ENVIRONMENTAL MANAGEMENT PLAN (EMP) OF EXTENSION ONE ESTATE AT OKOMU-UDO IN OVIA SOUTHWEST LOCAL GOVERNMENT AREA, EDO STATE, NIGERIA

SUBMITTED TO

NATIONAL ENVIRONMENTAL STANDARDS AND REGULATIONS ENFORCEMENT AGENCY (NESREA)

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Environmental Management Plan (EMP) of Okomu Oil Palm Company Plc (Extension One Estate) at Okomu-Udo in Ovia Southwest Local Government Area, Edo State, Nigeria

Submitted to:

National Environmental Standards and Regulations Enforcement Agency (NESREA)

Prepared by

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ACRONYMS AND ABBREVIATIONS

AAWUN	Agricultural and Allied Workers Union of Nigeria
AGO	Automotive Gas Oil
BOD	Biochemical Oxygen Demand
CBD	Convention on Biological Diversity
CO	Carbon monoxide
CO_2	Carbon dioxide
COD	Chemical Oxygen Demand
^oC	Degree Celsius
CFCs	Chlorofluorocarbons
CITES	Convention for prevention of International Trade in Endangered Species
CSR	Corporate Social Responsibility
DO	Dissolved Oxygen
DPR	Department of Petroleum Resources
EAuR	Environmental Audit Report
ECM	Environmental Compliance Monitoring
EFB	Empty Fruit Bunch
EIA	Environmental Impact Assessment
EMP	Environmental Management Plan
FDS	Foremost Development Services Limited
FFB	Fresh Fruit Bunch
FMEnv.	Federal Ministry of Environment
GHG	Green House Gas
Ha	Hectare
HSE	Health Safety and Environment
IEC	Informative, Educative and Communication
IFC	International Finance Corporation
IIBP	Industry International Best Practice
IPA	Impact Producing Activity
IPM	Integrated Pest Management
IPO	Initial Public Offer
ISO	International Organization for Standardization
Km	Kilometer
LCA	Life Cycle Analysis
LGA	Local Government Area
MT	Metric Tonne
NESREA	National Environmental Standards and Regulations Enforcement Agency
NO_x	Oxides of Nitrogen
OOPC	Okomu Oil Palm Company
PHI	Public Health Impact
PMS	Premium Motor Spirit
PPE	Personal Protection Equipment
SDS	Safety Data Sheet
SIA	Social Impact Assessment
SO_2	Sulphur dioxide
SPM	Suspended Particulate Matter
TSS	Total Suspended Solids
UNFCCC	United Nations Framework Convention on Climate Change
UNICEM	United Cement Manufacturing Co. Ltd
WHO	World Health Organization

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Executive Summary

ES 1.0 The Proponent

The Okomu Oil Palm Company Plc (OOPC Plc) is a leading agricultural establishment in Nigeria. The company specializes in the establishment and maintenance of oil palm and rubber plantations and has been in operation for over 35years. The company specializes in plantation development and production of special palm oil, palm kernel oil, palm kernel cake and rubber.

ES 2.0 Location and Access

The company is located at Okomu-Udo, within the Okomu Forest Reserve in Ovia Southwest Local Government Area of Edo State, Nigeria. The company is accessible through a network of roads from Lagos and Benin City. It lies between latitude $5^0$07' and $5^0$25' N and longitude $6^0$18' and $6^0$26' E.

Within the estate, there is over 600.04 km earth road network at Main and Extension One estates, ensuring that all the features and plantation field are easily accessible.

ES 3.0 Project Description

The environmental management plan of the extension One Estate was carried out to assess the environmental performance of Okomu OPC Plc – Extension One Estate from the point of view of conformance to local, national, and international environmental legislation, regulatory standards, best management practices (BMP) and international best practices (IBP). The EMP covered all the facilities, processes, and operations of the company.

A total area of about **6,116.53 Hectares** of which about **1,980.24 Hectares** for oil palm plantation of which **1,968.5 Hectares** are matured and **1,811.6 Hectares** for rubber plantation of which **1,277.4 Hectares** are matured. The balance of the land holding has been developed into offices, residences, conservation, and infrastructure. The lifespan of oil palm and plantation project is about 200 years.

ES 4.0 Audit Findings

In addition to land use, extensive reserves of natural vegetation were established as riparian buffer zones along the streams that drain the plantation and occupy about **415.41 hectares** which is about **6.79%** of the concession area for the estate. The buffer zone has been well maintained, and they provide important habitat for flora and fauna.

Soil conservation practices are well understood and implemented across the plantation estate. The roads appeared well constructed and maintained with appropriate drainage measures and sediment traps in place.

There is also a well-developed program for integrated pest management (IPM), but

more tall trees should be retained at new development sites for attracting birds of prey. However, the approach to pesticides use is well controlled and consistent across the plantation estate.

The company maintains a list of statutory permits and certificates relevant to different operations and equipment in use. A good number of these permits and certificates have been obtained or revalidated. The level of performance of the company has been improved in this regard.

The quality of the environment is high with good housekeeping at the offices and staff housing. Also, the basic information for the protection of the environment, and the basic education and consciousness for safety at workplaces have been established with high sense of safety responsibility as demonstrated by workers across board.

The operations in the plantation and other workplaces are fraught with hazards and pollution potentials. However, the company has put in place a number of abatement measures including the provision of PPE to protect workers against workplace hazards and pollution prevention. In similar vein, a number of provisions have been made for waste reuse, waste reduction and recycling. The provisions include the use of EFB as mulch on the plantation.

The waste management system is good. For all solid waste streams, reasonable provisions have been made for collection, transportation, disposal and segregation.

Signage relating to safety education and safety warnings is considerably pasted but there is need for more posters, boards, and safety related messages at workplaces.

ES 5.0 Laboratory Results

The results of laboratory analysis obtained during this exercise show that the groundwater quality is good and free from pollution except pH which was slightly acidic (4.94), which is below the FMEnv and WHO (2004) drinking water guideline of pH 6.5-8.5.

The ambient air quality measurements undertaken during the exercise revealed that the ambient air quality is good with the concentrations of gases monitored within the FMEnv Limit.

The result has shown that some parameters such as Carbon dioxide ranges between 404 – 428ppm; Carbon monoxide, 1 – 2ppm; Hydrocarbon, <0.1%, and Nitrogen oxides, <0.01ppm which are within FMEnv permissible limits of ambient, 10-20ppm, Nil and 0.4-0.6ppm, respectively except Suspended Particulate Matter (SPM) which ranges between 154 - 256µg/m^3 which exceed FMEnv permissible limits of 250µg/m^3.

The noise level conforms to the NESREA and FMEnv. limit of 90 dB (A) for 8-hour exposure at all the location. The levels range from 52.2dB(A) – 89.4 dB(A).

ES 6.0 Conclusion and Recommendation

The EMP revealed that the company has made tremendous efforts in sustaining the environmental quality as a result of its improved environmental management system. More specifically, the company has expressed its commitment to conformance to legislation, waste reduction and continuous improvement in its environmental obligations as contained in its environmental policy and the environmental policy enjoys wide circulation internally. The company also has another policy relating to the development of the host communities so also child labour and some other policies as it affects its operations.

The EMP has also identified the need for continuously undertaking training and education of workers widely on related environmental, safety and health issues. For all the observed limitations, non-conformances and poor performances, appropriate recommendations have been made for improvement.

Robust environmental action plans (EAPs) have also been developed in order to bring to effect the recommendations arising from this audit for the estate. It is recommended that the EAPs be diligently implemented.

CHAPTER ONE

1.1 Introduction

The Okomu Oil Palm Company Plc (OOPC Plc) is a leading agricultural establishment in Nigeria. The company specializes in the establishment and maintenance of oil palm and rubber plantations and has been in operation for over 35years. The company has incorporated remarkably high environmental standards in its operations and is committed to continual improvement in its environmental management system.

The company commissioned Foremost Development Services Limited (independent environmental consultants) to carry out an Environmental Management Plan of its processes and operations covering its plantations and supplementary facilities. The objective is to determine and thereby provide regulatory bodies (such as NESREA and Edo State Ministry of Environment and Sustainability) with a clear indication of the overall environmental performance of the company for the period covered by this EMP.

The study involves the examination of operations, records, and data between ***2023 and 2024*** vis-à-vis conformance to state, national and international legislations, fieldwork inspections and interview of employees. In addition, some physical environmental factors were sampled, and the samples collected were later analyzed in the laboratory.

An overall assessment of the operations is then summarized in Chapter Seven (Summary of Findings and Recommendations) and a robust prioritized Environmental Action Plans in Chapter Eight for the changes that have been recommended for improving the environmental, health and safety performance.

This report is structured to present the description of the facilities and processes, provide information on environmental planning approvals, followed by analysis and facility audit in the sequence of topics listed in the IFC's Environmental, Health, and Safety Guidelines for "Perennial Plantation Crop Production" (IFC, March 30, 2016).

1.2 Mission Statement of Okomu Oil Palm Company Plc Our Mission is:

To be Nigeria's leading agro business, through the efficient and effective management of our various plantations by a highly motivated workforce, working in harmony with our stakeholders, and continuously returning favourable results to our shareholders.

Our Core Values

- Honesty
- Service
- Adherence to rules
- Recognition (Respect and Reward)

1.3 Regulatory Bodies

1.3.1 Local Government Area

The Ovia Southwest Local Government Area Council is the tier of government that is responsible for regulating and monitoring the environment at the local level especially the aspects of health and sanitation inspection of business premises to ensure that they conform to set standards.

1.3.2 State Ministry of Environment

The Edo State Ministry of Environment and Sustainability is the arm of government responsible for regulating the environment in Edo State of Nigeria. Depending on certain peculiarities of the State, the Ministry has made and established its own laws and environmental standards, which are not inconsistent with Federal laws.

1.3.3 Federal Ministry of Environment

The Federal Ministry of Environment is the apex body with the broad mandate to regulate and protect the environment in Nigeria. The Ministry has enacted a number of environmental laws and regulations. In addition, Nigeria is party to some international agreements; protocols and conventions on Environment and is bound by their provisions and requirements. Some of the relevant laws and regulations are presented below.

1.4 Review of Relevant Environmental Legislation

Some of the national legislation relevant to the project operations are listed below:

- Environmental Impact Assessment (EIA) Act, Cap E12 LFN 2004.
- National Guidelines and Standards for Environmental Pollution Control in Nigeria, 1991.
- Harmful Waste (Special Criminal Provisions) Act of 1988.
- National Guidelines for Environmental Audit in Nigeria, 1999.
- National Guidelines on Environmental Management System in Nigeria, 1999.
- National Environmental Standards and Regulations Enforcement Agency, (Establishment) Act No. 25, 2007.
- National Environmental Protection (Pollution Abatement in Industries and Facilities Generating Wastes), Regulations S.I.9 of 1991.
- National Environmental Protection (Management of Solid and Hazardous Wastes) Regulations, S.I.15 of 1991.
- National Environmental (Sanitation and Waste Control) Regulations, S.I.28 of 2009
- National Environmental (Noise Standards and Control) Regulations, S.I. 35 of 2009.
- National Environmental (Surface and Groundwater Quality Control) Regulations, S.I. 22 of 2011.

- National Environmental (Air Quality Control) Regulations, S.I. 64 of 2014.
- Factories Act CAP F1 LFN 2004
- Land Use Act, CAP L5 LFN 2004
- The National Policy on Environment, 1989 (revised 2016).

National Policy on Environment

The National Policy on Environment (revised 2016) provides for "a viable nationalmechanism for cooperation, co-ordination and regular consultation, as well as harmonious management of the policy formulation and implementation process which requires the establishment of effective institutions and linkages within and among the various tiers of government, federal, state and local governments".Prior to the launching of this policy, there was no unified co-ordination of activities of the 3-tiers of government responsible for the environment.

***Environmental Impact Assessment* (EIA Act CAP E12 LFN 2004)**

EIA act was promulgated in 1992. It makes environmental impact assessment (EIA) mandatory for all new major projects. Therefore, an EIA is requested by the Federal Ministry of Environment for the proposed project.

National Guidelines and Standards for Environmental Pollution Control in Nigeria 1991

This schedule deals with the control of industrial effluent discharge, gaseous emissions, and hazardous wastes, so also noise pollution control. This schedule established environmental guidelines and standards for the abatement and control of all forms of pollution.

The proposed and/or project would therefore have to ensure that any discharges into the land, water and atmosphere are of acceptable quality to ensure that there are no legal repercussions under this schedule.

National Pollution Abatement in Industries and Facilities Generating Wastes Regulations S.I.9, 1991

This regulation requires every industry to install anti-pollution/pollution abatement equipment to treat effluent discharges and gaseous emissions to the standards and limits prescribed in Regulation S.I.8, 1991.

Waste Management and Hazardous Wastes Regulations S.I.15

This regulation requires that all steps that are necessary must be taken for the effective management of solid and hazardous wastes in order to safeguard public health, also ensure that waste is collected, stored, transported, recycled, reused or disposed in an environmentally sound manner and promote safety standards in relation to such waste.

National Environmental (Sanitation and Waste Control) Regulations, 2009 (S.I.28)

The purpose of these regulations is the adoption of sustainable and environment friendly practices in environmental sanitation and waste management to minimize pollution. The provisions of the regulations state that a person in care, management or control of any industrial facility shall:

(a) Provide educational and pictorial signs to direct persons where they can drop waste.
(b) Provide receptacles for recyclable materials in appropriate and easily accessible locations.
(c) Keep the premises, drains and all public or private lands, street, lanes, walkways; beaches or docks within 5 meters of the boundary of the property free from litter always.
(d) Ensure that discarded materials are regularly collected and disposed of sanitarily.
(e) Ensure that recyclable materials are properly packed and neatly stacked.
(f) Ensure sorting and segregation of solid waste at source.

National Environmental (Noise Standards and Control) Regulations, 2009 (S.I.35)

The purpose of these regulations is to ensure maintenance of a healthy environment for all people in Nigeria, the tranquility of their surroundings and their psychological well-being by regulating noise levels and generally, to elevate the standard of living of the people. The regulations among others state the permissible noise levels to which a person may be exposed; control and mitigation of noise; permits for noise emissions in excess of permissible levels; and enforcement.

Land Use Act, Cap L5 LFN 2004

The Nigerian Land Use Act 1978 was promulgated in March 1978. It vests all land in each state of the federation (except land already vested in the Federal Government or its agencies) in the Governor of the state. It makes the state Government the authority for allocating land in all urban areas for residential, agricultural commercial and other purposes while it confers similar powers regarding non-urban areas on the Local Government in such area. The Governor of a state can revokes a Right of occupancy (statutory customary) for overriding public interest.

Factories Act CAP F1 LFN 2004

The regulations for Health, Safety and Welfare are under this act. This act also requires that: Before any person occupies or uses as a factory any premises which were not so occupied at the commencement of this Decree, he shall apply for the registration of such premises by sending to the Director of Factory an application containing the particulars set out in Schedule 1 to this Decree.

Any person who has not been issued a certificate of registration as aforesaid occupies or uses as a factory any premises that have not been registered as a factory shall be guilty of an offence.

1.5 International Agreements and Protocols

Nigeria's commitments to global environmental agreements includes:

The Montreal Protocol, 1985: on substances that deplete the ozone layer and the promotion of the synthesis of new and environmentally friendly products.

The Basel Convention, 1989: for the control of Trans-boundary Movement of Hazardous Wastes and Substances and their disposal.

The United Nations Framework Convention on Climate Change (UNFCCC), 1992): to stabilize atmospheric concentrations of greenhouse gases at levels that will prevent human activities from interfering dangerously with the global climate system.

The Convention for the Prevention of International Trade in Endangered Species, (CITES), 1973: regulates trading with/trade restrictions involving certain wild animals and plants whose numbers are considered to be endangered.

Convention on Biological Diversity (CBD), 1992: on the conservation of biodiversity; the sustainable use of its components; and the fair and equitable sharing of the resulting benefits.

International Financial Corporation (IFC) Performance Standards: international guidelines of IFC Performance Standards which include:

- **Performance Standard 1:** Assessment and Management of Environmental and Social Risks and Impacts
- **Performance Standard 2:** Labor and Working Conditions
- **Performance Standard 3:** Resource Efficiency and Pollution Prevention
- **Performance Standard 4:** Community Health, Safety and Security
- **Performance Standard 5:** Land Acquisition and Involuntary Resettlement
- **Performance Standard 6:** Biodiversity Conservation and Sustainable Management of Living Natural Resources
- **Performance Standard 7:** Indigenous People
- **Performance Standard 8:** Cultural Heritage

IFC- Environmental Health and Safety (EHS) Guidelines for Perennial Crop Production.

1.6 Company Information

1.6.1 Company History

The Okomu Oil Palm Company Plc (OOPC Plc) is an agricultural and food- processing company located at Okomu-Udo, Ovia Southwest Local Government Area, Edo State, Nigeria. The company specializes in plantation development and production of special palm oil, palm kernel oil and palm kernel cake. It started operation in 1976 as a Federal Government project and was privatized in 1990. The Bendel State government granted the company a total concession of about 15,000 hectares within the Okomu forest reserve in 1978. About 15,580 hectares of the total concession at the main estate has been developed into oil palm and rubber plantations.

In addition to this, the company acquired the rights and concessions of about 6,116 hectares of land east of the Okomu National Park, inside the Okomu Forest Reserve. This piece of land is called Extension One. The land had been developed into oil palm and rubber plantation. Presently, about 3,791.84 hectares of Extension One has been developed into oil palm and rubber.

Okomu Oil Palm Company Plc has over 12,000 individual and institutional shareholders, both Nigerian (40%) and foreign (60%). The company employs about 331 permanent workers including expatriates and Nigerians at management, intermediate, and junior cadres and about 4,331 third party workers and 1,860 daily rated (contract) workers.

1.6.2 Location and Access

The company is located at Okomu-Udo, within the Okomu Forest Reserve in Ovia Southwest Local Government Area of Edo State, Nigeria. The company is accessible through a network of roads from Lagos and Benin City. It lies between latitude $5^0$07’ and $5^0$25’ N and longitude $6^0$18’ and $6^0$26’ E.

Within the estate, there is over 600.04 km earth road network at Main and Extension One estates, ensuring that all the features and plantation fields are easily accessible.

