions	Lekki
28	OD Aieginadav	Ijede
29	Top Polymers	Ikorodu Central
30	Recycle works Ltd	Ikorodu North
31	Procycle	Agege
32	The 8088 recycling	Odi-Olowo
33	Chanja Datti Ltd.	Badagry
34	Ecoplastic & Aluminum Recycling	Ojo
35	Janirak Recyclers	Badagry2
36	African Clean up initiative	Ajerom-Ifelodun
37	Parallel Point	Egbeldimu
38	Scrappays Technologies	Agbado OkeOdo
39	SWEEP Foundation	Surulere

40	FABE International Foundation	Epe/Ibeju Lekki
41	Dispose Recyclers	Oshodi Isolo
42	Brickify Ltd	Ikorodu North
43	Plastic Solutions NG	Eti-Osa East
44	Greenhill	Oshodi Isolo
45	Redripe Investment	Ikorodu

Appendix 6: Some Registered Corporate RAN Members (RAN, 2017)

S/N	NAMES
1	123recycle
2	Alamonk Recyclers Ltd
3	Amorgen Nigeria Company
4	Chanja Datti
5	Chestron Limited
6	D'allure Scraps Limited
7	Ecoplastic
8	Ecoprune
9	EcoViridis Environmenta Technology
10	Enpact Solutions
11	Environmental Expressions Limited
12	E-Terra Technologies
13	Fabe Environment Enterprise
14	Fountain Resources Global Services
15	Gedeihen Recyclers
16	Greenhill Recycling Limited
17	Hinkey Associates Nigeria Recycling
18	HISL Recyclers
19	Horlag Recycling
20	iFarm Recyclers
21	LasGidis Recyclers
22	Medic Initiative
23	Mottainai Recycling
24	Janirak Recyclers
25	JDSL Recycling
26	Muda Africa
27	Recycleledge
28	Recyclehub
29	RecyclePoints Limited
30	Remould Global Ventures Ltd
31	Risley Bridge Company Lid
32	Solid Chemicals Resource Limited
33	Srap Empire
34	Street Waste Company
35	Tairan Industries Ltd
36	Thermal Initiative
37	Tong da Industries
38	Allcycle
39	Victold Recyclers

40	Wecyclers Nigeria Limited
41	Africa Clean up Initiative
42	Bohia Environmerntal Service Ltd
43	Slay Dot Com Aid Initiative
44	Nolds Integrated Services Limited
45	Loyar Global Services
46	Recyclan
47	eTrash2Cash
48	Zebaj Recycling
49	Trashusers Services
50	Sweep Foundation

Appendix 7: Details of Respondents

S/No	QUESTIONS	RESPONSE 1	RESPONSE 2	RESPONSE 3	RESPONSE 4	RESPONSE 5	RESPONSE 6	RESPONSE 7	RESPONSE 8	RESPONSE 9	RESPONSE 10	RESPONSE 11	RESPONSE 12	RESPONSE 13
1	Number of Staff	15	14	-	12	13	MD, Manager, Supervisors, Route MGRS, Drivers.	18 staff		28 Staff	11 staff	25 staffs	11 staffs	10 staff
2	Membership fee and how much is being paid by each member?	N50,000 monthly	N50,000	-	No	-	N120,000 per annum for AWAMN	N120,000 per year	NO	Monthly and yearly franchise Agreement with Lagos state.	No			NGN250,000
3	Type(s) of waste collected	Domestic waste	Domestic, Commercial and Industrial waste	Domestic and Commercial waste	Domestic and Commercial waste	Domestic, Commercial and Industrial waste	Domestic and Commercial	Domestic and Commercial	Domestic	Domestic, Commercial and industrial	Domestic waste	Domestic and commercial	Domestic and Commercial	All waste including recyclables
4	Area(s)/districts/number of streets where waste is collected, H	60 Streets	49 streets	Over Ido	Households, 24 streets and 2 wards	Sangotedo and Ajah	45 street, Lekki phase.	Abraham Adesanya, Oke-Ado, Sangotedo	65 streets	8 streets in Apapa.	63 streets	64 streets	Obalende LCDA	16 streets
5	Number of trips (per day, week and month)	20 trips per month	20 trips per month	20 trips per week	18 trips per month	88 trips per month	60 trips per month	40 trips per month	30-34 trips	60 - 70 trips per month	48 trips per month	60 trips per month	48 trips per month	16 trips per month
6	Type(s)/capacity of vehicles used in collecting waste.	Compactor	MAN diesel compactor truck of 17 tonnes.	25 Tonnes compactor truck.	Compactor Trucks	3 Compactor trucks	12 tons MAN diesel, DAF & TATA Truck.	4 Compactor and 2 pickups	3 Trucks and 10 tons each	Compactors of different capacities.	DAF and TATA 300 tons.	Compactor Trucks. 12 tonnages	Compactor 15ton capacity	Compactor trucks
7	Volume of waste collected per day, week and month		Per day; 12 tonnes, Per week; 60 tonnes, Per month; 240 tonnes	Per day; 80 tonnes			3 tons daily. 15 tons weekly. 60 tons monthly			Average of 30 tons daily 150 tons weekly and 500 - 600 tons monthly				
8	Type/capacity of containers from which waste are collected.	240 Litres bin	240 litres bin	240 litres bin	120 litres drum, Per month; 1,100 litre drum	Bin container	120L/1100L waste bins	240 Litres, 1100 Litres	Drums	Various types, wheelers bins 240ltrs, Mamoth buckets, baskets and even Dino 1100ltrs	Wheeler bin, mammoth bin, skip bin, dino bin, roll-on roll-off.	240 ltrs wheeler bin, 1100ltrs Dino waste bin	A wheeler bin 240 Litres	25ml roller bin/ covered drums. 100ml created mammoth
9	Regularity of payment by customers/what is done to defaulters.	Payment not regular	Not regulations/plans to take them to court.	80% compliance	No	Yes, but some default	Yes/stoppage of service to heavy defaulters.		Enforcement by health officers	Not all pay regularly. Follow up and govt	Stoppage of service	Advocacy and enforcement by	Yes	No/enforcement

										agency enforcement		constituted authority		
10	Presence of Cart pushers and how their activity affect the quantity of waste collected.	No	Yes	No	Yes but does not really affect quantity collected	Yes. It affects our base	Yes	Yes, it affects operation	Yes, it does affect	Cart Pushers in some areas and affect payment for Cart	Yes	Yes, but little impact	No	No
11	Is waste sorted or commingled at the point of collection?	Not sorted	Not yet	Commingled	No sorting	Yes	Generally comingled	Yes	No	Commingled	Commingled	commingled	Commingled	Commingled
12	Perception of market for waste recycling at the moment (positive, neutral, negative)?	Negative	Positive	Positive	Neutral	Positive	Positive	Positive	Positive	Positive	Positive	Positive	Positive	Positive
13	From your experience, which of the recyclables is the most profitable or promising one?	PET bottles	Irons and cans	PET bottles	Plastics and metal recyclables	PET bottles	Never sold one	Neutral	Pet bottles	plastics	Paper and non	Pet bottles, irons	Plastic/pets/iron	Pet bottles
14	Market leader in waste recycling in Lagos State,	No Idea	PSP operators		Wecyclers		Don't know	No experience	Don't know	Don't know			LESZX plastic Company	
15	Average Capital Expenditure (CAPEX) and Operational Expenditure (OPEX) associated with operations.	N40 million	CAPEX N20 million for trucks OPEX - N30,000 daily	N100 million	Quite High		OPEX - NGN4.8m monthly	Opex	CAPEX 20million (3 compactors OPEX 850-1.2m per month	Average NGN5million (Opex) monthly			OPEX - 1.5million monthly	
16	Knowledge of a digital marketplace.	Yes	No	Yes	No	No	Yes	Yes	No	No	Yes	No	Yes	No
17	The most important feature in a proposed digital market tool?	-	Accessibility to the platform and awareness	-	-	-	Don't know				Ease of access and usage		Enhancement of business opportunities	
18	Do you foresee a demand for investment in recycling capacities? If yes, please explain?	-	Yes.	Yes, it is inevitable	Yes, probably when people see reasons to join in the system.	Yes, I would like to diversify to recycling	Yes, I do	Yes	Yes	Yes, of course. Because it is the way to go and no land to continue dumping waste		Yes, because of the volume of the market.	Yes, the market is there in Nigeria	
19	Biggest challenge or problem faced in the treatment/recycling of the waste.	Collection	Sorting and equipment meant for recycling	Logistics and electricity	Awareness and enlightenment	Maintenance of truck and vehicle. Funds	N/A		I am not into recycling	Capital	Awareness and enlightenment	Waste Sorting	Fund, land and lack of knowledge	Machinery procurement
20	How do you perceive the market for recyclables in Nigeria at the moment (positive, neutral, negative)?	Positive	Positive	Positive	Neutral	Positive	Negative	Neutral	Positive	Positive	Neutral	Positive	Negative	Neutral.