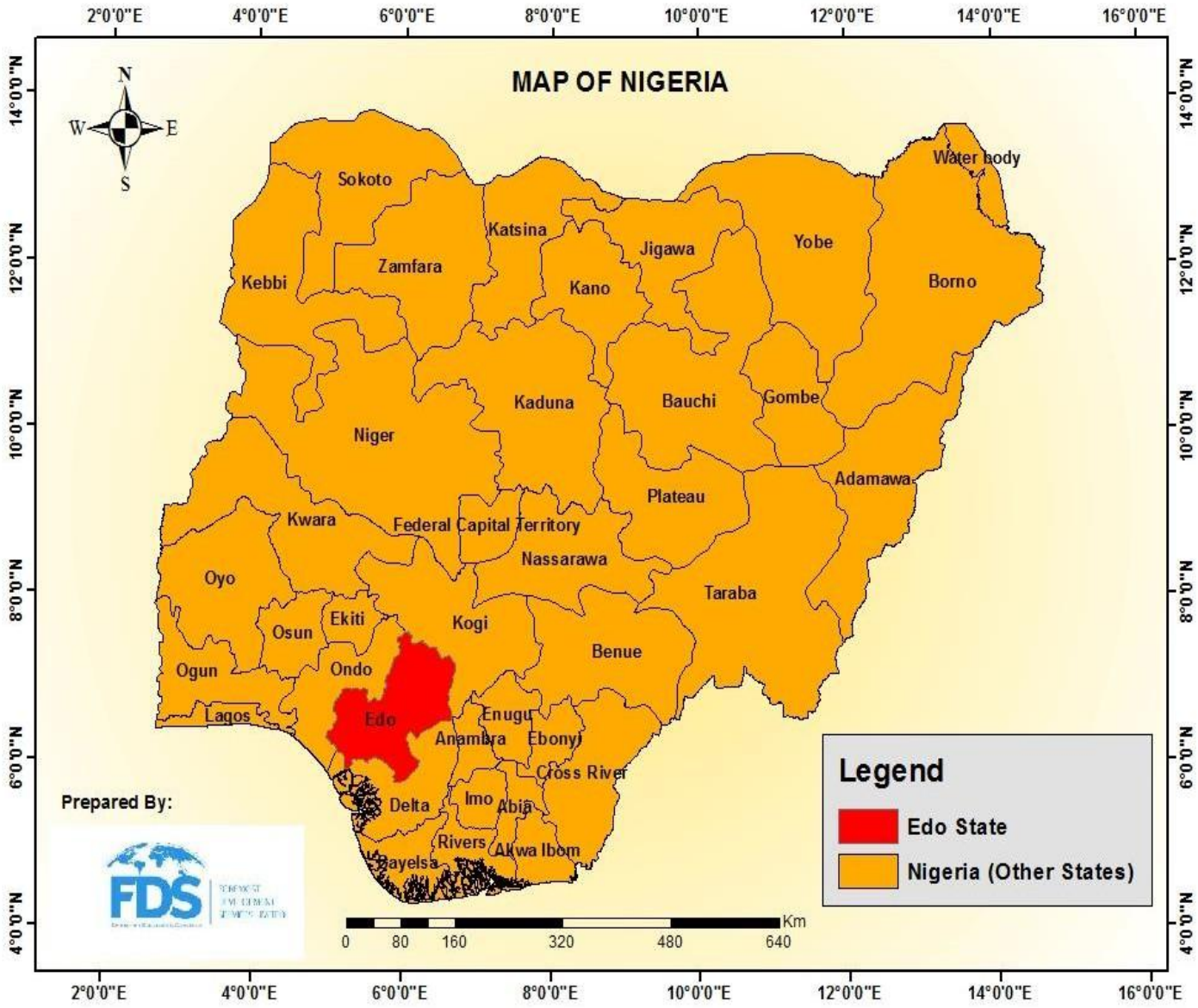


Figure 1.1: Map of Nigeria Indicating Edo State

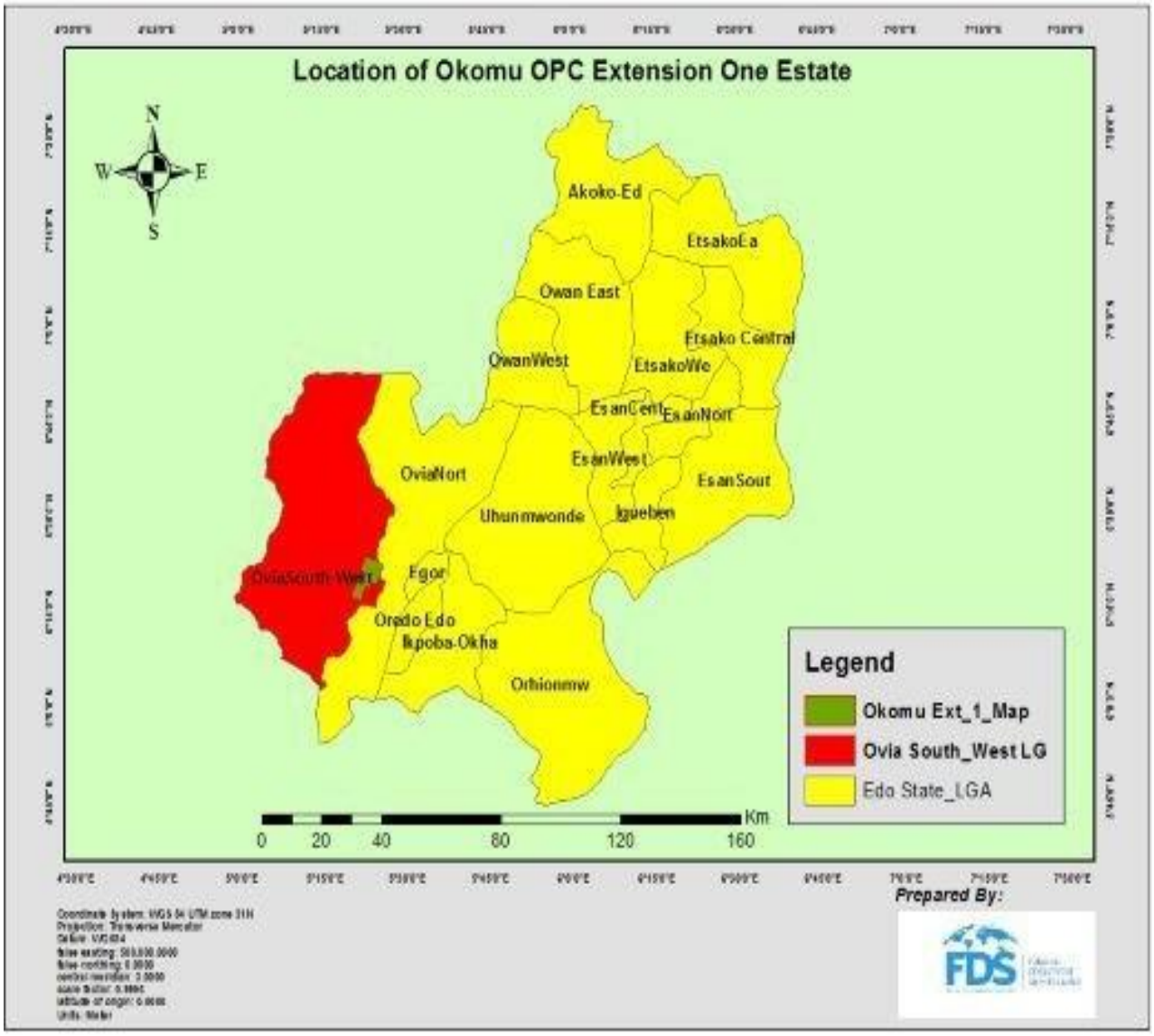


Figure 1.2: Location of Okomu-OPC Extension One Plantation in Relation to Ovia Southwest LGA and Edo State of Nigeria

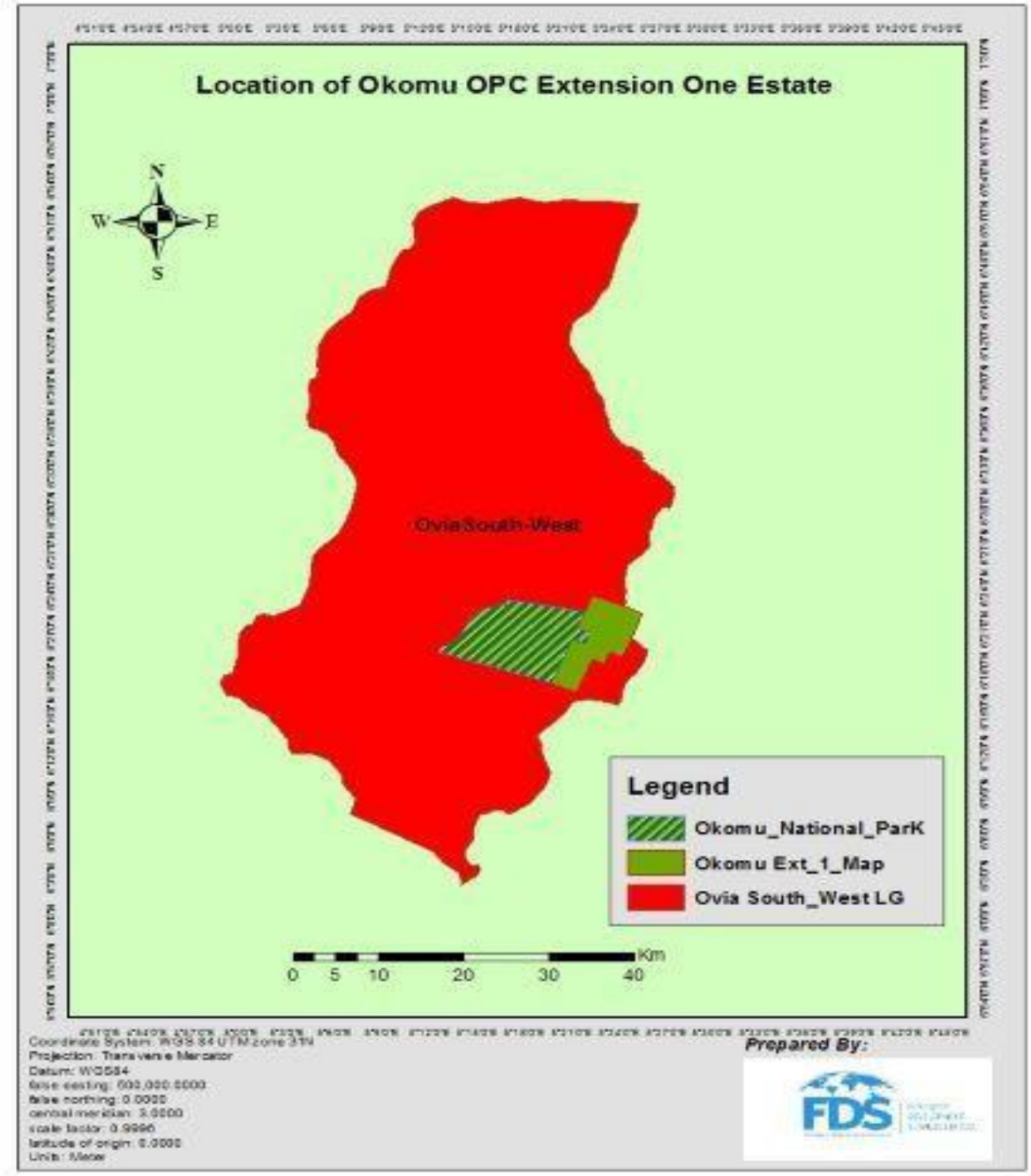


Figure 1.3: Location of Okomu OPC Extension One Plantation in Relation to Ovia Southwest LGA and Okomu National Park

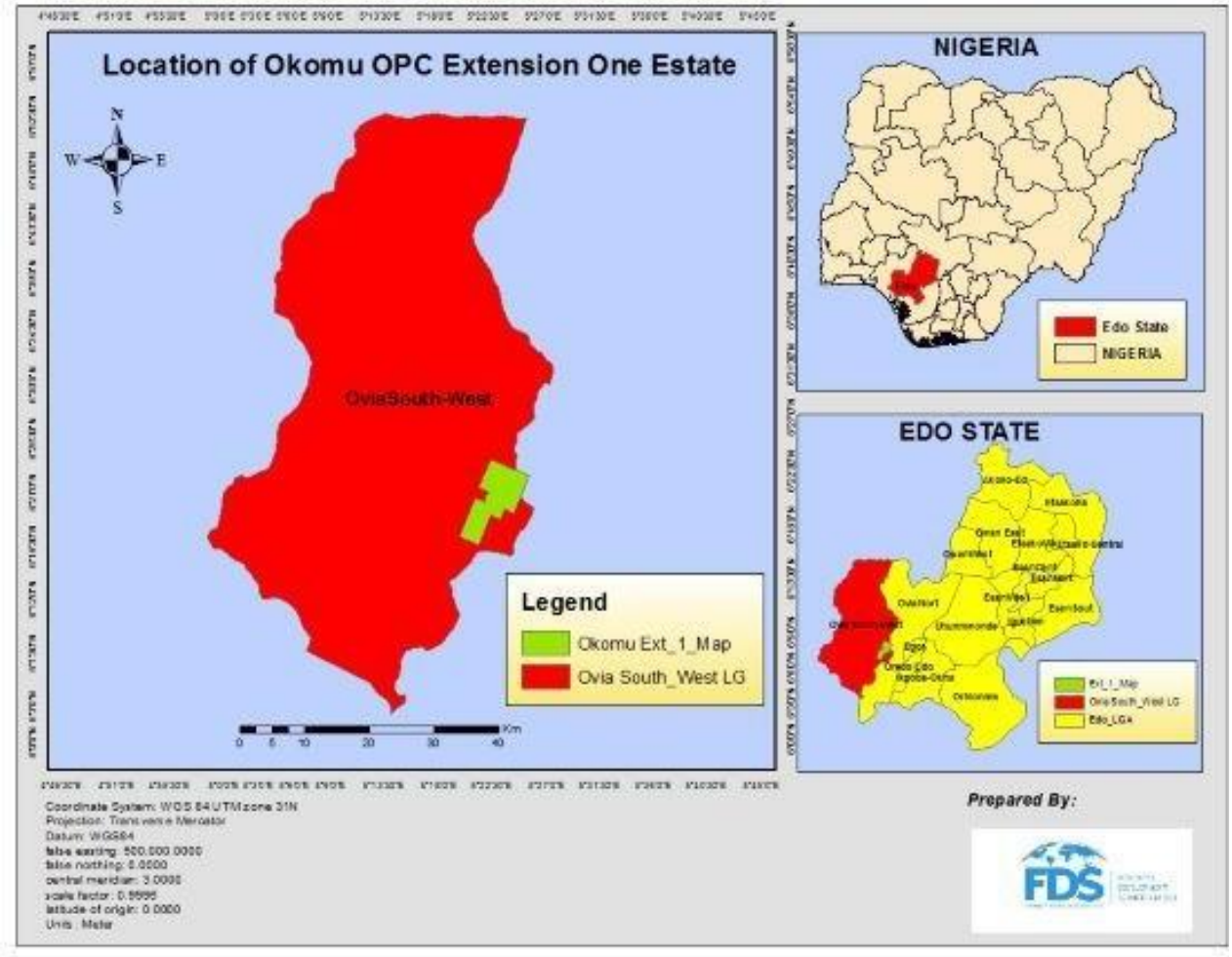


Figure 1.4: Location of Okomu OPC Extension One in Relation to Ovia Southwest Local Government Area, Edo State and Nigeria

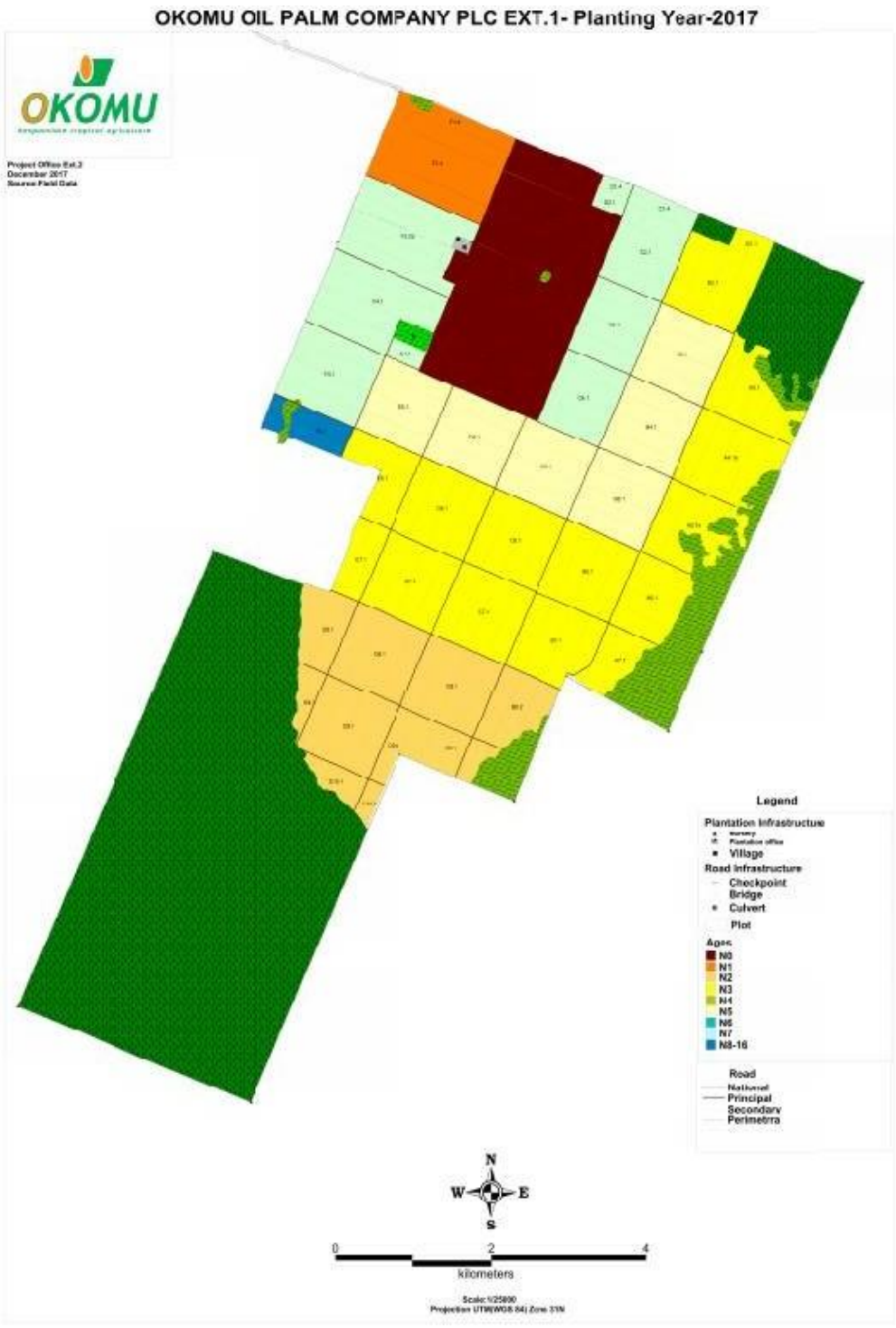


Figure 1.5: Extension One Estate Plantation Map

Source: Okomu OPC Plc HSE Department (December 2024)

1.6.3 Activities

The estate undertakes plantation agriculture involving the growing and harvesting of oil palm (*Elaeis guineensis*). The company is also involved in the planting and tapping of rubber trees (*Hevea brasiliensis*). The major operations of Extension One estate include oil palm and rubber plantation development and management.

1.7 Objective of the EMP

The objective of this EMP is to evaluate and determine the environmental performance of the OOPC Extension One Estate from the point of view of conformance to local, national, and international laws and standards, and industry best and management practices.

1.8 Period of EMP

The Environmental Management Plan exercise was undertaken from 12th December – 13th December 2024.

1.9 Terms of Reference (ToR)/Scope of EMP

The detailed Terms of Reference are provided in Annexure I.

CHAPTER TWO

2.0 Description of Facilities and Processes

2.1 Infrastructure & Services

The infrastructure and services provided on the estate include road network, electricity supply, water supply, communications, fuel supply, storage services and health care delivery.

2.1.1 Electricity

At the estate, adequate electricity is supplied from the powerhouse. The powerhouse is equipped with two (2 Nos.) heavy-duty industrial diesel engine generators of different ratings. The electricity generated from the powerhouse is supplied to the offices and residences.

Plate 2.1: Powerhouse within the Estate

Table 2.1: Make, Model and Capacity of Electricity Generating Systems

S/No.	MAKE & MODEL & CAPACITY	FLEET NO.	LOCATION
1	PERKINS GEN SET - 500KVA	GS-5793B	Powerhouse
2	PERKINS GEN SET - 250 KVA	GS-5809	Powerhouse

Source: HSE Office, OOPC Plc (December 2024)

2.1.2 Water Supply

Water supply in the estate is from boreholes. There are three boreholes as presented in Table 2.2 below.

Table 2.2: Major Sources of Water on the Estate

Borehole Location	No.	Remarks
Quarters	1	Functional
Palm Nursery	2	Nonfunctional at the time of audit

Both irrigation and potable water are sourced from groundwater. Water is distributed through a network of pipes connected to storage tanks that are located at strategic places.

2.1.3 Communication

Internal communication at the estate is effected through Radio communication (Walkie-Talkie) with the main estate, while external communication is made possible using the Global System for Mobile communication (GSM).

2.1.4 Fuel Supply

The major source of energy is fossil fuel. A fuel dump comprising of surface storage tank for AGO and Underground Storage for PMS.

Table 2.3: Fuel Storage

Type	Capacity	Type of Storage
AGO	31,640 Litres	Surface tank
PMS	10,000 Litres	Underground

2.1.5 Fire Services

A designated fire station has been established to provide fire prevention and control services on the estate. So also, fire extinguishers are positioned at strategic locations on the estate.

Plate 2.2: Stand-by Fire Fighting Truck

Plate 2.3: Stand-by Fire Fighting Water Reservoir

2.1.6 Roads

There is a network of earth roads connecting all workplaces and facilities.

2.1.7 Stores

There are two (2 Nos.) stores on the estate for the storage of plantation tools, materials, agrochemicals, and fertilizer as presented in Table 2.4 below.

Table 2.4: Location of Stores on the Estate

S/No	Name	Contents	Location
1.	General Store	Plantation tools and materials	Administration block
2.	Fertilizer store	Fertilizers and Agrochemicals	Adjacent the administration block (Newly built, well secured)

Plate 2.4: Fertilizer and Agrochemical Store

2.1.8 Weather Station

There is a weather station close to the fertilizer and agrochemical store, equipped with rain gauge, thermometers and piche-evaporimeter to collect data on rainfall, temperatures, and evaporation respectively.

Plate 2.5: Weather Station

2.1.9 Clinic

A clinic is located within the administration office to provide medical services to workers and their families. The clinic handles observation/monitoring and minor health cases. The medical staff includes three (3 Nos.) qualified and registered nursing officers, one (1No.) Ward Aid and one (1No.) driver. The clinic is an extension of the main estate's clinic.

The common treatments are malaria and non-industrial musculoskeletal problems. The Company has a retainer agreement with Gift Medical Centre, Astriel Hospital, Ihenyen Hospital and Mayor Medical for eye care. At the time of this audit the clinical practices and housekeep were satisfactory. Also, the clinic has one standard ambulance on standby for emergencies.

Plate 2.6: Picture Showing the Provided Stand-by Ambulance

2.1.10 Office Accommodation

A bungalow provides office accommodation for plantation administration and security staff.

2.1.11 Residences

Accommodation is provided for workers and their families on the estate. Two types of residential accommodation are available for junior and senior staff.

2.1.12 Recreation

A football field and staff club house were provided for recreation purposes.