I	In your view, from the list in (i) to (vii) below, explain how to surmount the challenges and other aspects of a digital marketplace.								We are not into digital marketing				Government should create enabling environment	
ii	Provision of quality/security for the users (quality audits?)			Appropriate security and regular audit							Quality audit		Regulation and monitoring	
iii	Transparency of a digital marketplace. How to avoid fraud, inappropriate behaviour?				Need for focus and monitoring						Open mindedness with workers		Due diligence	
iv	Business model of a digital marketplace (subscription fee, commission – or business model etc)?												Subscription.	
v	Convenience for the users (eg., how is the logistics, sampling, invoicing etc solved)?										Logistics helps smooth work		Preference and regulation	
vi	Who is eligible to participate?				Individuals and Producers						Oriented individual		Those who meet set criteria and have something to offer.	
vii	How do you make sure that users are coming back to the platform (once they established a business relation on the platform)?				A payback fee to the advantage of users						Because they wouldn't want to give up on what made them		Follow-up	
viii	Laws and regulations related to - Extended Producer Responsibility (EPR), e.g. mandatory usage of recycled polymers in Nigeria, as a driver for the success of the platform?				Probably enforcement medium needs to be put in place.						Mandatory usage			

Appendix 8 (i): Waste Composition Profile - Residential

Material Type	Kg	Mean	+/-	Material Type	Kg	Mean	+/-
PAPER	2872.6			Other Film	454.7	1.9	0
Boxboard	1246	5.2	0.1	Other Rigid Plastic Products	105.4	0.9	0
Compostable Paper	47.9	0.9	0	Remainder/Composite Plastic	3.9	2	
High Grade Office Paper	426.9	2.2	0	Trash Bags	1940.1	7.6	0.1
Magazines/Catalogues	31.2	1.8	0.1	GLASS	372.8		
Mixed Paper	208.5	2.8	0.1	Flat glass	1.6	0.8	0.1
Newsprint	156.6	1.5	0	Other Glass	9.4	1.9	0.1
Other Paper	86.3	1.9	0.1	Recyclable Glass Bottles & Jars	361.8	1.9	0
Uncoated OCC/Kraft	669.2	5	0.1	METAL	284.1		
BEVERAGE CONTAINERS	355.8			Aluminium Beverage Containers	63.5	0.3	0
Milk and Juice cartons/boxes, coated	143	1.6	0.1	Ferrous containers (in cans)	133.6	0.7	0
Water Bottles	212.8	1.2	0	HVAC Ducting	0		
PLASTICS	4884.4			Other Aluminium	33.6	1.1	0.1
#1 Other PET Containers 7 Packaging	7.1	0.5	0	Other Ferrous	30.1	0.5	0
#1 PET Bottles/Jars	281.4	1.2	0	Other Metal	22.2	0.8	0.1
#2 HDPE Bottles/Jars-Clear	99.1	0.8	0	Other Non-ferrous Containers	1.1	0.6	0
#2 HDPE Bottles/Jars-Color	339.7	2	0	ORGANICS	10467.6		
#2 Other HDPE Containers & Packaging	22.9	0.7	0	Bottom Fines and Dirt	1126.76	4.7	0.1
#3-#7 Other Bottles/Jars	1.8	0.6	0	Diapers	731.5	3.4	0.1
#3-#7 Other Containers & Packaging	0.1	0.1	0	Food Scraps/Waste	3772.5	16.8	0.2
#6 Expanded polystyrene Packaging (EPS)	98.5	0.6	0	Other Organics	546.45	3.6	0.1
Commercial & Industrial Film	26.8	11.5	0	Yard Waste - Compostable	4103.1	16.4	0.2
Grocery & Merchandise Bags	116.6	1.5	0	Yard Waste - Woody	187.3	2.5	0.1
LDPE	1386.3	5.7	0.1	CONSTRUCTION & DEMOLITION	226.8		
				Bricks	7.1	7.1	

Material Type	Kg	Mean	+/-	Material Type	Kg	Mean	+/-
BRICKS	0			Other Household batteries	0.1	0.1	
Ceramics/Porcelain	39.9	0.9	0	Television Sets	4.5	4.5	
Clean & Other Aggregates	0.8	0.8		Tires	192.9	16.4	0.9
Clean Dimensional Lumber	1.2	0.6	0.1	White Goods - not refrigerated	0		
Clean Engineered wood	0.8	0.3	0	White Goods - refrigerated	0		
Clean Unpainted Gypsum Board	5.3	5.3		HOUSEHOLD WASTE (HHW)	209.7		
Concrete	0.7	0.7		Ash, Sludge & Other Industrial Processed Waste	174.8	9.3	0.4
Other C & D	34.5	4.2	0.3	Latex Paint	3.4	3.4	
Painted Gypsum Board	5.9	1.5	0.1	Mercury Containing Items	0		
Painted Wood	18.5	18.5		Oil Paint	5.7	5.7	
Plastic C & D materials	3.7	0.4	0	Other Automotive Fluids	0		
Reinforced Concrete	1.7	0.4	0	Other HHW	13.3	3.3	0.2
Rock & Other Aggregates	4	0.6	0	Plant/Organism/Pest Control/Growth	0		
Roofing	0.1	0.1		Sewage Solids	0		
Treated Wood	14.8	7.4	0.8	Sharps & Infectious Waste	0		
Wood Pallets	87.8	1.9	0.1	Used oil Filters	12.5	1.1	0.1
INORGANICS	433.2			TEXTILE	2615.6		
Computer Equipment Peripherals	0			Carpet	179.8	5.8	0.3
Computer Monitors	0			Carpet Padding	106.4	3.8	0.2
Electronic Equipment	55.1	1.1	0	Clothing	1667.2	6.1	0.1
Fluorescent Light	9	0.3	0	Other Textiles	662.2	2.8	0
Household bulky items	171.6	1.7	0.1	Total Percentage	100		
Lead-acid Batteries	0			Total (Kg)	22,742.90		

Appendix 8 (ii): Waste Composition Profile - Commercial

Material Type	%	Mean	+/-		Material Type	%	Mean	+/-
PAPER	21.77				Other Rigid Plastic Products	0.22	0.9	0.1
Boxboard	1.07	2.5	0.1		Remainder/Composite Plastic	0		
Compostable Paper	1	1.7	0.1		Trash Bags	3.83	3.8	0.3
High Grade Office Paper	2.35	2	0.2		GLASS	1.11		
Magazines/Catalogues	0.01	0.1			Flat glass	0		
Mixed Paper	2.49	1.9	0.1		Other Glass	0		
Newsprint	0.54	0.6	0		Recyclable Glass Bottles & Jars	1.11	1.4	0.1
Other Paper	0.55	1.3	0.1		METAL	0.85		
Uncoated OCC/Kraft	13.77	10	0.3		Aluminium Beverage Containers	0.21	0.3	0
BEVERAGE CONTAINERS	1.52				Ferrous containers (in cans)	0.24	0.5	0
Milk and Juice cartons/boxes, coated	0.37	0.9	0.1		HVAC Ducting	0	0.3	0
Water Bottles	1.15	0.8	0		Other Aluminium	0.05	0.9	0.1
PLASTICS	17.5				Other Ferrous	0.35	0.9	0.1
#1 Other PET Containers 7 Packaging	0.08	0.5	0		Other Metal	0		
#1 PET Bottles/Jars	1	0.7	0		Other Non-ferrous Containers	0		
#2 HDPE Bottles/Jars-Clear	0.75	0.7	0		ORGANICS	49.25		
#2 HDPE Bottles/Jars-Color	0.55	0.8	0		Bottom Fines and Dirt	4.73	2.7	0.1
#2 Other HDPE Containers & Packaging	0.03	0.3			Diapers	0.64	0.7	0
#3-#7 Other Bottles/Jars	0.01	0.1			Food Scraps/Waste	28.77	25.9	1.1
#3-#7 Other Containers & Packaging	0.18	1.1	0		Other Organics	11.26	18.1	1.8
#6 Expanded polystyrene Packaging (EPS)	0.69	0.7	0		Yard Waste - Compostable	3.51	4.4	0.3
Commercial & Industrial Film	0.13	0.8	0		Yard Waste - Woody	0.33	1	0
Grocery & Merchandise Bags	2	2.5	0.1		CONSTRUCTION & DEMOLITION	1.97		
LDPE	6.79	5.4	0.3		Asphalt Paving	0		
Other Film	1.25	1	0		Bricks	0		