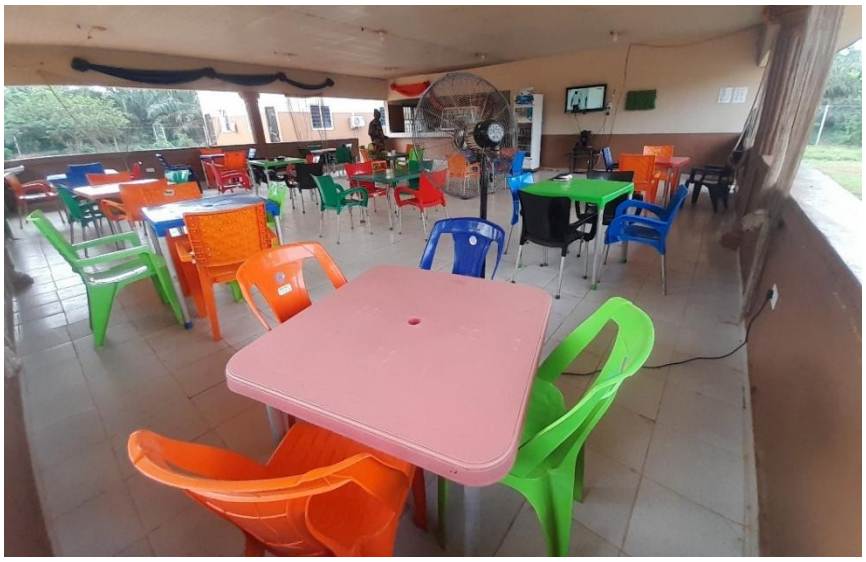


Plate 2.7: Picture Showing the Staff Club House

2.1.13 Transportation

Two categories of vehicles are provided for transportation namely light vehicles fleet and heavy-duty fleet. The light vehicles fleet comprises 4-Wheel Drive Hilux and mini-buses while the heavy-duty fleet consists of tippers, tractors and staff bus for mass transportation of workers into and out of the estate.

Plate 2.8: Picture Showing Some of the Trucks Used within the Estate

2.1.14 Provision Stores

Provision stores operated by residents are scattered within the residences. There are 12 registered stores/markets within the estate. Provision items sold in the stores range from confectionaries, beverages, canned foods and drinks (alcoholic and non-alcoholic).

2.1.15 Chemical Pavillion

The chemical pavilion is located behind the fertilizer store. The section is well organized with access control. The chemical mixing area is well bound to prevent contamination of the soil or groundwater in the event of spill. The section is yet to be commissioned for use as at the time of this audit.

Plate 2.9: Chemical Pavillion

2.2 Palm Nursery

The palm nursery is about 11.74 ha. It is for the raising and nurturing of young seedlings of oil palm prior to establishment in the field. The nursery is equipped with sprinkler irrigation facilities and three (3 Nos.) balloon-like (made with polyphenyl material) water storage facilities. Oil palm seedlings are raised in poly bags, until they are 11-15 months old when they are ready for transplanting in the field.

2.3 Plantation

The plantation consists of both oil palm and rubber trees of different ages as follows.

2.3.1 Oil Palm Plantation

The total oil palm planting is 1,980.24 ha. Plantation development started in 2003 with an initial planting of 276.10ha and planting has progressed till 2021, thus giving the plantation age profile of 3-21 years.

2.3.2 Rubber Plantation

The total rubber planting is 1,811.6 ha. Plantation development started in 1988 with an initial planting of 250.0ha and planting progressed till 2013, thus giving the plantation age profile of 7-36 years.

2.4 Total Plantation Area

The total plantation area for both oil palm and rubber is 3,791,84 ha, comprising 1,980.24 ha oil palm plantation and 1,811.6 ha rubber plantation.

2.5 Oil Palm Field Layout

The plantation is laid out in fields of 25 hectares each. The planting rows are aligned North-South to allow for optimum light interception. The NIFOR "Tenera" type of oil palm was solely planted initially, while the IRHO Tenera and other types dominated the latter plantings.

2.5.1 Oil Palm Plantation Up-keep

Oil palm up-keep operations include pruning, weeding, slashing and fertilizer applications. Pruning is done manually, and the pruned fronds are laid down within the rows to conserve the soil. Avenue slashing is also done manually while ring weeding is done for individual palms either manually or by the application of herbicides.

Different formulations of fertilizer are used including NPK 15:15:15, 20:10:10, 12:12:17 + 2MgO (used in the nursery and for mature palms), Muriate of Potash (for mature palm), Borax (when there is Boron deficiency) and Kieserite (when there is Magnesium deficiency). Usually, fertilizer applications are well guided and based on results of leaf analysis.

In addition, leguminous cover crops, Pueraria is planted to provide ground cover and supply Nitrogen to the soil. Insect pest control is by Integrated Pest Management techniques combining cultural, biological, mechanical, and physical methods. Although no fungicides are used in the plantation, limited amounts are used in the nursery on a prophylactic basis.

2.5.2 Harvesting

Malaysian knife mounted on a long pole is used to harvest Fresh Fruit Bunches (FFB).

2.6 Rubber Field layout

The plantation is laid out in double and single line spacing. The planting rows are aligned North-South to allow for optimum light interception. The IRCA230 and PB314 rubber clones were solely planted initially, while the GT1 PB312, PB217, RRIC100 and RRIM703 dominated the latter plantings.

2.6.1 Plantation Up-keep

Rubber up-keep operations include pruning, line weeding, inter-row weeding and fertilizer application. Pruning is done manually to keep the shoot up to 2 meters high. This is done to achieve a flat panel of rubber trunk. Line weeding is done by the

application of herbicides.

Different formulations of fertilizer are used including rock phosphate and urea (used in the nursery and for immature rubber). Herbicides, including glyphosate for immature rubber lines and carbondazim for tree poisoning between the rows. Also, diuron is applied in the pegged rubber lines before transplanting in the field. Usually, fertilizer and herbicides application are well guided.

In addition, leguminous cover crops, Pueraria is planted to provide ground cover and supply Nitrogen to the soil. Insect pest control is by Integrated Pest Management techniques combining cultural, biological, mechanical, and physical methods. Although, fungicides are used but mainly in the nursery at limited amounts, these include fulpan, macozeb and foldazin (folpet, macozeb and foldazin as active ingredients).

2.6.2 Tapping

Tapping knife is used in tapping the mature rubber trees. The coagulated latex (cup lumps) is collected and transported to the cup lump shed inside the factory in trucks.

2.7 Land Use/Layout

The company operates two different plantations at extension one estate (Oil Palm and Rubber). The oil palm occupies a total area of about 1,980.24 ha, while rubber occupies 1,811.6 ha (see Extension One estate plantation map in Figure 1.5 above).

Furthermore, the land use within Okomu OPC extension one concession area is detailed in Table 2.5 below.

Table 2.5: Current Land Use

LANDUSE	**LOCATION (Ha)**
	Extension One Estate
Oil Palm:	
Mature Area	1968.5
Immature Area	Nil
Nurseries	11.74
Total Planted Area:	**1980.24**
Rubber:	
Mature Area	1277.4
Immature Area	534.2
Nurseries	
Budwood garden	
Total Planted Area:	**1811.6**

LANDUSE	LOCATION (Ha)
	Extension One Estate
Others:	
Housing/Office Area	9.11
Reserved Areas	415.41
Roads	173.47
Undeveloped Land	1726.7
Total Estate Land Area (Approx.)	**6116.53**

Source: HSE Office, OOPC Plc (December 2024)

The estate is divided into work areas for good management. Within the estate residential quarters are provided for the senior staff, junior staff, and contractors. The facilities and infrastructure in the estate include a dispensary, staff club house, guesthouse, road network, and powerhouse with generators for electricity supply. There are also boreholes with overhead tanks and ancillary facilities for pipe-borne water supply.

2.8 Organizational Structure

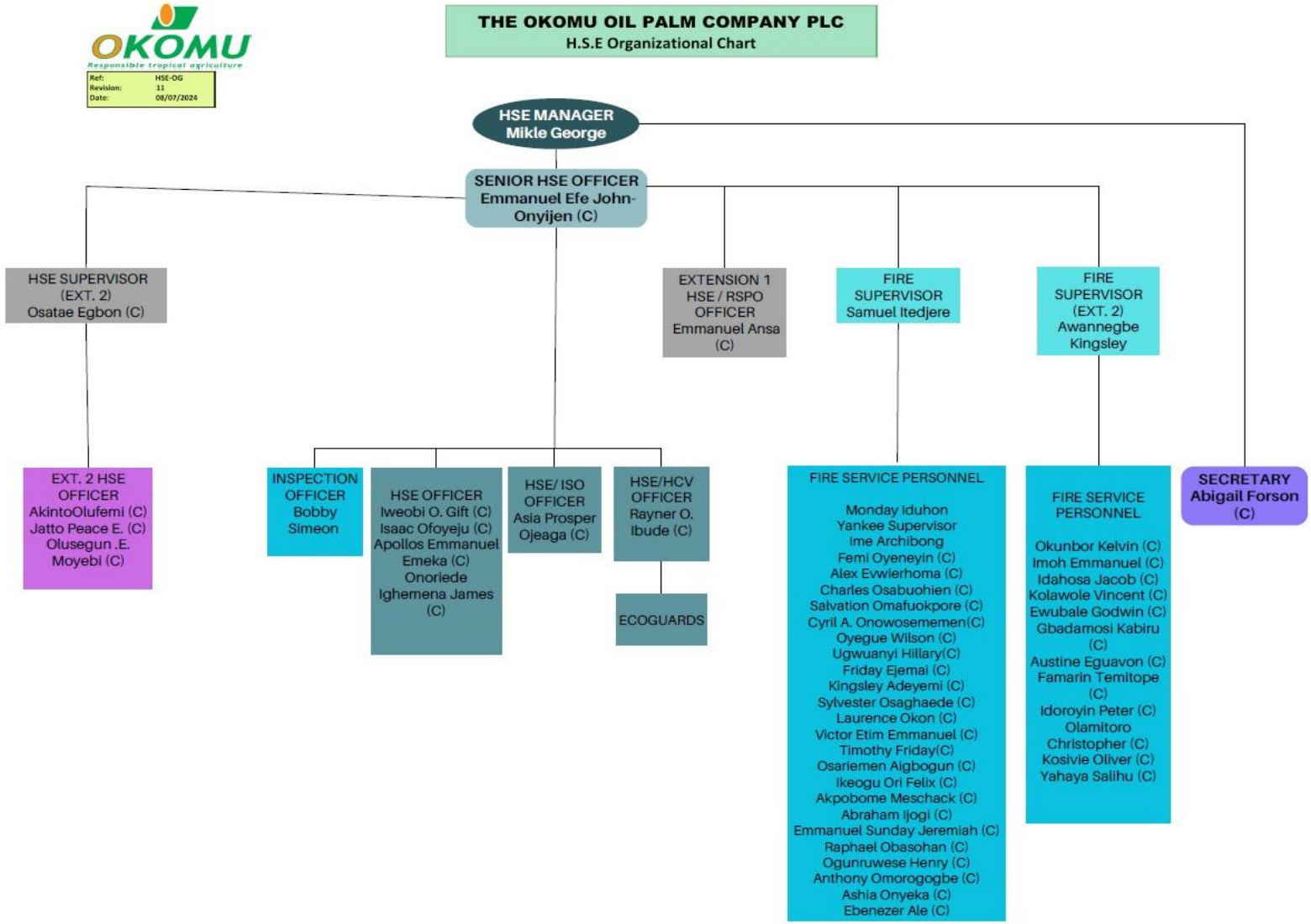


Figure 2.1: HSE Organogram

CHAPTER THREE

3.0 Site/Facility Inspection Audit

The audit of the facility and the existing Environmental, Occupational Health, and Safety Management System was carried out using the combination of the IFC's Environmental, Health, and Safety Guidelines for "Perennial Plantation Crop Production" (IFC, March 30, 2016), the National Guidelines for Environmental Audit Report (EAR) in Nigeria, Nigeria Factories Act, CAP F1 LFN 2004 and Industry/Management Best Practices.

3.1 General - Oil Palm and Rubber Plantation Management

ISSUE	GUIDELINES	CURRENT PRACTICE	REMARKS
• **Soil Conservation**	Practice reduced and zero tillage (often known as "low till" or "n till") as well as direct seeding and planting, to minimize damage to soil structure, conserve soil organic matter, and reduce soil erosion.	Harrowing is done every 25 years with the planting of cover crop.	This practice should always be adhered to when new planting commences.
	Minimize soil compaction, damage, or disturbance by using appropriate land preparation machinery at the right time of the year.	D8 machines are used instead of D9 dozer. In addition, heavy duty machines are not used when there is rainfall.	This practice should be sustained.
	Use cover crops such as, Crotalaria, Canavalia, Mucuna or Tephrosia; intercropping along contours with legumes such as *Cajanus, Sesbania, Lupinus, Tritolium*, and creating multi species shelterbelts, and/or windbreaks to reduce evapotranspiration and soil loss through water erosion.	Inter-rows are ploughed and cover crops such as *Pueraria plaseoloides* and Mucuna bracteata are broadcasted/ planted which grow vigorously and form a dense cover over the plantation (see Plate 3.1 below).	This practice should be sustained.

ISSUE	GUIDELINES	CURRENT PRACTICE	REMARKS
		 **Plate 3.1: Established Groundcover in Mature Palms**	
	Replenish soil organic matter by recycling crop residues, compost, and manures	During harvesting and pruning operations, crop residues such as detached fronds are neatly packed in alternate rows which later decompose and restore the soil. So also, are empty fruit bunches (EFB) recycled in 500 hectares/annum. These later decompose and restore the soil nutrients.	Current practice should be sustained
	Implement earthworks when weather conditions pose the lowest risk of causing environmental damage	Roads are constructed and/or maintained with a durable surface to minimize erosion and these are usually done during dry season	Current practice should be sustained
	Employ erosion control management practices (e.g., contour and strip planting, terracing, discontinuous trenching, intercropping with trees, and grass barriers) in sloping areas.	Erosion prevention and control are implemented through contour/panel and terrace planting.	No Action Required
	Draw up mitigation plans for planting or harvest operations that must take place during unsuitable periods.	The group New Planting Procedure (NPP) is available to address this.	NPP is strictly being followed
	Use flow control wires and diversion canals to reduce erosion in areas with field drainage	There are some natural drains, and some constructed ones regularly maintained such as side/sedimentation pits. For the control of runoff, especially on the plantation roads,	No Action Required.

ISSUE	GUIDELINES	CURRENT PRACTICE	REMARKS
		sedimentation pits are dug to reduce runoff and trap sediments in runoff water as could be found across the plantation field as depicted in Plate 3.2 below.	

Plate 3.2: Sedimentation and/or Side Pit on Roads

	Restrict the width of roads to the minimum that will provide the means for efficient and safe transport.	The width of road grading is usually 3m to 10m to avoid erosion and this is the usual practice across the plantation group.	Current practice should be sustained
• **Maintaining Soil Productivity**	Cultivate crops that are suited or adapted to the local climate and soil conditions and adopt good agronomic practices to optimize crop productivity	Okomu-OPC usually cultivates crops that are suitable for the area, climate, and soil. Good agricultural practices are practiced.	Current practice should be sustained
	Collect meteorological data on precipitation, evapotranspiration, temperature, photosynthetically active radiation, and use information to inform and guide agronomic and silviculture management techniques.	There are two (2Nos.) weather stations located by the nursery and beside the fertilizer store. The weather stations are equipped with rain gauge, wind vane, thermometers and piche-evaporimeter to collect data on rainfall, temperatures, and evaporation, respectively.	Current practice should be sustained
	Use soil maps and soil survey results to determine crop suitability and appropriate soil management practices	Soil maps are used, and soil survey done every 5-10 years.	Always ensure that soil survey is done for new plantation development.

ISSUE	GUIDELINES	CURRENT PRACTICE	REMARKS
• **Nutrient Management**	Develop and implement a soil monitoring and management plan that includes soil and terrain mapping and erosion risk identification.	This is done through identification of slopes with the aid of soil maps.	Current practice should be sustained
	Conduct regular surveys to monitor soil structure and chemistry in order to identify areas where remedial action is required.	Soil surveys are done every 5-10 years.	Current practice should be sustained
	Recycle and/or incorporate organic materials (e.g., crop residues, compost, and manures) to replenish soil organic matter and improve soil water-holding capacity.	Crop residues, especially palm fronds are retained in the field and empty fruit bunches (EFB) applied to the oil palm as manure as depicted in Plate 3.3 and Plate 3.4 below.	Current practice should be sustained

Plate 3.3: Palm Fronds Retained in the Field

Plate 3.4: EFB Applied in the Field as Manure

	Minimize the use of pesticides by implementing a pest and disease early warning system, by using biological pest and disease control methods, and by implementing control measures before outbreaks require large-scale control	The company has developed an integrated pesticide management programme that includes routine monitoring system every two months to observe pest attacks. The program provides for encouraging the use of birds as predators of oil palm pests and discourages the use of highly persistent and highly toxic pesticides.	Current practice should be sustained

ISSUE	GUIDELINES	CURRENT PRACTICE	REMARKS
	Required Use green manures, cover crops, or mulching techniques to maintain soil cover, reduce the loss of nutrients, replenish soil organic matter, and capture and/or conserve moisture	The main groundcover species are *Pueraria* and *Mucuna bracteata*, which grow vigorously and form a dense cover over the plantation. Where gentle slopes occur within the plantation, the palms have been planted in rows aligned with the contours, which provides an additional soil conservation measure.	No Action.
	Incorporate nitrogen-fixing legume crop plants and cover crops in the cropping cycle.	The main groundcover species are *Pueraria* and *Mucuna bracteata*, which are rich in Nitrogen. They are also known as nitrogen-fixing leguminous crops.	Current practice should be sustained
	Draw up balanced fertilizer programs for each soil management unit based on the results of mapped fertility results, soil and leaf analysis, and crop assessment.	Leaf (Foliar) analysis is carried out such that fertilizer application is based on plant requirement.	Current practice should be sustained
	Time the application of crop nutrients to maximize uptake and minimize nutrient runoff.	Fertilizer applications are at the beginning of the rainy season and towards the end of raining season.	Current practice should be sustained.
	Establish and respect setbacks from watercourses—including appropriate buffer zones, strips, or other "no-treatment" areas along water sources, rivers, streams, ponds, lakes, and ditches—to act as a filter for potential nutrient runoff from the land.	Buffer zone of about 50m to 150m along Riverbanks is created depending on the size of the river.	No Action Required
	Select and maintain fertilizer application equipment to ensure desired application rates are used and over broadcasting of solid fertilizers and overspraying liquid fertilizers are minimized.	Application is by manual and is measured by cup. Fertilizer applicators and agrochemical sprayers are under strict supervision. This is after receiving appropriate training on handling, storage, and transportation of hazardous substances.	Regularly give refresher training as at when due.

ISSUE	GUIDELINES	CURRENT PRACTICE	REMARKS
	Implement nutrient planning and documentation, which includes the use of a fertilizer logbook to record the following information: Dates of purchase, dates of use, amount of fertilizer and nutrient used (kg/ha), purpose of use, and crop growth stage. Weather conditions before, during, and after application. Methods used to minimize nutrient loss (e.g., incorporation into the soil, split applications, irrigation after application).	Records of application is kept in a notebook and the monthly record manual at Plantation department. Records of purchase dates is also kept at both plantation departments for both oil palm and rubber. Daily reports are made for the number of kilograms applied per tree and per field depending on the number of the palms alive.	Record keeping should be taken care of to meet with the reporting requirements of national and international sustainability standards (SON, ISO and RSPO).
	Provide farm operators with training in nutrient management following published principles and agricultural practice manual	Fertilizer rates are determined by fertilizer experts. Regular training conducted on hazardous substance/materials management	Intensify training on hazardous substance and hazardous waste management
	Ensure that all personnel are trained in and use appropriate management procedures for the storage, handling, and application of all types of fertilizers, including organic wastes	Appropriate PPE such as hand gloves, rain boots and raincoats are provided.	
	Personal Protective Equipment (PPE) should be used according to the Safety Data Sheets (SDSs) of the product or to a risk assessment of the fertilizer product. SDS should be available at each management unit.	Safety Data Sheets (SDSs) are available	Display SDS's by all chemicals and fertilizers.
• **Crop Residue and Solid Waste Management**	Recycle residues and other organic materials by leaving the materials on site or through composting (and spreading).	Organic materials are left in the plantation field as manure.	Current practice should be sustained.
	Consider the potential for harboring and spreading pests and diseases before implementing this practice.	The Plantation department takes this factor greatly into consideration.	No Action Required
	Disperse (or much) large vegetative structures (e.g., trunks, branches), unless there are compelling habitat and	Done regularly with harvesting and pruning.	

ISSUE	GUIDELINES	CURRENT PRACTICE	REMARKS
	biodiversity benefits identified in the Biodiversity Management Plan.		
	Consider using crop residues for other beneficial purposes, such as animal feed, bedding, or thatching, when leaving residues in the field is neither practical nor appropriate.	Crop residues are left in the field as organic manure	No Action Required
• **Water Management**	Determine rain or water irrigation requirements of the crop based on internationally recognized guidelines while recognizing seasonal variations and regional norms. When irrigation is practiced, develop an appropriate irrigation plan, and schedule, and monitor consumption and compare regularly with these targets.	Sprinkler and Sumisansui irrigation system are used in all the nurseries. The quantity of the water needed per palm is given without waste. Water used for irrigation is from groundwater sources which are pumped from boreholes to overhead storage tanks for distribution to the nursery.	Current practice should be sustained.
	Maximize the retention of rainwater through appropriate "rain harvesting" techniques, which may include: • Diverting water flow from roads and paths toward crops thus storing water in the soil and reducing the effect of short dry spells. • Storing runoff from rainy periods for use during dry spells by using tanks, ponds, cisterns, and earth dams.	There are some natural drains, and some constructed ones regularly maintained such as side/sedimentation pits. For the control of runoff, especially on the plantation roads, sedimentation pits are dug to trap runoff water and to also check and control erosion.	No Action Required
	• Controlling weeds through the use of cover crops, mulching, or herbicides to encourage beneficial but low-water-use soil cover plants. • Maintain protective vegetation in canals and drainage systems to reduce canal bank scouring and slow runoff.	The main groundcover species are *Pueraria* and *Mucuna bracteata*, which grow vigorously and form a dense cover over the plantation.	

ISSUE	GUIDELINES	CURRENT PRACTICE	REMARKS
	When irrigation is used, implement irrigation water conservation techniques, such as: • Ensure regular maintenance of the irrigation system, as well as that of its associated channels and infrastructure. • Maintain a water management logbook that records time and quantity of rainfall evaporation and the, amount of irrigation applied, and soil moisture levels (%), in order to verify both that irrigation is being used according to crop need and to develop an understanding of long-term trends in water use. • Reduce evaporation by avoiding irrigation during periods when evaporation is elevated (e.g., in periods of higher temperatures, reduced humidity, or high winds). • Use trickle or drip irrigation techniques (if practical) or install "under canopy" rather than overhead sprinklers. • Reduce evapotranspiration by using shelterbelts and windbreaks. • Reduce seepage losses in supply channels by lining them or using closed pipes. • Consider collecting runoff water (tail water) through catchments and pumps. • Employ a cutback furrow irrigation technique, slowing or stopping irrigation well before the	Regular maintenance of irrigation systems is being practiced with a logbook to estimate water use. Irrigation is usually done in the morning and evening time.	No Action Required

ISSUE	GUIDELINES	CURRENT PRACTICE	REMARKS
	water reaches the end of the furrow and discharges the environment. • If herbicides are used, ensure they are applied at the appropriate time of year to control undesirable vegetation and reduce their water consumption most effectively.		
• **Pesticide Management**	**The following measures are recommended to prevent and control the contamination of water sources: Avoid over-irrigation, which may result in the leaching of nutrients and contaminants**.		
	Use harvesting methods (such as directional felling) or other appropriate measures to minimize the number of debris deposited in streams.	Harvesting is done manually with debris deposited in the plantation field.	No Action Required
	Establish and respect setbacks and buffer zones in riparian areas. Buffer widths should be based on the specific risk, land management regime, and slope of the area.	Buffer zones of about 50m to 150m along Riverbanks is created depending on the size of the river.	No Action Required
	Remove harvest debris from streams and consider the use of debris traps such as trash lines where possible.		
	Have you identified the main pest associated with or affecting the crop?	The main insect pest is the leaf miner. The company monitors pest numbers in the plantations by carrying out checks monthly.	No Action Required
	Do you apply early warning mechanism for pest and disease i.e. (pest and disease forecasting technique).	There is phyto-sanitary team in place monitoring pest out-break monthly.	No Action Required
	What other control measures are in place other than dependency on pesticide use? In terms of biological control (birds, mites).	Use of pruning	No Action Required

ISSUE	GUIDELINES	CURRENT PRACTICE	REMARKS
	How do you store, handle, or apply pesticides?	Pesticides are stored in a safe storage area, separate from other products. Application is done only when necessary and with trained workers that are provided with adequate PPE. The storage is secure and well-ventilated, which meets safety requirements such as spill containment and safety signage.	Chemical Pavillion should be commissioned for use.
	Is there a pest management plan (PMP) that includes procedures for procurement, storage, handling, and ultimate destruction of all outs-of-date stock?	There is no case of out-of-date stock because Procurement is only done at the OOPC Main Estate, pesticide needed are only requested. Pesticides are minimally used and at the appropriate time usually at the beginning and toward the end of the rainy season.	No Action Required
• **Pesticide Storage**	Do you store pesticides in a bonded container or in a sufficient space that will capture spill?	Pesticides are stored in sufficient space that can capture spill.	No Action Required
	Verify if the store is set away from water sources, residential and built-up areas as well as livestock and food storage areas.	Chemical stores are not near any water sources, residential, food and livestock.	No Action Requited
	Are there spill kits in place in case of accidental spillage?	Spill kits are provided at all hazardous substance storage areas.	No Action Required
	Do you comply with storage instructions on the product label.	In full compliance with storage on product label.	
	How are spills cleaned?	Mop and collected back to the field	Appropriate spill kits are provided at the pesticide storage area.
	Do you have a register of all pesticides procured, records of when they were received, amount used and remaining in store.	Record available	

ISSUE	GUIDELINES	CURRENT PRACTICE	REMARKS
	Is there an SDS and is it appropriately located?	The company keeps an up-to-date inventory and safety data sheets (SDSs) are available.	Safety Data Sheets should be displayed at the fertilizer and Agrochemical Store.
• **Pesticide Handling**	Do operators read, understand, and follow product label instructions for mixing, safe application, and disposal?	Pesticide handlers receive instructions on a daily basis before going to the field.	This practice should be sustained
	Are personnel trained for critical operations such as mixing, transfers, filling of tanks and application?	Besides being given on the job instructions, pesticides handlers have also received formal training on health and safety considerations in pesticides handling and use. While pre-employment medical examination is mandatory for pesticides applicators as basis for employment. Moreso, periodic medical examinations are provided for them.	Organize formal training on the hazards, precautions and procedures for safe storage, handling and use of all potentially harmful materials relevant to each employee's task and work area.
	Are appropriate PPE worn during handling and application e.g., gloves, overalls, and eye protection	Necessary precautions are taken on the issuance and handling of pesticides. All workers involved in the handling and use of pesticides are kitted with appropriate personal protective equipment. The PPE provided includes protective clothing, hand gloves, eye goggles, caps, respirators, and boots. Washing facilities are also provided.	Enforce the use of appropriate PPE's when handling hazardous substance particularly agrochemicals
	Mixing and filling of pesticide tank should be set away from watercourse or drains and if it is on concrete, then water should be collected in a separate sump and disposed as hazardous waste.	Mixing pesticide is usually done on bunded concrete tank.	Mixing should be confined to the pesticide mixing chamber. Hence, the chemical pavilion should be commissioned for use.
• **Pesticide Application**	How is the application done?	Pesticides are usually applied using knapsack sprayers. Sometimes ULV applications are done using ULV sprayers, following strictly manufacturers' technical instructions. Pesticide	No Action Required

ISSUE	GUIDELINES	CURRENT PRACTICE	REMARKS
		applicants receive special training in the use and application of pesticides.	
	Do you do aerial application?	No aerial spraying is done	No Action Required
• **Pesticide Disposal**	How is un-used dilute pesticide, out of date, rinse water disposed?	The company only takes stock of what is required (agrochemicals) from Main estate.	No Action Required
		The company has not experienced any stock of outdated pesticides in recent time.	
	How are empty containers, lids, and foil seals treated?	Waste packaging from fertilizer is well controlled throughout the plantation. Empty fertilizer bags are collected and re- used for loose fruit collection. Empty plastic and metal pesticides containers are usually returned to the store (secure) at Main estate waiting for evacuation by suppliers.	Ensure that agrochemical containers are properly rinsed (triple) and residual water applied to the plantation field.
	Are there any agreements to how empty cans are taken off the plantation?	The company has reached an agreement with agrochemical suppliers to evacuate and return the empty containers to the manufacturers before the next supply.	The current practice should be sustained but establish that the empty agrochemical containers are returned to the manufacturers.

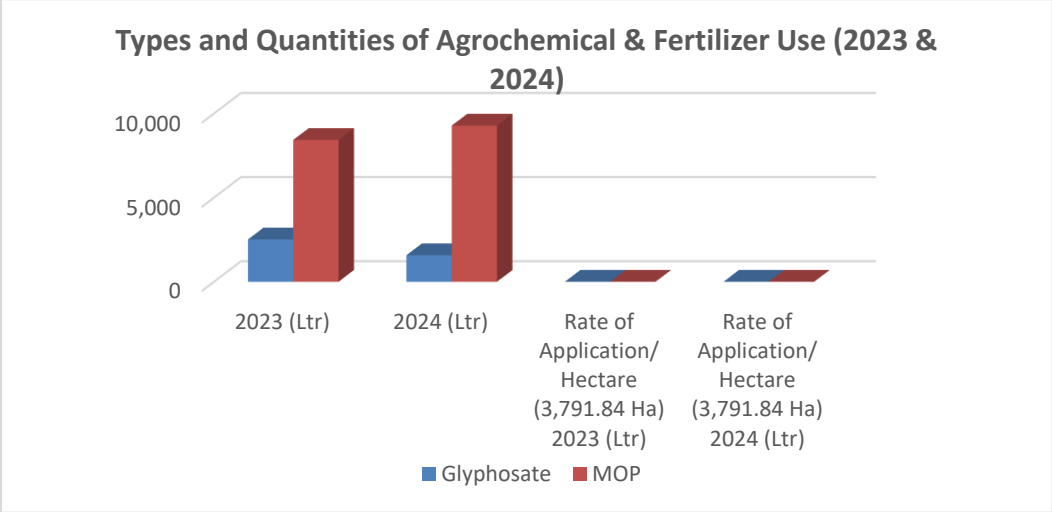
The types and quantities of agrochemical applied in plantation upkeep are presented in Table 3.1.

Table 3.1: Types and Quantities of Agrochemical & Fertilizer Use (2023 & 2024)

Types of Items	2023 (Ltr)	2024 (Ltr)	Rate of Application/ Hectare (3,791.84 Ha)	
			2023 (Ltr)	2024 (Ltr)
Glyphosate	2,515	1,575	0.7	0.4
MOP	8,430	9,280	2.2	2.4

Source: HSE Office, OOPC Plc (December 2024)

ISSUE	GUIDELINES	CURRENT PRACTICE	REMARKS



• **Fertilizer**	How are fertilizers stored?	Fertilizers are stored in the fertilizer store on top of pallets. The store is well secured and always under lock.	
	Are fertilizers kept with pesticides and machinery? e.g., fuels, ignition, or heat source.	Only fertilizers are kept in this store.	No Action Required.
	Are fertilizers purchased minimally and stored or purchased in large quantities even though there might not be immediate use for them?	Fertilizers are purchased minimally with usage based on first in, first out (FIFO) principle.	No Action Required.
	Is fertilizer requirement known and applied as at when due?	The rate of application appears economical in terms of quantity, timing, and methods. More importantly, there has been no evidence of any harm to ground and surface water supplies as a result of fertilizer use.	
• **Energy Use**	Consider implementing training programs to make operators aware of energy efficiency practices when using machinery.	There is no programme in place to make operators aware of energy efficiency practices.	Create awareness (formal or informal) on energy efficiency practices such as an energy policy.

3.1.1 Sanitation and Housekeeping

Issues	Indicator	Current Practice/Status	Comments
Sanitation	Health, Safety and Environment (HSE) department in place	The Company has established and is operating a full-fledge HSE department. Housekeeping and Sanitation are good.	Conformed This practice should be sustained

3.1.2 Environmental Sustainability and Planning

Issues	Indicator	Current Practice/Status	Comments
Institutional workplace environment policy	Institutional environmental sustainability policy	A formal Environmental and other Policies duly signed by the Managing Director is available.	Conformed to national environmental legislation
Structures to address environmental issues	Environmental committee in place	Environmental Committee in place (see Figure 2.1).	The committee should be empowered by continuous training that will enable it overseeing environmental responsibility on the estate.
Strategic plan and Service Charter	Commitments	Yes	Conformed to legislation
Compliance with the Environmental Impact Assessment and Environmental Audit	Bi-annual environmental audit reports for Edo State and every 3 years for NESREA, EIA reports for new projects, EMPs	The Company is up to date in the environmental audit of its facility and processes. Previous Environmental Audit Report was submitted to the Federal Controller office in Benin and Edo State and Ministry of Environment and Sustainability.	An EIA is not critical because the plantation was acquired before the EIA act. Environmental Audit (EA) is required in this regard

3.1.3 Pollution Control

Issues	Indicator	Current Practice/Status	Comments
Water Pollution & Control Measures	Initiatives to prevent, protect and monitor water sources.	Quarterly laboratory analysis of all water sources is in place.	The result of laboratory analysis obtained during this audit show that the groundwater quality is good and free from pollution except pH (4.94), which was slightly acidic and below the FMEnv and WHO (2004) drinking water guideline of pH 6.5-8.5. Sample was also collected from a surface stream for laboratory analysis. The result shows that the pH of surface water was slightly acidic (5.18) which was below the limit. All other parameters conform to FMEnv and WHO standard. See full laboratory analyses results of borehole water and surface stream samples in Appendix A.
Air Pollution & Control Measures	Initiatives to reduce Air pollution	Quarterly monitoring of source and ambient air quality has been put in place.	The measurements carried out at the facilities during the environmental audit show that the Concentrations of the gases are within the FMEnv Limit except particulate matter The result has shown that parameters such as Suspended Particulate Matter (SPM) ranges between 154 - 256 µg/m^3; Carbon dioxide, 404 – 428ppm; Carbon monoxide, 1 - 2ppm; Hydrocarbon, <0.1%; and Nitrogen dioxide, <0.01ppm which are within FMENv permissible limits of ambient, 10-20ppm, nil and 0.4-0.6ppm respectively except SPM which exceed the limit of 250 µg/m^3, while the full results and methodology are presented in Appendix B
Noise Pollution & Control Measures	Initiatives to reduce Noise	Soundproofing of generators and provision of ear protective device.	The noise level conforms to the FMEnv. limit of 90 dB (A) for 8-hour exposure at all the locations but exceeds NESRA limit of 85 dB (A) at the powerhouse. The levels range from 52.2dB(A) – 89.4 dB(A). (See Appendix B).
Fuel Storage	Pollution prevention measure	There is one (1No.) surface tanks at the dispensing unit for fuel storage to store petroleum products mainly AGO with containment to control soil	Concretely the service point of the dispensing unit.

Issues	Indicator	Current Practice/Status	Comments
		pollution. Although the service point is not concretized.	
Powerhouse	Appropriate designs for primary and secondary containments	The designs for containments do not meet the required standard. Localized soil pollution is being recorded around the powerhouse.	Provide standard containment at the Powerhouse
General Pollution Control Measure	Pollution Abatement Provisions	***In-House Pollution Monitoring*** The HSE department undertakes pollution monitoring as part of its oversight functions.	Conformed This practice should be sustained
		Potential for Accidental Spill Control/Management The potential for accidental spills does exist and there are adequate measures in place to control accidental spills across board.	A number of pollution abatement measures have been put in place which include. • Provision of oil retention trays • Construction of containment bunds around hazardous substances • Provision of enough waste bins
		On-site/Off-Site Contingency Plan There is a formal Emergency Response/Contingency Action Plans manual in place. The manual has taken into account both on-site and off-site emergency response and contingency plans for environmental sensitive activities and operations.	
		No complaints relating to pollution have been received from the host communities in recent time.	No Action Required

3.1.4 Waste Management

There are comprehensive and detailed waste management plans in place which covers description of activities and waste handling up to waste disposal. The wide range of waste found on the estate is classified into solid waste, liquid waste and gaseous emissions.

Issues	Indicator	Current Practice/Status	Comments
Solid Waste	Initiatives to segregate, reducing, reusing, and recycling of waste	***Storage:*** At all the points of waste generation, waste bins/drums are provided for the immediate storage of different solid waste (see Plate 3.5 below). ***Collection and Transfer:*** Containers are located at designated places to collect waste. Wastes from the storage bins and drums are emptied into the waste collection containers, waiting for them to be transferred to the dumpsite. ***Disposal:*** The solid waste collected is transported by means of a tractor and disposed of at the solid waste dumpsite.	The current practice of solid waste handling is good but needs improvement. The faded stickers for easy identification on the waste bin should be replaced.
	 **Plate 3.5: Colour Coded Bins for Solid Waste Storage**		
Liquid Waste	Appropriate designs to collect wastewater and storm water	***Domestic Wastewater:*** Domestic liquid waste is channeled into soaked away pits attached to every building at residences and offices. ***Storm water:*** Rainstorm water is collected and channeled out into the plantation. ***Septic Systems*** Domestic sanitary sewage is channeled into septic systems attached to residential buildings and offices. The septic systems are good in terms of their location and construction.	This practice of liquid waste handling and management is good and should be sustained.
Gaseous Waste	Better maintenance of heavy machinery and equipment.	Maintenance of heavy machinery and equipment is done as contained in the maintenance schedule.	No Action Required

3.1.5 Waste Management Interventions

Issues	Indicator	Current Practice/Status	Comments
Waste Segregation Waste Reduction Waste Reuse Waste Recycling	Initiatives to segregate, reducing, reusing, and recycling of waste	Most waste generated on the estate is organic in nature which is recycled in the field. Sorting is also done at the point of waste generation for domestic solid waste and at the solid waste dumpsite (see Plate 3.6 above and Plate 3.7 below).	The current practice of waste recycling in the plantation field is good and should be sustained. However, more efforts should be geared toward waste reduction and waste reuse to accomplish the 3R's principle of waste management (Reduce, Reuse and Recycle)
Waste Generation	Modes of waste handling (generation, transportation and disposal)	Solid waste generated are collected in colour coded bins and transported by bucket mounted tractor to the solid waste dumpsite at Main estate.	The mode of waste transportation is good but can still be improved upon by avoiding flight tipping as much as practically possible.
Waste Disposal	Government Approved Solid Waste Dumpsite	The Company operates an in-house solid waste dumpsite which is compartmentalized for different waste streams including domestic solid waste (see Plate 3.6 below).	The Company has a valid permit from Edo State Ministry of Environment and Sustainability to operate the in-house solid waste dumpsite.
	 **Plate 3.6: Edo State Ministry of Environment and Sustainability Approved Dumpsite**		

3.1.6 Climate Change (Adaptation & Mitigation)

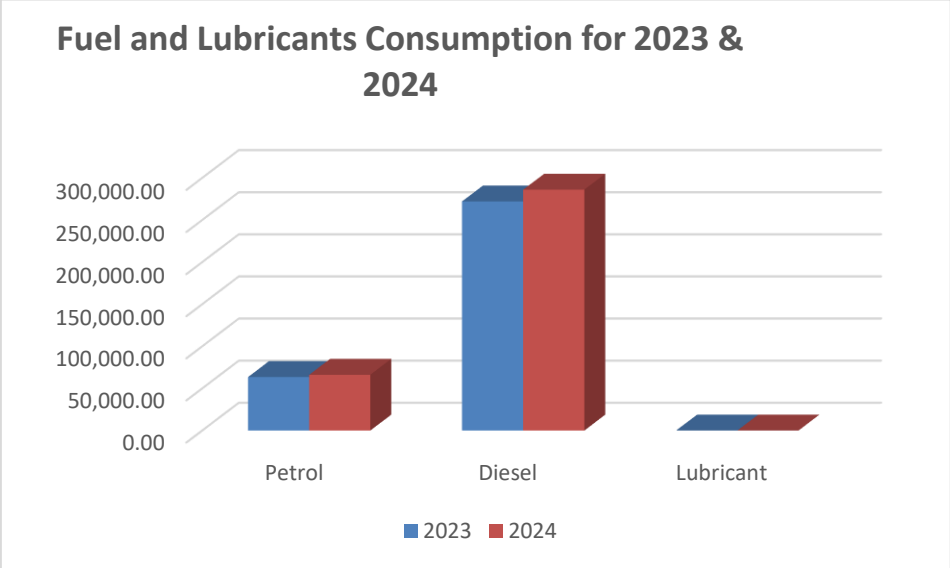
<table>
<tr><th>Issues</th><th>Indicator</th><th>Current Practice/Status</th><th>Comments</th></tr>
<tr><td>Energy Saving Initiatives</td><td>Initiatives to Conserve energy</td><td>Petroleum hydrocarbon is the main source of energy on the estate. The record of fuel and lubricant consumption has been kept.</td><td rowspan="2">This is good and commendable, but target needs to be set for reduction.</td></tr>
<tr><td colspan="3">
Table 3.2: Fuel& Lubricant Consumption in 2023 & 2024
<table>
<tr><th>ITEM</th><th>2023</th><th>2024</th></tr>
<tr><td>Petrol</td><td>63,527.75</td><td>66,196.21</td></tr>
<tr><td>Diesel</td><td>272,062.92</td><td>286,005.52</td></tr>
<tr><td>Lubricant</td><td>-</td><td>-</td></tr>
</table>
Source: HSE Department, OOPC Plc (December 2024)


Figure 3.1: Fuel and Lubricants Consumption in 2023 & 2024
</td></tr>
<tr><td>Soil Conservation</td><td>Initiatives to reduce evapotranspiration and soil loss through water erosion, which may include:
• Use flow control wires and diversion canals to reduce erosion in areas with field drainage.</td><td>There are some natural drains, and some constructed ones maintained regularly such as side/sedimentation pits. For the control of runoff, especially on the plantation roads, sedimentation pits are dug to reduce runoff and trap sediments in runoff water as could be found across the plantation field.</td><td>Some of the rainwater retention initiatives being adopted by the plantation estate is commendable.</td></tr>
<tr><td>Measures to Control Greenhouse Gases</td><td>• Sources of on-farm GHG emissions and establishment of a GHG management plan that</td><td colspan="2">The emission sources and air emission potential of the plantation estate are presented in Table 3.3 below.</td></tr>
</table>

<table>
<tr><th>Issues</th><th>Indicator</th><th colspan="2">Current Practice/Status</th><th>Comments</th></tr>
<tr><td></td><td>includes methods of mitigating emissions and a monitoring program.</td><td colspan="2">Table 3.3: Emission Sources on the Plantation Estate
<table>
<tr><th>Sources</th><th>Location</th><th>Air Emission</th></tr>
<tr><td>Point Source</td><td>Powerhouse, dumpsite</td><td>NOx, SO_2, CO, Particulate Matter, VOCs, CH_4, Dioxin</td></tr>
<tr><td>Fugitive</td><td>Earth roads, unpaved ground</td><td>PM, NOx, SOx, CO</td></tr>
<tr><td>Mobile Sources</td><td>Tractors, Machinery</td><td>NOx, SO_2, CO, VOCs and Particulate Matter,</td></tr>
<tr><td>Greenhouse Gases</td><td>Tractors, Machinery</td><td>CO, CO_2, CH_4,</td></tr>
</table>
However, the ambient air quality was recently determined in-situ for critical locations during this audit as presented in Appendix B.</td><td></td></tr>
<tr><td></td><td>• Initiatives to reduce fossil energy use by adopting energy-efficient production and management practices.</td><td colspan="2">No programme in place yet.</td><td>Management should consider switching to another source of energy for their farm machineries.</td></tr>
</table>

3.1.7 Promoting Environmental Protection through Partnerships with Stakeholders

Issues	Indicator	Current Practice/Status	Comments
Environmental projects and activities undertaken through partnerships with stakeholders	Projects and activities undertaken jointly. MoUs Joint management plans	There are no known environmental projects and activities that have been undertaken jointly with stakeholders, particularly the host communities except those that were done by OOPC Plc for the host communities (CSR).	This is Good and Commendable.
Corporate Social Responsibility (CSR) on Environment	CSR initiatives in place	The company has a 'Host Community Policy' and has undertaken a number of community development projects to demonstrate its spirit of partnership and goodwill to the host communities. Some of the CSR undertaken in 2023 and 2024 are: • Road maintenance • Educational support such as stipends to teachers and scholarship awards. • Electricity Project (Provision and installation of power Generating set) • Women empowerment • Construction and upgrading of schools and community town halls. • Provision and repair of semi-industrial boreholes.	This practice is good and does conform to best management practices.

Issues	Indicator	Current Practice/Status	Comments
Partnerships with FMEnv on Monitoring and inspections to ensure compliance with environment legislation	Areas of partnerships with FMENv on Monitoring and inspections to ensure compliance with environment legislation	There is a partnership in place with both State and Federal ministry of environment especially in the area of environmental compliance monitoring.	This practice should be sustained

3.1.8 Environmental and Ecological Enhancements

Issues	Indicator	Current Practice/Status	Comments
Wetlands, River banks, lakeshores, and seashore management	Rehabilitation initiatives	Not applicable.	No Action Required
Conservation of biological diversity and Environmental significant areas	Conservation initiatives	Conservation areas known as HCVs (415.41 hectares) have been established within the estate.	Good and commendable
Environmental restoration	Degraded lands secured, restored and conserved	No degraded lands on the estate.	Good

3.1.9 Environmental Education and Awareness

Issues	Indicator	Current Practice/Status	Comments
Behaviour changes towards the environment	Proof of positive behaviour change	Safety committee being coordinated by HSE department is charged with the responsibility of creating awareness on the plantation estate.	There is great environmental awareness among the workers and communities. This was apparent during the audit exercise.
Participation in environmental events with communities and schools	Evidence of Participation in environmental events.	HSE week is conducted every year (annually) on the estate.	Include Occupational Health and Environment in the awareness campaign with schools and communities engaged in the implementation
Sensitization of staff and public on Environmental sustainability relevant to the institutional mandate.	Sensitized staff on environmental sustainability through IEC materials	There are few information, Education, and Communication (IEC) board on environment, occupational health and safety on the estate.	This is commendable and should be sustained.
Recognition of environmental champions	Evidence of appreciation of environmental sustainability champions	Environmental sustainability champions are being awarded	This is commendable and should be sustained.

3.2 Health & Safety Issues

3.2.1 Health Issues

Issues	Indicator	Current Practice/Status	Comments
Occupational Illnesses	Analysis of Occupational Illnesses Analysis of Industrial Accidents and Fatalities	Occupational illnesses are documented on a daily basis and also analyzed. So also, are records of industrial incidents/near misses and comparative statistical analysis available for accidents, incidents and fatalities.	This practice is good and commendable.
Health Screening & Monitoring	Accidents and Diseases Monitoring	The plantation estate operates on-site medical services for workers. Both on-site and off-site accidents records are kept and also reported to the appropriate regulatory authorities.	Pre-employment medical examinations are conducted for workers that handle hazardous substances such as agrochemical sprayers. Periodic monitoring of their health is also carried out (every 6 months).

RECORD OF ILLNESS FOR OOPC EXT. 1 (2023)

AILMENT/Diseases	JANUARY	FEBRUARY	MARCH	APRIL	MAY	JUNE	JULY	AUGUST	SEPTEMBER	OCTOBER	NOVEMBER	DECEMBER	TOTAL (AVG)
GIT/ABDOMINAL PROBLEMS	62	60	55	52	49	53	41	34	31	35	60	62	**594**
MALARIA	200	235	204	201	182	254	220	210	157	193	259	267	**2582**
BACTERIA	40	53	32	27	40	25	15	15	20	17	35	53	**372**
VIRAL INFECTION	0	0	4	5	0	0	0	0	0	0	0	0	**9**
FUNGAL INFECTIONS	0	1	3	1	1	1	1	0	0	0	4	0	**12**
SKIN INFECTION	37	59	41	53	28	32	29	25	19	42	61	25	**451**
EYE PROBLEM	8	9	6	12	6	4	0	2	7	61	25	17	**157**
EAR PROBLEM	0	2	0	0	2	0	0	1	0	4	8	5	**22**
WORKPLACE INJURIES	2	2	1	4	1	1	1	2				12	**26**
HOME ACCIDENTS/INJURY	31	35	25	8	11	13	7	9	14	10	28	16	**207**
ROAD TRANSPORT ACCIDENT (RTA)	1	1	0	0	1	0	0	0	0	2	0	0	**5**
NON-INDUSTRIAL MUSCULOSKELETAL PROBLEMS	202	207	116	119	138	121	104	135	93	162	172	171	**1740**
DENTAL DISEASES	4	5	3	0	0	0	3	0	0	4	9	2	**30**
HYPERTENSIVE DISEASES	1	3	1	1	0	0	0	0	0	1	3	1	**11**
DIABETES	0	0	0	0	0	0	0	0	0	0	1	0	**1**
SURGICAL PATIENTS	0	0	0	2	0	1	0	1	0	2	0	0	**6**
RESPIRATORY PROBLEMS	75	63	37	33	38	28	36	41	34	35	52	60	**532**
OTHERS	11	29	7	5	8	10	6	8	9	13	13	15	**134**

Plate 3.7: Medical Records of Illness for Year 2023 (Jan- Dec).

RECORD OF ILLNESS FOR OOPC EXT. 1 (2024)

AILMENT/Diseases	JANUARY	FEBRUAR	MARCH	APRIL	MAY	JUNE	JULY	AUGUST	SEPTEMBER	TOTAL (AVG)
GIT/ABDOMINAL PROBLEMS	59	71	50	80	47	73	80	55	82	**597**
MALARIA	167	188	165	283	194	275	296	362	330	**2260**
BACTERIA	42	33	36	62	39	43	47	38	69	**409**
VIRAL INFECTION	0	0	0	1	0	1	0	0	0	**2**
FUNGAL INFECTIONS	0	1	0	1	3	0	1	0	13	**19**
SKIN INFECTION	14	7	19	29	31	7	24	39	54	**224**
EYE PROBLEM	28	17	8	26	15	19	11	24	15	**163**
EAR PROBLEM	2	3	3	7	9	3	9	4	1	**41**
WORKPLACE INJURIES	5	5	6	9	9	7	8	10	3	**62**
HOME ACCIDENTS/INJURY	30	19	25	36	31	18	12	17	37	**225**
ROAD TRANSPORT ACCIDENT (RTA)	2	2	0	6	11	0	0	2	6	**29**
NON-INDUSTRIAL MUSCULOSKELETAL PROBLEMS	134	111	0	0	110	147	129	182	198	**1011**
DENTAL DISEASES	5	5	11	3	3	4	4	2	7	**44**
HYPERTENSIVE DISEASES	0	0	2	0	2	3	0	1	1	**9**
DIABETES	0	0	0	0	0	0	0	0	0	**0**
SURGICAL PATIENTS	2	3	2	1	3	0	0	0	3	**14**
RESPIRATORY PROBLEMS	56	72	29	51	24	40	46	31	61	**410**
OTHERS	7	33	13	10	10	32	4	24	4	**137**

Plate 3.8: Medical Records of Illness for year 2024 (Jan- Sept).

3.2.2 Safety Issues

Some of the operations in the plantation field, stores, workshops and office involve both single and multiple exposures to physical hazards with potential for accident or injury or illness due to repetitive exposure to mechanical action or work activity as presented below.

<table>
<tr><th>Issues</th><th>Indicator</th><th>Current Practice/Status</th><th>Comments</th></tr>
<tr><td rowspan="3">Occupational Hazards</td><td>Physical Hazards</td><td>The most common physical hazards are derived from:</td><td rowspan="2">Appropriate personal protective equipment (PPE) is provided.</td></tr>
<tr><td colspan="2"><table>
<tr><th>Workplace</th><th>Physical Hazards Sources</th></tr>
<tr><td>Plantation</td><td>Rotating & Moving Equipment, Eye Hazards, Industrial Vehicles & Site Traffic, Ergonomics.</td></tr>
<tr><td>Workshop</td><td>Rotating & Moving Equipment, Noise, Vibration, Electrical, Welding Work, Working Environment Temp, Ergonomics, Eye Hazards.</td></tr>
<tr><td>Stores</td><td>Working Environment Temp, Illumination, Eye Hazards.</td></tr>
<tr><td>Offices</td><td>Working Environment Temp, Ergonomics, Illumination.</td></tr>
<tr><td>Transport</td><td>Industrial Vehicles & Site Traffic</td></tr>
</table></td></tr>
<tr><td>Chemical Hazards</td><td>The most chemical hazards are derived from:</td><td>Appropriate personnel</td></tr>
</table>

<table>
<tr><th>Issues</th><th>Indicator</th><th>Current Practice/Status</th><th>Comments</th></tr>
<tr><td></td><td colspan="2"><table><tr><th>Workplace</th><th>Chemical Hazards Sources</th></tr><tr><td>Workshop</td><td>Air Quality, Fire & Explosion, Corrosive, Oxidizing & Reactive Chemicals.</td></tr><tr><td>Stores</td><td>Fire Explosion, Air Quality, Corrosive, Oxidizing & Reactive Chemicals & Reactive Chemicals</td></tr></table></td><td>Protective equipment (PPE) is provided.</td></tr>
<tr><td></td><td>Biological hazards</td><td>There are no activities or processes that require the use of biological agents and there have been no reported health cases that are linked to the suspected presence of biological agents at workplaces.</td><td>This is good and commendable.</td></tr>
<tr><td></td><td>Radiological Hazards</td><td>There are no activities involving occupational and/or natural exposure to ionizing radiation.</td><td>This is good and commendable.</td></tr>
<tr><td>Risk Assessment</td><td>Initiatives to conduct a comprehensive risk assessment</td><td>Risk assessment and analysis for all jobs and tasks have been conducted in recent time.</td><td>This is good and commendable.</td></tr>
<tr><td>Work Procedures</td><td>Initiatives to document work procedure</td><td>Work procedures were said to be documented for every job and task but were neither displayed nor sighted during the audit.</td><td>This is good but needs to be improved on.</td></tr>
<tr><td>PPE</td><td>Commitment</td><td>As part of the prevention and control measures for the identified hazards, some PPE have been provided for workers. The PPE issued to workers appear adequate. The level of use of PPE by workers is high. The enforcement level by management is high and proper use of PPE has been communicated to workers. Some of the PPE provided to workers include:<table><tr><th>Part of the Body</th><th>Equipment</th></tr><tr><td>Head</td><td>Helmets</td></tr><tr><td>Body</td><td>Aprons (Overalls)</td></tr><tr><td>Foot</td><td>Safety Boots</td></tr><tr><td>Eye</td><td>Eye Goggles</td></tr><tr><td>Hand</td><td>Hand Gloves</td></tr><tr><td>Ear</td><td>Earmuffs</td></tr><tr><td>Nose</td><td>Nose Masks</td></tr></table></td><td>The level of compliance with PPE usage is very high.</td></tr>
<tr><td>Safety Education</td><td>Initiatives on safety Education</td><td>Safety education is evident on the plantation estate</td><td>The level of safety education is good but needs to be improved on.</td></tr>
<tr><td>Signage</td><td>Initiatives to Signage Production, especially traffic safety</td><td>There is few signage on the plantation estate.</td><td></td></tr>
</table>

Issues	Indicator	Current Practice/Status	Comments
	 **Plate 3.9: Samples of Safety Signages within the Estate**		
Fire Safety (Prevention & Control Measures)	Risk of Fire and Explosion	All the offices have fire detectors for fire surveillance. Stand-by water tankers and fire extinguishers are the provisions made for firefighting on the estate.	This should be sustained
	Initiatives on Fire Fighting Equipment Systems	There is a security patrol team for fire detection and control. The provision for fire control/fighting includes: • Trained fire fighters • Fire extinguishers • Sand buckets • Fire hydrants • Stand-by Water Tankers • Fire Fighting Procedure	This should be sustained
	Initiatives on Emergency Response Plan for Fire	There is Emergency Response Procedure in place so also is emergency response plan for fire for all facilities (see Appendix C).	This should be sustained
Fire Drills	HSE department in place	There is a full-fledged HSE department in place and there are records showing that fire drills have been conducted in recent time.	This should be sustained

3.3 Conformance to Legislation Issues

3.3.1 Environmental, Health and Safety Laws and Regulations

Issues	Indicator	Current Practice/Status	Comments
Establishment of HSE Department	HSE department in place	There is a full-fledged HSE department in place.	Conformed to national environmental legislation
Submissions to Regulatory Bodies	Commitment	The status of submissions to regulatory bodies is summarized in Table 3.4 below.	

Table 3.4: Status of Submissions to Regulatory Bodies

Requirement	Status	
	Submitted	Available but Not Submitted
Environmental Audit Report	X	
SDS	X	
Emergency Response Plans	X	
Contingency Action Plans	X	
Record of Fire Drills	X	
Accidents, Incidents and Near Misses	X	
Accident Investigation Reports	X	
Environmental and other Policies	X	

3.3.2 Environmental, Health & Safety Permits

Issues	Indicator	Current Practice/Status	Comments
Environmental and Other Policies	Commitment	The Company has well written and articulated environmental and other policies, duly signed by the Managing Director.	Good and Commendable
Permits/Licenses/ Approvals	Initiatives to Obtain applicable Permits/License/ Approvals	The Company has obtained some permits, licenses and approvals to cover certain processes and operations. However, quite a number of permits remain outstanding as presented in Table 3.5 below	

Table 3.5: Health and Safety Permits/Licenses

Operations/Processes	Requirement (Permit/License/ Approval)	Status: Obtained/Not Obtained	Date Obtained	Expiry Date
Solid Waste Dumpsite	Permit	Expired	Processing certificate	
Storage of Petroleum Products	License	Obtained	2024	March 2027
Food Handlers Test	Certificate	Obtained	2024	January 2025
Clinic	License	Obtained	December 2023	December 2024
Fire Safety	Certificate	Obtained	2024	August 2026
Pressure Testing of Fuel Storage Tanks	Certificate	Obtained	February 2021	February 2026
EIA Permit for Extension One Oil Palm and Rubber Plantation Expansion Development Project	EIS/Permit	Obtained	Feb. 2019	NA

3.4 Community and Industrial Relations

Issues	Indicator	Current Practice/Status	Comments
Employment	Initiative	The company employs workers including expatriates and Nigerians at management, senior and junior cadres. Both genders are employed.	Good and Commendable.
Child Labour	Initiatives to prepare Child Labour Policy	The company does not give employment to underage workers at all cadre and there is a policy document in place forbidden child labour.	Good and Commendable.
Employment Opportunities	Commitment	The company does not discriminate in its employment policy. However, priority is given to employing suitably qualified workers from the host communities.	Good and Commendable.
Welfare	Commitment	The Company operates with due respect to the Nigerian Industrial Labour laws. The workers have freedom to belong and participate in labour union activities and workers belong to the Agricultural and Allied Workers Union of Nigeria (AAWUN). This allows for collective bargaining, honesty and communication in both directions. The Company offers competitive wages and welfare packages (salaries plus allowances and bonuses) for all categories of staff as stipulated by RSPO Guidelines.	Conformed to national environmental legislation.

3.5 Statutory Compliance Status of OOPC Ext. One with The Factories ACT CAP 126 LFN, CAP F1 LFN 2004

REFERENCE	REQUIREMENS	COMPLIANCE STATUS	REMARKS
Part II Health			
1a	Daily removal of dirt and refuse from floors, benches of workrooms, staircases and passages	C	
1b	Cleaning of the floor of every workroom at least once every week	C	
1c	Whitewashing /colour washing or washing with hot water and soap of all inside walls, partitions, all ceilings or top of rooms, all walls, sides and tops of passages and staircases at least once in every twelve months or the repainting of re-varnishing of same at least once in every period of five years.	C	
2_1	Avoidance of overcrowding while work is going on so as not to cause risk or injury to the health of the persons employed therein.	C	
2_2	Provision of at least a space of 400 cubic feet for every person employed in order to avoid overcrowding	NA	
2_3	Workroom not less than 9ft height, measured from the floor to the lowest point of the ceiling or roofing material.	NA	
3_1	Securing and maintaining the circulation of fresh air in each workroom/adequate ventilation	C	
4	Provision and maintenance of sufficient and suitable lighting whether natural or artificial in every part of a factory in which persons are working	C	
5	Provision and maintenance of separate sanitary convenience for each sex	C	
Part III Safety (General Provisions)			
6	Securely fenced fly wheel or every moving part of any prime mover or every part of any electric generator, motor or rotary converter unless otherwise not necessary.	C	
7	Provision and maintenance of efficient devices or appliances in every workroom by which the power can promptly be cut off.	C	
8	Provision of an efficient starting and stopping appliance or control for every power-driven machine	C	
9	Protective device for an operator of a dangerous machinery during examination, lubrication or adjustment who should be a male, 18 years and above and has been sufficiently trained, with another person instructed on the steps to be taken in case of emergency standing by.	C	

REFERENCE	REQUIREMENS	COMPLIANCE STATUS	REMARKS
10	Securely covered or fenced fixed vessel, structure, sump or pit of which the edge is level with or less than 91cm above the ground and which contains any scalding, corrosive or poisonous liquid with a warning notice in English and any other Nigerian language displayed there-on.	C	
11	No traversing part of any self-acting machine and no material carried thereon shall be allowed into a space where persons are or pass through except when the machine is stopped with the traversing part on the outward run.	C	
12	No person shall be employed at any process or machine liable to cause bodily injury without sufficient training or under adequate supervision by a person who has a thorough knowledge and experience.	C	
13	Maintenance and thorough examination, at least once in every six months of every hoist or lift which shall be of good mechanical construction, sound material and adequate strength	C	
14	Indication of safe working load(s) on every lifting machine except a jib crane which shall have either an automatic indicator or a table indication safe working loads.	C	
15	No overloading of any lifting machine beyond the safe working load as indicated except for the purpose of a test.	C	
16	Register of chains, ropes or lifting tackle and other lifting machines kept in the company.	C	
17	Safe means of access and safe place of employment.	C	
18	Provision of an adequate means of egress for person entering or working inside any chamber, tank, vat, pit or other confined place and the notification of the Director of factories before the commencement of work & provision of suitable breathing and reviving apparatus.	C	
19	Taking of adequate precautions with respect to explosive or inflammable dust, gas, vapour or substance.	C	
20	Every stream boiler shall be of good construction, sound materials, adequate strength and free from patent defect and shall have suitable safety valve, stop value, stream pressure gauge, and at least one water gauge. Also all	NA	

REFERENCE	REQUIREMENS	COMPLIANCE STATUS	REMARKS
	precautionary steps shall be taken before repairs or maintenance.		
21	Thorough examination of every stream boiler and all its fitting and attachment at least once in every 14 months and also after extensive repairs	NA	
22	No new stream boiler shall be taken into use in a factory unless a certificate has been obtained from an authorized boiler inspector and a copy of the report sent to the inspector of the district.	NA	
23	Every stream receiver and stream containers shall be of good construction, sound materials, and adequate strength and free from patent defect and shall be properly maintained.	NA	
24	For every air receiver with the same conditions as applicable to every stream receiver.	NA	
25	Prevention of fire by installation of fire-detecting devices for alerting occupants and suitable means of extinguishing fires.	C	Adequate number of fire extinguishers are positioned at strategic points.
26	Highly inflammable substance kept in a fire-resisting store or in a safe place outside any building and free from means of escape (exit).	C	
27	Employment of adequately trained fire fighters.	C	
28	Provision of emergency fire exists, which shall be properly maintained, from obstruction and easily accessible.	C	
29	All emergency exist shall be open outwards except in the case of sliding door.	C	
30	Enclosure of every hoist way or lift way inside a building with fire-resisting materials including the doors and the top only by some materials easily broken by fire or be provided with a vent at the top.	NA	
31	Conspicuously marked notice on all emergency exists painted in red/green letters of an adequate size and in English and appropriate Nigeria Languages.	C	
32	Effective steps to ensure that all employed persons are familiar with emergency exists and routine to be followed in case of fire.	C	

REFERENCE	REQUIREMENS	COMPLIANCE STATUS	REMARKS
Part IV Welfare			
33	Provision and maintenance of an adequate supply of drinking water at suitable points and accessible to all employed persons	C	
34	Provision and maintenance of an adequate and suitable facilities for washing which shall be conveniently accessible.	C	
35	Provision of adequate and suitable accommodation for clothing not worn during working hours (cloak room and lockers).	C	
36	Provision and maintenance of a readily accessible first-aid box or cupboard of the prescribed standard for every one hundred and fifty persons.	C	
Part V Special provisions			
37	Provision of exhaust appliances for fumes, dust or other impurity likely to be injurious or offensive to be employed persons and the provision of personal protective equipment for employed persons	C	
38	No partaking of food or drink in any room where any poisonous or injurious substance giving rise to dust or fume is present	C	
Part VI Notification			
39	Notification of the inspector of factories of the district by the occupier of the factory of any accident which either causes loss of life or disability to any person for more than 3 days	C	

Note: C=Complied with, NC= Not Complied with; NFC=Not Fully Complied, NA=Not Applicable.

TABLE 3.6: STATUTORY COMPLIANCE STATUS WITH FME 1991 REGULATIONS

Regulation S.I.8 of 1991	**Remedial Action**	**Status**
SI	INSTALLATION OF ANTI-POLLUTION EQUIPMENT	C
$S2_2$	STORM/EFFLUENT MONITORING	NA
S3,	TREATMENT OF EFFLUENT AND SEWAGE	NA
$S3_2$	MONITORING RESULTS TO NESREA	C
EN.P	ENVIRONMENTAL POLICY	C
SH.P	SAFETY AND HEALTH POLICY & EMERGENCY RESPONSE MEASURES	C

Regulation S.1.9 of 1991	**Remedial Action**				
SI	RELEASE OF HAZARDOUS OR TOXIC SUBSTANCE INTO THE AIR, LAND OR WATER	C	S10	STORAGE TREATMENT AND TRANSPORTATION OF HARMFULTOXIC WASTE	NA
S2a	POLLUTION MONITORINGUNIT	C	S 11	GENERATOR'S LIABILITY	C
S2b/c	POLLUTION CONTROL / ACCREDITED CONSULTANT	NC	SB	STRATEGIES FOR WASTE REDUCTION	C
S3	RESULT SENT TO NESREA/OGEPA MONTHLY	NC	S15,	DISCHARGE OF EFFLUENT BEYONDPERMISSIBLE LIMIT	NA
S4	UNUSUAL DISCHARGE	NA	$S15_2$	OIL DISCHARGE IN ANY FORM	C
			$SI5_3$	DISCHARGE PERMIT	C
S5a	LIST OF CHEMICALS TO FME	NA	SI6	SOLID WASTE DISPOSAL IN MUNICIPAL LANDFILL	C
S5b	CHEMICAL STORAGE	NA	S17	RELEASE OF GAS MATTER	NA
S5c	WHERE CHEMICAL OBTAINED	NA	S18	AESTHETIC/SANITARY CONDITION	C
S7	CONTINGENCY/EMERGENCYRESPONSE PLAN	C	S19	SAFETY OF WORKERS	C
S8,	MACHINERY COMBATINGPOLLUTION	C	S21	ENVIRONMENTAL AUDIT REPORT (EAR)	C
ss,	POLLUTION RESPONSE EQUIPMENT	C			

Note: ***C- complied, NA- Not Applicable, NFC- Not Fully Complied***

CHAPTER FOUR

4.0 AUDIT FINDINGS AND ITS EVALUATION

4.1 Description of Environmental Effects Related to Operational Activities

The Environmental effects of Okomu OPC Plc - Extension One Estate were evaluated by collecting samples and carrying out measurements followed by detailed analysis. The description as well as methodology used is as follows:

4.2 Methodology for Sample Collection

In-situ determination of the gases was carried out using portable gas analyzers. The ambient air was monitored using LAND Duo multi-gas emission analyzer and Industrial Scientific iTX 5 to determine the concentration of carbon monoxide (CO), Sulphur dioxide (SO_2), oxygen, ammonia and hydrogen sulphide (H_2S), Nitrogen oxides, NO_2/NOx. Handheld Aerosol Monitor Model 1055 was used for the measurement of Suspended Particulate Matter, while Quest Model 2500 Sound Level Meter was used to measure the noise level. Only the maximum results obtained were presented.

4.3 Sampling Locations

Monitoring of ambient air quality, noise level assessment and water analysis was carried out at geo-referenced locations.

The sampling locations were within the spatial boundaries of the estate. The sampling points with their coordinates are presented in Table 4.1.

Table 3.1: Co-ordinate Points of Sampling Locations

Sample Points	Location	Coordinates		Environmental Component Monitored
Borehole Water				
Point 1	Extension One Quarters (OKM_{EXTQ})	N06^{0}22’ 22.2”	E005^0 22’53.2”	Groundwater
Surface Water				
Point 2 (Control Point)	Gboleuba Creek (OKM_{GB})	N06^0 18’ 59.6”	E005^0 23’ 25.2”	Surface River Quality
Air Quality & Noise Measurements				
Point 4	Ext. 1 Powerhouse	N06^0 22.457’	E005^0 22.923’	Air Quality & Noise
Point 5	Plantation Field (F61)	N06^0 21’ 01.8”	E005^0 22’ 02.2”	Air Quality & Noise
Point 6	Plantation Field (D82)	N06^0 19’ 41.7”	E005^0 22’ 18.1”	Air Quality & Noise
Point 7	Plantation Field (A53)	N06^0 20’ 42.3”	E005^0 24’ 31.9”	Air Quality & Noise
Point 8	Ext. 1 Quarters	N06^0 22’ 22.2”	E005^0 22’53.2	Air Quality & Noise

Source: Okomu OPC Plc Ext. One Estate EMP (December 2024)

4.4 Result and Discussion

4.4.1 Air Quality Measurement

Air Quality is an indication of the healthiness of the air based on the quantity of polluting gases and particulates (liquid droplets or tiny solid particles suspended in air) it contains. Air is considered safe when it contains no harmful chemicals and only low levels of other chemicals that become harmful in higher concentrations to humans, other animals, plants, or their ecosystems. The small amount of emissions released from Okomu OPC Plc - Extension One Estate pose no health or environmental risk to nearby communities. The air quality values recorded during the exercise were within regulatory limits except for Suspended Particulate matter in some locations sampled. The air quality measurement of Okomu OPC Plc - Extension One Estate facility is seen in Table 4.1a whereas Table 4.1b Noise level measurements.

Table 4.1a: Result of the Air Quality Monitoring (2024)

Parameters	*Extension One Powerhouse (500kVA)*	Field F61	Field D82	Field A53	Extension One Quarters	FMEnv. Limit
Coordinate	N06^{0}22.457’	N06^{0}21’01.8”	N06^{0}19’41.7”	N06^{0}20’42.3”	N06^{0}22’ 22.2”	
	E005^{0}22.923’	E005^{0}22’02.2”	E005^{0}22’18.1”	E005^{0}24’31.9”	E005^0 22’53.2	
Elevation, m	87	63	64	37		
Noise, dB(A)	89.4	41.5	51.6	40.9	57.8	**90**
Humidity (%)	63.58	69.90	69.69	69.62	51.61	**Ambient**
Temperature (^{0}C)	23.15	23.04	22.66	21.90	23.61	**Ambient**
SPM (µg/m^3)	175	256	248	254	154	**250**
Carbon monoxide, ppm	2	2	1	1	2	**10-20**
Carbon dioxide, ppm	406	409	405	404	428	-
Hydrogen sulphide, ppm	<0.1	<0.1	<0.1	<0.1	<0.1	-
Hydrocarbon, %	<0.1	<0.1	<0.1	<0.1	<0.1	-
Oxygen, %	20.9	20.9	20.9	20.9	20.9	**21.0**
Sulphur dioxide, ppm	<0.01	<0.01	<0.01	<0.01	<0.01	**0.1**
Nitrogen dioxide, ppm	<0.01	<0.01	<0.01	<0.01	<0.01	**0.4 - 0.6**
TVOC, mg/m^3	0.011	0.013	0.014	0.007	0.012	

Source: Environmental Laboratories Limited, at *Apaola Street, off Aladelola St. Ikosi-Ketu, Lagos State (EMP 2024):* IPAN:00155

Table 4.1b: Noise Level Measurements at OOPC Plc (Extension One Estate)

S/N	Location	Result, dB(A)
1	Extension One Powerhouse (500 kVA)	89.4
2.	Field F61	41.5
3	Field D82	51.6
4	Field A53	40.9
5	Extension One Quarters	57.8
6	Car Washing Bay	69.2
7	Pavilion 3	52.2
8	Nearest Residential Block	54.4
9	Boom Gate	54.2
10	Powerhouse Office	70.4
NESREA Limit		**85 dB**

Source: (EMP 2024 – In-Situ Measurements); **IPAN:00155**

4.4.2 Ground Water Analysis Determination

The surface water and groundwater at Okomu OPC Plc - Extension One Estate was collected for analysis. The facility does not have any production activities resulting to no effluent. Table 4.2 shows the results of water samples monitored.

Table 4.2: Result of Groundwater Analysis

Parameter/Unit	Method, APHA, 2022	OKM_{EXTQ}	NIS 554: 2015
Appearance	Visual	Clear & Colourless	Clear & Colourless
Odour	Sensory	Unobjectionable	Unobjectionable
pH 25.0 ^oC	4500-H-B	4.94	6.5-8.5
Temperature, ^oC	2550-B	30.8	Ambient
Conductivity, µS/cm	2500-B	14	1000
Total Dissolved solids, mg/L	2540B	7	500
Total Suspended Solids, mg/L	2540-D	1	-
Total Solids, mg/L	2540-C	8	-
Colour, Pt-Co	2120-C	10	15
Turbidity, NTU	2130-B	5	5
Total Hardness, mg/L $CaCO_3$	2340-C	4	150
Total Alkalinity, mg/L	2320-B	4	-
Total acidity, mg/L	2310-B	50	-
Calcium, mg/L as Ca	3500-B	<0.01	-
Magnesium, mg/L as Mg	3500-B	0.97	20
Chloride, mg/L	4500-B	10	250
Nitrate, mg/L	4500-NO_3^-E	<0.01	50
Nitrite, mg/L	4500-NO_2^-B	<0.01	0.2
Sulphate, mg/L	4500-SO_4-E	<1	100
Phosphate, mg/L	4500-E	<0.01	-
Iron (total), mg/L	3500-B	<0.01	0.3
Fluoride, mg/L	4500-F^-C	<0.01	1.5
Lead, mg/L	3500 –Pb-B	<0.001	0.01
Arsenic, mg/L	3500 –As-B	<0.001	0.01
Manganese, mg/L	3500 –Mn-B	<0.001	0.2
Copper, mg/L	3500 –Cu-B	<0.001	1.0
Cadmium, mg/L	3500 –Cd-B	<0.001	0. 03
Hydrogen Sulphide, mg/L	4500-S^{2-}H	<0.01	0.05
Total coliform count, CFU/100 ml	9225-D	0	10
Faecal coliform (E.coli), CFU/ml	9222-D	0	0
Salmonella/Shigella sp., CFU/ml	9260-E	0	0
Staphylococcus sp. , CFU/ml	AOAC 995.12	0	0
Pseudomonas aureus, CFU/ml	9213-E	0	0
Total plate count, CFU/mL	9215-B	6	10^2

Source: Environmental Laboratories Limited, at *Apaola Street, off Aladelola St. Ikosi-Ketu, Lagos State (EMP 2024):* IPAN:00155

Table 4.3: Result of Surface Water Analysis

Parameter/Unit	METHOD APHA, 24 Ed	OKM_{GB}	FMEnv.
Appearance	Visual	Clear with Particles	Clear & Colorless
Odour/Taste	Sensory	Unobjectionable	Unobjectionable
pH@ 25ºC	4500-B	5.18	6-9
Temperature, ºC	2550-B	29.2	Ambient
Conductivity, µS/cm	2510-B	16	2000
Total Dissolved solids, mg/L	2540-C	8	1000
Total Suspended Solids, mg/L	2540-D	6	30
Total Solids, mg/L	2540-B	14	-
Colour, Pt-Co	2120-C	10	7.0
Turbidity, NTU	2130-B	<0.01	10
Total Hardness, mg/L	2340-C	<1	-
Total Alkalinity, mg/L	2320-B	4	-
Total acidity, mg/L	2310-B	60	-
Calcium, mg/L as Ca	3500-B	<0.01	-
Magnesium, mg/L as Mg	3500-B	<0.01	-
Chloride, mg/L	4500-B	6	200
Nitrate, mg/L	4500-NO_3^--B	<0.01	50
Nitrite, mg/L	4500-NO_2^--B	<0.01	0.3
Sulphate, mg/L	4500-E	<0.1	250
Phosphate, mg/L	4500-C	0.03	-
Iron (total), mg/L	3500-B	0.07	20
Lead, mg/L	3500 -Pb-B	<0.001	<1.0
Copper, mg/L	3500 -Cu-B	<0.001	<1.0
Manganese, mg/L	3500 -Mn-B	<0.001	0.10
Cadmium, mg/L	3500 -Cd-B	<0.001	<1.0
Nickel, mg/L	3500 -Ni-B	<0.001	<1.0
Cobalt, mg/L	3500 -Co-B	<0.001	<1.0
Arsenic, mg/L	3500 -As-B	<0.001	<1.0
Chemical Oxygen Demand, mg/L	5220-D	7.5	80
Biochem. Oxygen Demand, mg/L	5210-B	4.8	30
Dissolved Oxygen, mg/L	4500-G	7.7	>2.0
Total Hydrocarbon, mg/L	Spec.	<0.1	-
Pesticides, mg/L	Screening	<0.01	-
Total coliform count, MPN/100 mL	APHA 9225-D	12	10^2
Faecal coliform, E.coli; CFU/mL	APHA 9222-D	0	-
Total plate count, CFU/mL	APHA 9215-B	125	10^4

Source: Environmental Laboratories Limited, at *Apaola Street, off Aladelola St. Ikosi-Ketu, Lagos State (EMP 2024):* IPAN:00155

4.5 Impact Analysis of Air & Water investigations

4.5.1 Noise Impact Evaluation

Noise cannot be exempted in facilities; however, it can be reasonably managed and abated in accordance with regulations. At Okomu OPC Plc - Extension One Estate, ten (10) locations were taken for noise measurement and all were within the 90dB (A) limit of the Federal Ministry of Environment (FMEnv) but exceeds the 85dB (A) limit of the National Environmental Standards and Regulations Enforcement Agency (NESREA) at the Extension One Powerhouse. Observed critical area of noise pollution was abated using appropriate Personal Protective Equipment (PPE).

Noise is considered as a form of pollution when its sound intensity is significantly high, or higher than stipulated regulatory limits. Sound intensities are measured in decibels (dB). For example, the intensity at the threshold of hearing is 0 dB, the intensity of whispering is typically about 10dB, and the intensity of rustling leaves reaches almost 20dB. Sound intensities are arranged on a logarithmic scale, which means that an increase of 10dB corresponds to an increase in intensity by a factor of 10. Thus, rustling leaves are about 10 times louder than whispering.

Continuous exposure to noise pollution can cause hearing loss, stress, high blood pressure, sleep loss, distraction, and lost productivity. Solutions to noise pollution include adding insulation and soundproofing to doors, walls, and ceilings; using ear protection, particularly in industrial working areas; planting vegetation to absorb and screen out noise pollution; and zoning urban areas to maintain a separation between residential areas and zones of excessive noise.

In the event of any critical noise impact, workers and staff within this area are expected to make use of earmuffs during operational hours.

4.5.2 Air Quality Evaluation

Air quality assessment is crucial in all facilities. It is important that air quality be closely monitored at Okomu OPC Plc - Extension One Estate in order to meet regulatory standards. One of the greatest challenges caused by air pollution is climate change resulting in global warming which is an increase in the earth’s temperatures due to the build-up of certain atmospheric gases such as carbon dioxide, methane, water vapor etc.

There was no major air pollutant concern in Okomu OPC Plc - Extension One Estate.

4.5.3 Water Quality Evaluation

For the ground water sample, laboratory results revealed that the pH of the sample was lower than the limit of 4.94 (slightly acidic) while other parameters were within their respective limits.

Also, the Surface water sample laboratory result revealed that appearance was clear with particles, while pH was lower than the limit of 5.18 (slightly acidic) for the surface water collected.

4.6 Life Cycle Analysis

Life cycle analysis (LCA) is a method used to evaluate the environmental impact of a product through its life cycle encompassing extraction and processing of the raw materials, manufacturing, distribution, use, recycling, and final disposal.

Since a comprehensive analysis is impossible, we decided, explicitly or implicitly considered to use the techniques of Life-cycle assessment to assess all environmental impacts associated with all the stages of Okomu OPC Plc – Extension One estate from plantation maintenance through harvesting, FFB processing, waste generation, and disposal or recycling. These techniques help avoid a narrow outlook on environmental concerns by assisting in:

- Compiling an inventory of relevant energy and material inputs and environmental releases.
- Evaluating the potential impacts associated with identified inputs and releases; interpreting the results to help make a more informed decision.

4.7 Material Input, Output and Balance

Table 4.4 contains materials that are used on the plantation estate. The unit of the materials is well inserted. They are merely in liters (Ltrs), kilograms (kgs) and metric tons (MT) such as the output. For understanding, the materials have been entered in columns, from 1 to 5 in addition to the one identified as unit. Column 1 means materials available in the store, column 2 connotes materials required for the year. Column 3 is the material that is being ordered to make up for the required one. The difference between column 2 and 5 is the stock difference (balance- column 4) which were not used on the plantation estate. Column 5 indicates material taken from the store and used on the plantation field. Column 6 is the FFB output.

Table 4.4: Material Balance at Okomu OPC Plc – Extension One Estate (2023)

Material	Material Control						
	Unit	(1)	(2)	(3)	(4)	(5)	(6)
		Stock (Current)	Required	Order	Stock Difference (Physical Use- Required)	Physical Use (Stock Current + Order)	Output
Agrochemicals	**Liters**	0	46,965.32	46,965.32	0	46,965.32	
Fertilizer	**kg**	0	2,556,978	2,556,978	0	2,556,978	
FFB	**228,166 Tons Processed**						**5,2370.3 Tons**
AGO	**Liters**	0	2,168,239.00	2,168,239.00	0	2,168,239.00	
PMS	**Liters**	0	169,385.00	169,385.00	0	169,385.00	

Source: HSE Department, OOPC Plc (2024)

CHAPTER FIVE

Identification, Quantification and Characterization of Waste

5.1 Waste Management

There is a detailed and well-articulated waste management plans to cover description of activities and waste handling by the company. More so, the company's waste management practices were observed during this audit and its present environmental management system (EMS) was ascertained.

5.1.1 Waste Classification

The wide range of waste generated on the estate is classified into solid waste, liquid waste and gaseous emissions.

5.1.2 Waste Generation and Sources

The largest amount of solid waste is generated from the plantation field which is mostly organic in nature, but the residential area will generate the liquid waste, while the bulk of the gaseous emission will come from the powerhouse. The waste profile is presented in Table 5.1.

5.1.3 Solid Waste Handling

Storage: At all points of waste generation, color coded waste bins are provided for the immediate storage of solid waste. Sorting and segregation of solid waste start from the point of generation.

Collection and Transfer: Waste collection and transfer include the provision of a truck to collect and transport the collected waste to the Edo State Ministry of Environment and Sustainability approved solid waste dumpsite at the Main Estate. The company has a valid permit from the Edo State Ministry of Environment and Sustainability to operate the solid waste dumpsite.

Disposal: The solid waste collected is transported and disposed of at the approved solid waste dumpsite.

5.1.4 Liquid Waste Handling

Wastewater: Wastewater (domestic) is channeled into soak-away pits of varying dimensions attached to every building. The dimension of the soak-away depends on the size of the building.

Storm water: Rainstorm water is collected in channels and led into natural drainage lines and vegetation.

Table 5.1: Waste Profile of Okomu OPC Plc – Extension One Estate

Project Phase	Waste Characterization		
	Solid	**Liquid**	**Gaseous**
Field Maintenance	• Dust • Agrochemical containers • Fertilizer bags • Used drums and buckets	• Wastewater • Spent Oil	• Fugitive Dust • Suspended Particulate • Carbon dioxide • Carbon monoxide
Harvesting/Tapping	• Papers/plastics/glass • Scrap office equipment • Spout • Used drums and buckets	• Wastewater • Spent Oil	• Carbon dioxide • Carbon monoxide • Fumes
Offices	• Papers • Hardware and scraps • Plastics • Metals	• Wastewater	• Carbon dioxide
Stores	• Papers, • Plastics • Nylon • Wood • Hand gloves & Nose masks	• Wastewater	• Carbon dioxide • Chemical fumes • Fumes/Vapour
Powerhouse	• Plastics • Empty cans • Electric cables	• Wastewater • Spilled Oil • Spent Oil	• Suspended Particulate • Carbon dioxide • Carbon monoxide • Greenhouse Gases

Source: HSE Department, OOPC Plc (2024)

5.1.5 Waste Re-use/Recycling

As much as possible, waste is minimized and a place is designated for keeping all reusable/recyclable waste such as scrap metals, while essentially organic waste is recycled in the plantation field and spent oil is taken to the Main Estate to be sold to accredited vendors for reuse/recycling.

5.1.6 Waste Manifest and Tracking

A manifest system has been established.

5.1.7 Waste Treatment

Waste treatment on the estate is as presented in Table 5.2 below:

Table 5.2: Okomu OPC Plc - Extension One Waste Treatment System

Types of Waste	Management System
Domestic Waste	Composting at the Approved Solid Waste Dumpsite within the estate
Medical Waste	Incinerated in the Boiler at the Palm Oil Mill
e-waste	Evacuated by selling to accredited vendors in the state
Hazardous waste mainly empty agrochemical containers	Evacuated by agrochemical suppliers as part of the contract agreement
Batteries	Sold to accredited vendors
Metal Scraps	Sold to accredited vendors
Spent Oil	Sold to accredited vendors

CHAPTER SIX

Impact Evaluation

6.1 Introduction

The primary intention of this Report is to systematically identify, analyze and evaluate the impacts of oil palm and rubber plantation at Okomu OPC Plc – Extension One Estate and also, develop an environmental action plan to correct the environmental effects of current activities of the plantation.

In this section of the report, therefore, we present concise information on the current impacts that have been so identified, which have been classified into environmental and social impacts.

This chapter presents an overview of the impact assessment methodology as well as results of impacts identified followed by detailed qualitative and quantitative impact analyses with respect to groundwater, surface river, noise measurements and air quality using national and international acceptable methodology.

6.2 Significant Negative Impacts

In this section, only activity-receptor relationships resulting in impact significance are presented and discussed. In the analysis, the environmental receptors are considered collectively as they relate to facility operations.

6.2.1 Evaluation of Identified Impacts of Plantation Operation

6.2.1.1 Weeding

In mature oil palm and rubber plantation, unwanted weeds are removed from the ground cover by manual clearing with cutlass. There is then the problem of disposal of removed weeds which are therefore allowed to gradually decay or rot. Many invertebrate faunae may be killed during or after weeding. Weeding removes the cover for wildlife such as amphibians, snakes and small mammals. Predator birds such as the black kites and owls increase in numbers in recently weeded plantations to locate exposed and moving prey.

6.2.1.2 Herbicides, Fungicides and Insecticides Application.

The estate uses agrochemicals to control weeds and pests. However, the possibility of carriage of residue from the plantation field to any surface water is extremely remote. An Integrated Pest Management system is used i.e. monitoring stage (plots are being visited with list of pests against the threshold) when it reaches its threshold control method such as physical methods (picking, destroying of larvae). At this stage, if the

physical method does not work the biological method is used (light trapping) before the use of chemical method if needed. Therefore, chemical method is the last method used when all other method is not working which in most times rare.

6.2.1.3 Fertilizer Application

In order to increase productivity of oil palm fruit bunches and wet rubber per unit area, fertilizers are applied at various stages. At the nursery, in each bag of soils, fertilizers are applied such as NPK, borax, potash, sulphate of ammonia. Ashes of burnt kernel shells from boiler furnace are also applied as fertilizers. Not all nutrients added to the soil as fertilizers are taken up by the growing palm. Residues (NO_3, PO_4) may remain in the soil and end up in surface waters through storm water runoffs or be leached out of the soil and enter groundwater. High nitrate levels in drinking water sources cause health risks particularly in children. It reacts with haemoglobin causing methemoglobinemia which impairs respiratory gases transport. Nitrites and nitrates can form nitrosamines, which are carcinogenic, mutagenic and tetratogenic (Odiete, 1999). At Okomu OPC Plc, the ashes from the boiler furnace and palm kernel cake make excellent fertilizers and are applied widely throughout the entire plantation. Therefore, the possibility of high levels of nitrite and nitrates in groundwater is very remote.

6.2.1.4 Decommissioning and Abandonment

- Permanent and casual workers will be laid off resulting in loss of employment and income, although severance payment will also be made to permanent workers. But this can itself give rise to strained relations between workers/community and the company.
- The plantation will no longer be regularly and properly maintained including no weeding, no pest control, no maintenance of roads and tracks, no pruning of palm fronts. There will be great economic loss to the company and shareholders and the nation. The plantation will become densely populated by weeds, pests and many invertebrates' fauna and small to medium size wildlife.
- The land area might need to be restored back to its original state and this includes felling the palm trees as well as planting trees. This will portend a great economic loss to the company in addition to the already incurred losses.
- Removal of equipment and ancillary facilities such as chemicals, ploughs, tractors, harrows, trucks and other farm machinery will generate excessive noise and also a potential for accident.
- Return of land area to State Government which can generate conflicts between the affected communities and the local authority.

6.2.2 Significant Impact Producing Activities

The significant impact producing activities (IPAs) are as follows:

- Weeding in young plantation and manual removal of unwanted weeds with cutlass in mature planting.
- Fertilizer Application: In Okomu OPC Plc, mainly ash from boilers is applied. Also, other chemical fertilizer applications may affect groundwater as a result of runoffs and leaching.
- Pruning, harvesting, tapping, collection of fruit bunches and cup lumps.
- Use of diesel machinery and powered generators for electricity generation.
- Transportation of Fresh Fruit Bunches (FFBs) and cup lumps from the fields to the palm oil mill and rubber factory for processing at the Main Estate of the company.
- Laying off workers/Severance Payment
- Lack of care of plantation

6.2.3 Cumulative Impacts

Cumulative impacts are changes to the environment that are caused by an activity in combination with other past, present and future human activities. (GSI, 2003). The concept of cumulative effects is an important one. It holds that, while impacts may be small individually, the overall impact of all environmental changes affecting the receptors taken together can be significant. When a resource is nearing its tolerance threshold, a small change can push it over. The objective of the cumulative impact assessment is to identify those environmental and/or socio-economic aspects that may not on their own constitute a significant impact but when combined with impacts from past, present or reasonably foreseeable future activities associated with this and/or other projects, result in a larger and more significant impact[s].

- **Project Specific Cumulative Effects' Assessment**
  This section evaluates the cumulative effects of the individual impacts evaluated in the preceding sections.

- ***Land Based Traffic***
  It is envisioned that land-based traffic will also increase as a result of the estate operations and activities. Land based traffic is eminent to allow the FFB and cup lumps that are harvested to be transported for processing at the palm oil mill and rubber factory at the Main estate of the company. However, the operations at the estate have a negligible impact on traffic after considering all measures put in place by the management to mitigate the problem. No additional cumulative transportation impacts have been identified in recent time.

- ***Public Services***
  There is no impact to public services under the present operations of the estate. The operations and activities of the estate have not introduced any additional long-term population or employment into the area, and thus, have not resulted in any additional demand for police or fire services or the need for new or altered facilities. No damage to roadways has been recorded except which would be considered normal wear and tear. Therefore, the plantation estate has resulted in negligible impact on public utilities.

- ***Employment Opportunities***
  There have been some beneficial impacts that are cumulative that are in the employment sector. The plantation estate has employed enormous number of workers – all Nigerian. Positive cumulative social benefits include gainful employment and tax being paid to government coffer.

6.2.4 Known Overall Impacts of Large Oil Palm and Rubber Plantation Cultivation and Management

These include:

- Loss of resources of lowland rainforest and land for indigenous people
- Transformation of the forest into a monoculture farm
- Many insects and insect pests flourish in Oil Palm plantation due to absence of natural enemies.
- Loss/disappearance/displacement of many wildlife species.
- Employment and income generation will be enhanced.
- Pollution of the soil and groundwater by pesticides and excessive use of fertilizers.
- Buildup of dry and decaying fronds and other organic matter under plantation posing a fire hazard.
- Rapid spread of unwanted weeds.

6.3 Public Health Impact (PHI) of OOPC Plc – Extension One Estate Operations

The public health impact assessment of the oil palm plantation is a rapid appraisal of the likely health impacts the plantation operation might have on the totality of the environment. The assessment will consist simply of a summary table and a conclusion. The summary table shall list the intermediate factors and their likely impacts with minimal qualification.

6.3.1 Identifying Intermediate Factors that Impact on Health

Many operations that are not intended to affect health directly have indirect effects on health and wellbeing, often these indirect effects have not been recognized. Operation may affect things such as employment, income, air quality or housing, which in turn affect health. These factors which are not health indicators but do influence health are referred to as intermediate factors. (They may also be called determinants of health).

Some of the identified intermediate factors of the farm operations are:

- Air Quality
- Water Quality and Hydrology
- Noise and Vibration
- Health and Safety
- Traffic and transport
- Waste Management
- Workers' Welfare
- Social cohesion
- Corporate Image

Table 6.1: Summary of Public Health Impacts of Okomu OPC Plc – Extension One Estate Operations

Intermediate Factor	Affected Group	Health Impact	Mitigation measures put in place
Air quality Dust and gaseous emissions from land preparation and vehicular emission leading to high suspended particulates in the atmosphere.	All	- Allergy - Eye irritation Nose irritation - Respiratory Tract Infections	- Low emission/high efficiency engines are used. - Regular maintenance of vehicles to ensure optimal performance - Movement of men and materials are properly coordinated to optimize vehicle use and resultant emissions. - Dust and particulate barriers are used during operation. - No burning on site (i.e. zero burning).
Noise and vibration Noise emissions generated by heavy duty vehicles and workers activities	All	- Hearing impairment, hypertension, annoyance, sleep disturbance of site workers. - Hand-Arm Vibration Syndrome (HAVS)	- Noise attenuation measures such as acoustic mufflers are fixed on large engines and equipment. - Hearing protection is provided and usage enforced for workers on site. - Plantation operations are carried out during daytime only.
Water Quality and Hydrology Increased receiving water body turbidity from runoff and from the plantation.	All	- Illnesses including Typhoid, Cholera, Dysentery, Polio, Hepatitis	- Adequate buffer zones between surface water and planting areas have been established. - Re-fueling and maintenance of heavy construction vehicles at the site are done at specified areas and temporary storage of oily waste. - Nutrients (such as fertilizer and soil conditioner) application is minimally done.
Solid Waste - Solid waste constituting an aesthetic nuisance - Sewage nuisance	All	Improper solid waste handling can lead to the following: - Creating conditions favourable to the survival and growth of microbial pathogens	Waste is contained and removed regularly.

Table 6.1: Summary of Public Health Impacts of Okomu OPC Plc – Extension One Estate Operations

Intermediate Factor	Affected Group	Health Impact	Mitigation measures put in place
		- Causing infectious and chronic diseases especially the waste workers.	
Hostility Land acquisition and take-over conflicts between the communities and the company.	Workers and communities	- Youth restiveness - Persistence conflicts between community and company - Hostages	- Grievance and conflict resolution mechanisms have been instituted. - The company employs as much local labour as possible.
Waste Management - Accumulated waste could lead to contamination of soil/groundwater and breeding grounds for vectors and rodents	All	Health hazards associated with poor waste management include: - Skin and blood infections result from direct contact with waste. - Different diseases such as intestinal infections that result from poor waste management. - Genetic mutilation - Reduction in aquatic food supply - Disruption of food chain	- **Okomu OPC Plc** has a waste management plan and waste storage bins at designated areas for collection of waste to solid waste dumpsite.
Sewage - Faecal aesthetic issues for the project area. - Spillage of septic liquor	Workers	- Cholera - Dysentery - Infectious and chronic diseases	- Onsite toilets are made available for use
Socioeconomics - Promiscuity - Sexual harassment - Youth Militancy - Unemployment - Grievances	All	- Sexually transmitted diseases (STDs) - HIV/AIDS - Population explosion	**Okomu OPC Plc** has been operating cordially with the host communities through regular engagement with the community leaders

Table 6.1: Summary of Public Health Impacts of Okomu OPC Plc – Extension One Estate Operations			
Intermediate Factor	**Affected Group**	**Health Impact**	**Mitigation measures put in place**
Workers' Welfare Especially when workers leave the organization and/or layoff.	Workers	- Depression - Hypertension - Workers' restiveness	**Okomu OPC Plc** always ensures that workers receive their full benefits when leaving the organization.
Corporate Image The negative corporate image arising from day-to-day activities of the organization,	Company/All	- Annoyance - Depression	**Okomu OPC Plc** always ensures that its day-to-day activities and operations do not portray bad image about the organization to the general public and therefore has been operating according to the best industry standards and practice.

*** Note: "All" in the Affected Group Column means, "Totality of the Environment" including Flora and Fauna and Humans.**

6.3.2 Conclusion

The main negative impacts are health and safety. However, mitigation measures have been put in place for health and safety through the provision of appropriate PPE. Similarly, there is a buffer zone (50-150m) between planting areas and river bodies with minimal application of fertilizer and agrochemicals to avoid eutrophication.

As a result of the above provisions and measures, the net public health impact of the estate operations is positive.

6.4 Socio-economic and Social Impact Analysis

A quick appraisal on socio-economic of the six (6) communities/camps, namely; Adeola, Bisi, Evboruiebor, Gbole-Uba, Ofunoma and Opuama was carried out in December 2020 taking cognizance of the comprehensive Social Impact Analysis (SIA) that was carried out in 2018. It appears that the operations of the company have an overall positive social impact on the host community. However, the company places utmost attention to the interest of the host community in its corporate social responsibility which is based on community requests.

CHAPTER SEVEN

7.0 Summary of Audit Findings and Recommendation

Focal Area	Audit Area	Indicators	Status	Recommendation for Improvement
1. Environmental Sustainability Planning.	Institutional workplace environment policy	Institutional environmental sustainability policy	Environmental and/or any other policies duly signed by Managing Director are in place	Always operate according to the policies of the company.
	Structures to address environmental issues	Environmental committee in place	Environmental committee is in existence which cut across all department.	No Action Required
	Strategic plan and Service Charter	Commitments	There are many charters developed by Socfin Group (Parent Company) such as Aid Charter.	Develop more charter to include special role for women in Host Community DevelopmentAgenda.
	Compliance with the Environmental Impact Assessment, Environmental Audit and Environmental Management Plan	Environmental audit reports for existing projects. EIA reports for new projects Environmental Management Plans (EMPs)	The company has been in existence before the enactment of EIA Act of 1992. Environmental audit reports have been regularly submitted to Edo State Ministry of Environment and Sustainability in Benin City.	No Action Required
	Housekeeping and Sanitation	Health, Safety and Environment (HSE) department in place	Housekeeping is good at workplaces but needs improvement.	No Action Required
2. Pollution Control	Water Pollution & Control Measures	Initiatives to prevent, protect and monitor water sources.	The results of laboratory analysis show the groundwater quality is good and free from pollution at all sources. The values are within FMEnv and WHO standard for groundwater except pH which was acidic with value of 4.94.	The pH of borehole water should be raised to acceptable standards for drinking water (6.5-8.5) as recommended by WHO/FMEnv. Conduct periodic water quality monitoring on groundwater and surface water within the estate.

Focal Area	Audit Area	Indicators	Status	Recommendation for Improvement
	Waste Management Interventions	Initiatives to segregate, reducing, reusing, and recycling of waste	Most waste generated on the estate is organic in nature which is recycled in the field. More so, sorting is done at the point of waste generation and at the solid waste dumpsite.	Ensure there is access control at the solid waste dumpsite.
		Modes of waste handling (generation, transportation and disposal)	Solid waste generated are collected in colour coded bins and transported by bucket mounted tractor to solid waste dumpsite.	Ensure waste manifest is up to date.
	Air pollution control measures	Initiatives to reduce Air pollution	The ambient air quality was determined in-situ during the audit for critical locations and the results show that the concentrations of gases and particulate matter monitored were within the FMEnv. Limit.	Sustain the quarterly air quality monitoring on the estate.
	Noise pollution control	Initiatives to reduce Noise pollution	Maintenance is regularly done on all the machinery	Carry out a periodic noise measurement on all noise generating equipment before and after maintenance.
3. Climate change	Climate change adaptation and mitigation	Energy saving initiatives	Energy consumption trends was established and target to achieve efficient energy use was set but target not achieved.	Provide an effective plan to achieve the set target. Such as Energy Policy, staff education /awareness and use of alternative sources of energy.
		Rainwater harvesting	Conservation plot and sediment trap pits serve this purpose as a water retention medium	No Action Required
		Measures to control greenhouse gases	The mature palm trees serve as carbon sequential on the estate considering the vast mass of the estate.	No Action Required
4. Promoting Environmental protection and conservation through	Environmental projects and activities undertaken through partnership with stakeholders	Projects and activities undertaken jointly, MoUs Joint management plans	The estate has yet to participate in any environmental project and activities through partnership with any stakeholders except CSR to Host Communities.	It is desirable to develop a MoU with the host communities.

Focal Area	Audit Area	Indicators	Status	Recommendation for Improvement
partnerships with stakeholders	Corporate social responsibility (CSR) on environment	CSR initiatives in place	CSR is done based on Host Community request every year where social commitments and obligations to the host communities are done.	No Action Required
	Partnerships with FMENv on Monitoring and inspections to ensure compliance with environment legislation	Areas of partnerships with FMEnv on Monitoring and inspections to ensure compliance with environment legislation	There is a partnership with FMEnv and Edo State Ministry of Environment and Sustainability in environmental compliance monitoring. A quarterly environmental monitoring exercise is carried out and report submitted to both Federal and Edo State Ministry of Environment and Sustainability.	This practice should be sustained
5. Environmental Ecological Enhancement	Wetlands, Riverbanks, lakeshores, and seashore management	Rehabilitation initiatives	No wetland and surface river are planted.	This practice should be sustained.
	Conservation of biological diversity and Environmental significant areas	Conservation initiatives	Conservation Area (415.41 Hectares) has been established within the plantation field, and it is monitored by Eco-guards on daily basis	This practice should be sustained
	Environmental restoration	Degraded lands secured, restored and conserved	No degraded lands on the estate.	No Action Required
6. Training	Workers' Refresher Training	Workers' Competence	The company has established an in-house training structure with documented curriculum that can be reviewed regularly across most workplaces	This practice should be sustained.

Focal Area	Audit Area	Indicators	Status	Recommendation for Improvement
7. Education and Awareness	Behaviour changes towards the environment Participation in environmental events with communities and schools	Proof of positive behaviour change Evidence of Participation in environmental events	Workers are aware of their environmental responsibilities. None	Conduct regular training on HSE for workers. Organise annual Health, Safety and Environment (HSE) week or day to create awareness among workers.
	Sensitization of staff and public on Environmental sustainability relevant to the institutional mandate	Sensitized staff on environmental sustainability through Informative, Educative and Communication (IEC) materials	There are many Informative, Educative, and Communication (IEC) Material on site.	Prepare more environmental signage and posters at critical work areas to sensitize workers on environmental protection as a collective responsibility.
	Recognition of environmental champions	Evidence of appreciation of environmental sustainability champions	Co-sponsoring many environmental activities in the state especially the World Environmental Day.	Always partner and associate with bodies concern with environmental related issues such as workshop, symposium and conference.
	Compliance with safety rules within the plantation	Evidence of compliance with safety and traffic laws	The company has speed limit and traffic safety sign	Educate workers on the importance of signage especially the message, interpretation and compliance.

CHAPTER EIGHT

8.0 REMARKS AND RECOMMENDATIONS

8.1 Compliance with Legislation

8.1.1 Environmental and Other Policies

The company has developed a well-written environment and other policies. It is recommended that the company develop more policies as they are applicable to its operation.

8.1.2 Submission of Records and Reports to Regulatory Bodies

The company has been submitting most of the reports and information such as environmental compliance monitoring report (ECM) to the appropriate regulatory bodies particularly Federal Ministry of Environment and Edo State Ministry of Environment and Sustainability. The regulatory bodies require them for monitoring and review purposes, although, most of these reports and information are available on record for internal use and references. It is therefore recommended that all reports, data, lists and log sheets relating to the environment be submitted to the Federal and State Ministries of Environment and other relevant regulatory bodies, and every submission be duly acknowledged and copies filed appropriately.

8.1.3 HSE Department

A full-fledge HSE department has been established. The department is to plan, manage, oversee, and supervise environmental activities on the estate. It is therefore recommended that HSE department personnel be regularly trained.

8.1.4 Permits/Licenses/Approvals

Most permits, certificates and licenses have been obtained and renewed. It is recommended that all statutory documents that need to be renewed and obtained should be carried out.

8.2 Environment

8.2.1 General Housekeeping and Sanitation

Housekeeping is generally good across board the estate.

8.2.2 Solid Waste Dumpsite

The operation of the solid waste dumpsite at the Main estate looks good. It is recommended that the solid waste dumpsite be subjected to a periodic assessment to monitor possible contamination of groundwater and air quality.

8.3 Pollution

Considerable provisions have been made to prevent pollution, particularly noise pollution at the powerhouse. It is recommended that additional provisions be made to prevent and abate the effect of pollution on other critical work areas such as fuel dispensing station.

8.3.1 Drinking Water Quality

The quality of water supplied from the boreholes except for the pH is good. It is however recommended that the pH is raised to potable water standard of 6.5-8.5 by adding soda lime.

8.3.2 Ambient Air Quality

The in-situ determination of the gases showed that all gaseous emissions were within the FMENV set limits except Suspended Particulate Matters (SPM). However, it is recommended that workers around the powerhouses, agrochemical stores, agrochemical sprayers and fuel stations always use appropriate PPE especially the Nose Mask/Respirator.

8.3.3 Noise

The noise levels at different locations to the powerhouse and other critical workplaces [52.2 dB(A) – 89.4 dB(A)] are within FMEnv. permissible limits of 90 dB(A) for 8-hours exposure but exceed NESREA limit of 85 dB(A) at the powerhouse. It is recommended that the noise level at the powerhouse should be accorded action such as padding the section to reduce and routine checks be done to monitor noise levels at critical operation areas, especially after repairs or maintenance.

8.3.4 Energy

It is important to always monitor energy consumption and ensure that energy consumption is efficient in relation to the size of operation. It is recommended to establish the energy consumption trend on a regular basis and set targets aimed at achieving the most efficient energy use rate in case of any unacceptable trend.

8.4 Emergency Response/Contingency Plans

Emergency Response and Contingency Plans have been written for most operations. It is recommended that all staff is aware and trained on all emergency response and contingency in order to make it effective.

8.5 Health

8.5.1 First Aid Arrangement

First Aid Boxes are provided at offices. It is recommended that First Aid Boxes should be reasonably and regularly stocked. The procedure for First Aid treatment should be documented and all the necessary training and awareness be created.

8.6 Workplace Safety

8.6.1 Safety Organization

There can still be more improvement and effectiveness in the existing safety organization. This can be achieved by getting feedback from workers on safety issues. It is recommended that decisions, actions and feedback on emergent safety issues be documented and reviewed.

8.6.2 Occupational Accidents and Dangerous Occurrences

It is important to always report dangerous occurrences such as near-misses so that incidents and accidents can be mitigated. It is recommended that all dangerous occurrences, incidents and accidents be reported, and the findings of investigation be utilized in proffering solutions in order to avoid recurrence.

8.6.3 Personal Protective Equipment

The provisions for the enforcement of the use of PPE by workers are good and should be sustained. It is recommended that safety education be used in encouraging the use of PPE by workers and to also follow strict work procedures.

8.7 Safety Data Sheets (SDSs)

It is recommended to obtain SDSs for all hazardous chemicals in use, displayed at storage area and train workers on its content.

8.8 Risks/Hazards Analysis

It is important to do a risk assessment and analysis involving supervisors so as to enhance occupational safety and allow for easy understanding of job hazards.

Although this has been done by the company, it is recommended that the risk assessment and analysis of tasks and jobs be regularly reviewed and also ensure that all response/control measures are very well established and functional.

8.9 Training, Communication and Reporting

The company's existing training and education arrangement was satisfactory and should be sustained.

8.10 Signage

There are few signages on the plantation estate. It is recommended to produce adequate signage, and workers are educated on the importance of signage especially the message, interpretation, and compliance.

8.11 Fire Prevention and Control

It is recommended that the present fire prevention and control measures in place be sustained.

8.12 Industrial Labour Relations

The industrial labour relations of the company are good, and it is recommended to improve on it. Although harmful child labour is non-existence and there is a policy forbidding use of child labour on the estate. But there is the prospect of child abuse in plantation work when children accompany their parents to work. It is therefore recommended to strictly apply the policy on harmful child labour.

8.13 Corporate Social Responsibility

The CSR of the company is good and should be sustained. It is recommended that gender development especially for women be always included in the development agenda for host communities.

CHAPTER NINE

9.0 Revised Environmental Action Plans – 2024 (EAPs)

ISSUE/RECOMMENDATION	PRIORITY	FORMER TARGET	REMARKS	
			STATUS	NEW TARGET
Compliance with Legislation and Best Management Practices				
Submit all records relating to the environment to Regulatory Bodies	High	Continuous	Continuous	Continuous
Review and update status of Permits, Certificates, Licenses, etc.	High	Continuous	Continuous	Continuous
Waste Management System				
Ensure that there is no mix-up of hazardous and/or empty agrochemical containers with general/domestic waste when transporting wastes to the Main estate	High	Continuous	Continuous	Continuous
Replace all damaged waste storage bins across board.	High	Continuous	Continuous	Continuous
Housekeeping and Sanitation				
Eliminate all unauthorized refuse dumps at workplaces and residences.	High	Continuous	Continuous	Continuous
Prepare Emergency Response/Contingency Plan for damaged septic tanks.	High	September 2021	Not Done	March 2025
Arrange properly items including drums at the powerhouse.	High	Continuous	Continuous	Continuous
Plantation Management				
Periodically evaluate plantation water consumption rate	High	Periodically	Continuous	Periodically
Health:				
Intensify Health Education Program	High	Continuous	Continuous	Always
Conduct periodic medical examination for all Pesticide Handlers	High			Every 6 Months
Conduct Periodic food handlers test for staff at the canteen	High			Every 6 Months
Pollution:				
Conduct routine monitoring of water sources to sustain quality of drinking water	High	Always	Continuous	Every Quarter

ISSUE/RECOMMENDATION	PRIORITY	FORMER TARGET	REMARKS	
			STATUS	NEW TARGET
Conduct routine monitoring of noise levels and air quality at critical workplaces	High	Always	Continuous	Every Quarter
Provide secondary containment at the powerhouse	High			July 2025
Construction of a concrete floor at the fuel dispensing	High			July 2025
Energy:				
Establish energy conservation policy for all workplace	Medium	December 2021	Not Done	
Inspection and Record Keeping				
Expand inspections to include all environmental aspects	High			Continuous
Include environmental matters in accident reporting system and this should include other projects	High			Always
Workplace Safety:				
Promote safety education in enforcing the use of PPE	High	Always	Continuous	Always
Provide maintenance ladder and safety provisions for communication masts.	High	Always	Continuous	Always
Document and review decisions, actions and feedback on safety issues	High			Always
Training Communication and Reporting:				
Establish and document curriculum for formal in-house training	High	July 2022	Done	Always
Run induction courses to cover General Safety, First Aid and Company Policies	Medium	Always	Continuous	Always
Community Development				
Ensure records are maintained on all communications with the public, especially local communities.	High	Always	Continuous	Always
Industrial Labour Relation				
Forbid workers from taking underage children to help them in plantation work.	High	Continuous	Continuous	Continuous
Signage				
Constantly maintain all the muster points and should be devoid of any obstruction	High	Continuous	Continuous	Continuous

References

1. IFC – Draft EHS General Guidelines for Perennial Crop Production (March 2016)
2. World Bank Environmental Health and Safety Guidelines (Pesticide Handling and Application, and Occupational Health and Safety).
3. Federal Ministry of Environment (Regulatory Checklist for Ministerial Environmental Compliance Monitoring and Enforcement).
4. Federal Ministry of Environment List of Banned Pesticides and Chemicals
5. National Guidelines for Environmental Audit Report (EAuR) in Nigeria.
6. Environmental Compliance Monitoring (ECM) Report of 2024
7. Okomu OPC Plc – Extension One Estate Environmental Audit Report (2021)

Annexure I –Terms of Reference (ToR)

OBJECTIVES OF ENVIRONMENTAL MANAGEMENT PLAN

The main objective of the EMP is to principally assess the extent to which an organization is observing practices which minimize harm to the environment. Environmental auditing is carried out when a development is already in place, and is used to check on existing practices, assessing the environmental effects of current activities. Environmental auditing therefore provides a 'snap-shot' of looking at what is happening at that point in time in an organization. The EMP covers the whole environment from the biotic to abiotic (physical), socio-economic and health and safety aspects of the workers and the proximal communities. In this circumstance therefore, and for the purposes of compliance with Federal Environmental Laws, it is required that Okomu OPC Plc- Extension One Estate as a responsible corporate organization conduct an Environmental Audit on its facilities and operations. This would serve to adequately analyze the site, investigate, understand and identify effects of certain activities on the environment against set criteria or standards. These are used to help improve existing human activities, with the aim of reducing the adverse effects of these activities on the environment.

PROJECT JUSTIFICATION

In Nigeria, the legal instruments relevant for the protection of the environment are contained in FEPA (now Federal Ministry of Environment) regulations. Some State governments also made few enactments that are not inconsistent with the Federal laws. In consonance with these laws, Okomu OPC Plc- Extension One Estate should:

- Develop, Implement and maintain an environmental policy that would enhance the environmental performance of its corporate activities.
- Aim and pursue compliance with existing environmental legislations, identify any non-compliance and endeavour to remedy such non-compliance.
- Develop and maintain environmental awareness of its employees, contractors and any such external parties involved in their corporate activities.
- Improve its corporate image through environmental responsibilities, particularly amongst the host communities.
- Work in partnership with regulatory agencies for better environment.
- Pay special attention to sustainable development through incorporation of environmental concerns into any development projects.
- Maintain good relationship with the neighboring communities of their projects for better performance.
- Minimize litigation that may arise from environmental non-performance of their projects' activities.

WORK SCOPE

We have very good knowledge and understanding of the requirements of an EMP and have identified the following broad and specific elements for the Plantation estate.

1. **Description of the Facility**

   Detailed regular and description of the facility to include activities and operations. Also detailed information concerning the use of inputs, localization, by-products, products, wastes etc.

2. **Legislation**

   - Describe the primary environmental legislative requirement for the facility operations, construction activities and protection measures.
   - List all references to legislation.
   - Identify development legislation, which is likely to affect the operation of the project.

3. **Background Information**

   - Identify source for the main legal requirements that affect the operation of the facility or processes.
   - Prepare the layout of the unit operations
   - Provide block or engineering diagram

4. **Material Balance and Mass Balance Measurement**

   This will help to prioritize problem waste by:

   i) Identifying, characterization and quantifying major sources of waste
   ii) Identifying deviations from the norm in terms of waste production
   iii) Identifying areas of unexplained losses and pinpoint operations which contribute to flows that exceed national or site discharge regulations; and
   iv) Identifying, characterization and quantifying effects of wastes on the working and receiving environment

5. **Identification, Quantification and Characterization of Waste Impacts**

   This would assist to identify and quantify the audit process in order to determine the impacts of the waste and prioritize wastes which includes:

   i.) Identification of unit operations
   ii.) Identification of raw materials storage, values and handling losses
   iii.) Input data (e.g. Raw materials, water, energy)
   iv.) Water usage by unit operation including amounts used for cleaning, steaming etc.)

6. **Impact Evaluation**

   This is the evaluation of facility impacts and shall be achieved through sampling of groundwater, surface water, soil, air and noise measurements.

7. Evaluation of Findings

The evaluation of findings will be done against the national regulations and standards as specified by the Federal Ministry of Environment and best practices for annual crop production.

After gathering of information and data collection, the findings would be reviewed with the facility management.

8. Recommendation

- General Recommendation;
- Specific Recommendation

9. Environmental Action Plan

A robust environmental action plan will be produced to bring into effect the findings and recommendations of the environmental audit.

10. Follow-up Action Plan

- Environmental Management System (EMS)
- Waste Reduction
- Efficiency Improvement

METHODOLOGY

FDS would approach the audit as follows:

- **Pre-Audit/Reconnaissance Visit:** Visits to the plantation estate for familiarization and scoping of the audit process.
- **Scoping:** Identifying a number of critical issues from the broad range of current/present operations.
- **Facility Inspection:** Baseline environmental assessment study, including existing environmental management systems, environmental aspects, procedures, processes, permits, record, etc.
- **Identification of Impacts:** Identification, quantification and characterization of waste.
- **Impact Evaluation:** Impact identification, impact quantification, public health impact and social impact including pollution, groundwater, surface water, noise, air, occupational health and safety.
- **Recommendations:** General recommendations and Specific recommendations.
- **Environmental Action Plan:** Detailing activities, responsibilities and time line.

We intend to combine multi-disciplinary and interdisciplinary approaches to compose a study team covering the following expertise: Development Planning, Agricultural/Mechanical Engineering, Soil Science, Analytical/Environmental Chemistry, Forestry, Environmental Toxicology, Environmental Health and Safety and Environmental Law.

APPENDIX A – WATER QUALITY LABORATORY RESULTS

ENVIRONMENTAL
Laboratories Ltd
(Environmental Consultants & Public Analysts)

28 Apaola Street, Off Aladelola St.
Ikosi-Ketu, Lagos.
Tel.: 08052059768
Email: info@environlabsng.com
www.environlabsng.com

Analyst's Certificate

№: 24111934

[Institute of Public Analysts of Nigeria Decree 100 of 1992]

Name of Sample:	Groundwater	**Project 2**: Extension 1
Client:	Foremost Development Services Limited. For: OKOMU Nig. PLC Benin City, Edo State.	
Submission Date:	19 November, 2024	**Lab No.**: EL/W/2411/38149

Methodology:

Sample of groundwater collected from the Estate was analyzed using Standard methods for the examination of water and wastewater (APHA 24th Edition, 2022). The parameters examined are as contained in the result Table.

Sampling Location

S/N	Code	Description of location	Coordinate	
1	OKM_{EXTQ}	Extension one Quarters	N06º22' 22.2"	E005º22'53.2

Result of Analysis

The result of on-site measurements and laboratory analyses carried out on the sample while in the same condition as submitted to us is presented in Table 1:

Comment

The result of analysis conducted on the sample shows that pH of the sample differ from the limit. All the other physico-chemical and microbiological parameters are within the Standard.

I, the undersigned Public Analyst, OYEDIRAN, L.O. (IPAN NO. 00155[R]), make this certification, as witnessed my hand this 26th day of November, 2024.

Table 1: Result of analysis of groundwater sample from the Estate

PARAMETER/UNIT	Method, APHA, 2022	OKM_{EXQ}	NIS 554: 2015
Appearance	Visual	Clear & colourless	Clear & colourless
Odour	Sensory	Unobjectionable	Unobjectionable
pH @ 25.0 °C	4500-H-B	4.94	6.5-8.5
Temperature, °C	2550-B	30.8	Ambient
Conductivity, µS/cm	2500-B	14	1000
Total Dissolved solids, mg/L	2540B	7	500
Total Suspended Solids, mg/L	2540-D	1	-
Total Solids, mg/L	2540-C	8	-
Colour, Pt-Co	2120-C	10	15
Turbidity, NTU	2130-B	5	5
Total Hardness, mg/L $CaCO_3$	2340-C	4	150
Total Alkalinity, mg/L	2320-B	4	-
Total acidity, mg/L	2310-B	50	-
Calcium, mg/L as Ca	3500-B	<0.01	-
Magnesium, mg/L as Mg	3500-B	0.97	20
Chloride, mg/L	4500-B	10	250
Nitrate, mg/L	4500-NO_3^-E	<0.01	50
Nitrite, mg/L	4500-NO_2^-B	<0.01	0.2
Sulphate, mg/L	4500-SO_4-E	<1	100
Phosphate, mg/L	4500-E	<0.01	-
Iron (total), mg/L	3500-B	<0.01	0.3
Fluoride, mg/L	4500-F-C	<0.01	1.5
Lead, mg/L	3500 –Pb-B	<0.001	0.01
Arsenic, mg/L	3500 –As-B	<0.001	0.01
Manganese, mg/L	3500 –Mn-B	<0.001	0.2
Copper, mg/L	3500 –Cu-B	<0.001	1.0
Cadmium, mg/L	3500 –Cd-B	<0.001	0. 03
Hydrogen Sulphide, mg/L	4500-S^2H	<0.01	0.05
Total coliform count, CFU/100 ml	9225-D	0	10
Faecal coliform (E.coli), CFU/ml	9222-D	0	0
Salmonella/Shigella sp., CFU/ml	9260-E	0	0
Staphylococcus sp., CFU/ml	AOAC 995.12	0	0
Pseudomonas aureus, CFU/ml	9213-E	0	0
Total plate count, CFU/mL	9215-B	6	10^2

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Analyst's Certificate

№: 2411918

[Institute of Public Analysts of Nigeria Decree 100 of 1992]

Name of Sample:	Surface water	**Project:**	Extension 1
Client:	Foremost Development Services Limited. For: OKOMU Oil Company PLC Benin City, Edo State.		
Submission Date:	19 November, 2024	**Lab No.:**	EL/W/2411/38133

Methodology

Sample of surface water collected from the Estate was analyzed using Standard methods for the examination of water and wastewater (APHA 24th Edition, 2022). The parameters examined are as contained in the result Table.

Sampling Location

S/N	Code	Description of location	Coordinate	
1	OKM_{GB}	Gboleuba Creek	N06º18.59.6'	E005º23.25.2"10m

Result of Analysis

The result of on-site measurements and laboratory analyses carried out on the water sample collected from Extension 1 Quarters while in the same condition as submitted to us is presented in Table 1:

Comment

a) pH of the sample is within the limit;
b) All other physico-chemical and microbiological parameters are also within the Standard.

I, the undersigned Public Analyst, OYEDIRAN, L.O. (IPAN NO. 00155R), make this certification, as witnessed my hand this 26th day of November, 2024.

TABLE 1: Result of analysis of surface water from EXT 1 Estate

PARAMETER/UNIT	METHOD APHA, 24 Ed	OKMGB	FMEnv.
Appearance	Visual	Clear with particles	Clear & colorless
Odour/Taste	Sensory	Unobjectionable	Unobjectionable
pH@ 25°C	4500-B	5.18	6-9
Temperature, °C	2550-B	29.2	Ambient
Conductivity, µS/cm	2510-B	16	2000
Total Dissolved solids, mg/L	2540-C	8	1000
Total Suspended Solids, mg/L	2540-D	6	30
Total Solids, mg/L	2540-B	14	-
Colour, Pt-Co	2120-C	10	7.0
Turbidity, NTU	2130-B	<0.01	10
Total Hardness, mg/L	2340-C	<1	-
Total Alkalinity, mg/L	2320-B	4	-
Total acidity, mg/L	2310-B	60	-
Calcium, mg/L as Ca	3500-B	<0.01	-
Magnesium, mg/L as Mg	3500-B	<0.01	-
Chloride, mg/L	4500-B	6	200
Nitrate, mg/L	4500-NO_3^--B	<0.01	50
Nitrite, mg/L	4500-NO_2^--B	<0.01	0.3
Sulphate, mg/L	4500-E	<0.1	250
Phosphate, mg/L	4500-C	0.03	-
Iron (total), mg/L	3500-B	0.07	20
Lead, mg/L	3500 -Pb-B	<0.001	<1.0
Copper, mg/L	3500 -Cu-B	<0.001	<1.0
Manganese, mg/L	3500 -Mn-B	<0.001	0.10
Cadmium, mg/L	3500 -Cd-B	<0.001	<1.0
Nickel, mg/L	3500 -Ni-B	<0.001	<1.0
Cobalt, mg/L	3500 -Co-B	<0.001	<1.0
Arsenic, mg/L	3500 -As-B	<0.001	<1.0
Chemical Oxygen Demand, mg/L	5220-D	7.5	80
Biochem. Oxygen Demand, mg/L	5210-B	4.8	30
Dissolved Oxygen, mg/L	4500-G	7.7	>2.0
Total Hydrocarbon, mg/L	Spec.	<0.1	-
Pesticides, mg/L	Screening	<0.01	-
Total coliform count, MPN/100 mL	APHA 9225-D	12	10^2
Faecal coliform, E.coli; CFU/mL	APHA 9222-D	0	-
Total plate count, CFU/mL	APHA 9215-B	125	10^4

APPENDIX B – AIR QUALITY AND NOISE LEVEL RESULTS

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Analyst's Certificate

№: 2411132

[Institute of Public Analysts of Nigeria Decree 100 of 1992]

Name of Project	Extension I Air quality	Project 2: Extension One
Client	Foremost Development Services Limited For: OKOMU Oil PLC, Benin-City, Edo State.	
Sampling Date	13 November 2024.	Quarter: 4th

Methodology:

Sampling and measurement of ambient air quality and noise level were carried out using portable analyzers. Gaseous components of the air were monitored using combination of gas monitors (Industrial Scientific iTX and 7-in-1 air quality monitor) to measure the concentration of carbon monoxide (CO), Sulphur dioxide (SO_2), hydrogen sulphide (H_2S), nitrogen dioxide (NO_2), Total volatile organic compounds and carbon dioxide (CO_2). Handheld Aerosol Monitor PPM1055 was used for the measurement of suspended particulate matter while noise level was determined using digital sound level meter within and around the facility.

Result

The result of on-site measurements carried out on the ambient air at the facility is as presented in Table 1.

Comment

Based on the result of all measurements conducted around the facility,

a) The concentration of gases is within the limit;
b) The particulate matter differs from the Standard at some of the locations;
c) The noise level at all the locations is within the limit for 8-hour exposure.

I, the undersigned Public Analyst, OYEDIRAN, L.O. (IPAN NO. 00155®), make this certification, as witnessed my hand this 14th day of November 2024.

Table 1: Result of air quality measurement and noise level

Coordinate	*Extension One Powerhouse (500kVA)*	Field F61	Field D82	Field A53	Extension One Quarters	FMEnv. Limit
	N06º22.457'	N06º21'01.8"	N06º19'41.7"	N06º20'42.3"	N06º22' 22.2"	-
	E005º22.923'	E005º22'02.2"	E005º22'18. 1"	E005º24'31.9"	E005º 22'53.2	-
Elevation, m	87	63	64	37		
Noise, dB(A)	89.4	41.5	51.6	40.9	57.8	90
Humidity (%)	63.58	69.90	69.69	69.62	51.61	Ambient
Temperature (ºC)	23.15	23.04	22.66	21.90	23.61	Ambient
SPM (µg/m³)	175	256	248	254	154	250
Carbon monoxide, ppm	2	2	1	1	2	10-20
Carbon dioxide, ppm	406	409	405	404	428	-
Hydrogen sulphide, ppm	<0.1	<0.1	<0.1	<0.1	<0.1	-
Hydrocarbon, %	<0.1	<0.1	<0.1	<0.1	<0.1	-
Oxygen, %	20.9	20.9	20.9	20.9	20.9	21.0
Sulphur dioxide, ppm	<0.01	<0.01	<0.01	<0.01	<0.01	0.1
Nitrogen dioxide, ppm	<0.01	<0.01	<0.01	<0.01	<0.01	0.4 - 0.6
TVOC, mg/m³	0.011	0.013	0.014	0.007	0.012	

TVOC = Total Volatile organic compounds; SPM = Suspended particulate matter

Table 2: Noise Level Measurement at different locations

Site	*Extension One Powerhouse (500kVA)*	Nearest Residential block	Car washing bay	Pavilion 3	Boom gate	Powerhouse office	NESREA Limit
Noise Level, dB(A)	89.4	54.4	69.2	52.2	54.2	70.4	85

APPENDIX C – POLICIES

OKOMU Responsible tropical agriculture	Document title **OKOMU OIL PALM COMPANY PLC**	Revision: 2
		Date: 06/04/2021
	