Material Type	%	Mean	+/-		Material Type	%	Mean	+/-
Ceramics/Porcelain	0.24	0.7	0		White Goods - refrigerated	0		
Clean & Other Aggregates	0				HOUSEHOLD WASTE (HHW)	0.83		
Clean Dimensional Lumber	0.4	4.7			Ash, Sludge & Other Industrial Processed Waste	0.83	4.9	0.2
Clean Engineered wood	0				Latex Paint	0		
Clean Unpainted Gypsum Board	0				Mercury Containing Items	0		
Concrete	0.99	11.6			Oil Paint	0		
Other C & D	0				Other Automotive Fluids	0		
Painted Gypsum Board	0.07	0.8			Other HHW	0		
Painted Wood	0				Plant/Organism/Pest Control/Growth	0		
Plastic C & D materials	0				Sewage Solids	0		
Reinforced Concrete	0.01	0.1			Sharps & Infectious Waste	0		
Rock & Other Aggregates	0				Used oil Filters	0		
Roofing	0				TEXTILE	5		
Treated Wood	0				Carpet	0.22	0.9	0
Wood Pallets	0.26	0.6	0.1		Carpet Padding	0		
INORGANICS	0.19				Clothing	2.85	2.8	0.1
Computer Equipment Peripherals	0				Other Textiles	1.93	1.2	0.1
Computer Monitors	0					0		
Electronic Equipment	0				Factory dust (soapy)	0		
Fluorescent Light	0.08	0.2	0		Iron	0		
Household bulky items	0.11	0.3	0		Stainless Steel	0		
Lead-acid Batteries	0							
Other Household batteries	0							
Television Sets	0							
Tires	0				Total Percentage	100		
White Goods - not refrigerated	0				Total Kg	1170		

Appendix 8 (iii): Waste Composition Profile - Overall Lagos State Municipal Waste

Material	Kilogramme	Mean	+/-%	Material	Kilogramme	Mean	+/-%
PAPER	3309.4			Remainder/Composite Plastic	3.9	0.4	0
Boxboard	1287.2	54.0	1	Trash Bags	2000.8	83.4	1
Compostable Paper	59.6	2.5	0.1	GLASS	399.8		
High Grade Office Paper	518.9	21.6	0.9	Flat glass	1.6	0.1	0
Magazines/Catalogues	31.3	1.3	0.1	Other Glass	9.4	0.5	0
Mixed Paper	241.8	10.1	0.5	Recyclable Glass Bottles & Jars	388.8	16.2	0.5
Newsprint	166.5	6.9	0.2	METAL	302.1		
Other Paper	92.7	4.6	0.2	Aluminium Beverage Containers	72.4	3.1	0.1
Uncoated OCC/Kraft	911.4	38.0	0.6	Ferrous containers (in cans)	134.5	5.6	0.1
BEVERAGE	365.3			HVAC Ducting	0	0.0	0
Milk and Juice cartons/boxes, coated	137.5	5.8	0.2	Other Aluminium	37.9	1.8	0.1
Water Bottles	227.8	9.5	0.2	Other Ferrous	34.2	1.5	0.1
PLASTICS	5762.2			Other Metal	22	1.0	0.1
#1 Other PET Containers 7 Packaging	8	0.6	0.1	Other Non-ferrous Containers	1.1	0.1	0
#1 PET Bottles/Jars	310.8	13.0	0.3	ORGANICS	10956.9		
#2 HDPE Bottles/Jars-Clear	109.2	4.6	0.1	Bottom Fines and Dirt	1166.9	48.6	0.8
#2 HDPE Bottles/Jars-Color	346.2	14.8	0.3	Diapers	739.3	30.8	0.5
#2 Other HDPE Containers & Packaging	19.8	1.1	0.1	Food Scraps/Waste	4097.2	170.7	2.1
#3-#7 Other Bottles/Jars	1.9	0.3	0	Other Organics	690.1	28.8	0.7
#3-#7 Other Containers & Packaging	4.9	0.7	0	Yard Waste - Compostable	4035.8	168.2	2.2
#6 Expanded polystyrene Packaging (EPS)	167.4	7.0	0.4	Yard Waste - Woody	227.6	9.8	0.7
Commercial & Industrial Film	28.3	2.0	0.2	CONSTRUCTION & DEMOLITION	259		
Grocery & Merchandise Bags	141.8	5.9	0.1	Asphalt Paving	0	0.0	0
LDPE	2026.8	84.5	1	Bricks	17.6	2.2	0.1
Other Film	470.7	19.7	0.4	Bricks	0	0.0	0
Other Rigid Plastic Products	121.3	5.1	0.1	Ceramics/Porcelain	41.4	1.8	0.1

Material	Kilogramme	Mean	+/-%	Material	Kilogramme	Mean	+/-%
Clean & Other Aggregates	0.8	0.0	0	Ash, Sludge & Other Industrial Processed Waste	184.5	10.3	0.5
Clean Dimensional Lumber	5.9	0.3	0	Latex Paint	3.4	0.2	0
Clean Engineered wood	0.8	0.1	0	Mercury Containing Items	0	0.0	0
Clean Unpainted Gypsum Board	5.3	1.3	0	Oil Paint	5.7	0.3	0
Concrete	12.3	1.6	0.2	Other Automotive Fluids	0	0.0	0
Other C & D	33.9	1.9	0.2	Other HHW	13.3	0.8	0.1
Painted Gypsum Board	6.7	0.5	0	Plant/Organism/Pest Control/Growth	0	0.0	0
Painted Wood	18.5	4.6	0	Sewage Solids	0	0.0	0
Plastic C & D materials	3.7	0.2	0	Sharps & Infectious Waste	0	0.0	0
Reinforced Concrete	1.8	0.2	0	Used oil Filters	12.5	0.6	0.1
Rock & Other Aggregates	4	0.3	0	TEXTILE	2965.9		
Roofing	0.1	0.0	0	Carpet	219.8	9.6	1
Treated Wood	14.8	0.8	0.1	Carpet Padding/rug	390.8	16.6	0.9
Wood Pallets	91.4	4.3	0.3	Clothing	1655.7	69.0	0.8
INORGANICS	437			Other Textiles	699.3	29.2	0.7
Computer Equipment Peripherals	0	0.0	0	OTHERS	559.7		
Computer Monitors	0	0.0	0	Factory dust(soapy)	540	90.0	0
Electronic Equipment	50.7	2.6	0.1	Iron	19.6	3.3	0.4
Fluorescent Light	10.2	0.4	0	Stainless Steel	0.1	0.1	0
Household bulky items	178.6	7.6	0.2				
Lead-acid Batteries	0	0.0	0				
Other Household batteries	0.1	0.0	0				
Television Sets	4.5	0.3	0	Total Percentage	100		
Tires	192.9	10.7	0.5	Total Kg	25535.7		
White Goods - not refrigerated	0	0.0	0				
White Goods - refrigerated	0	0.0	0				
SEHOLD WASTE (HHW)	219.4						

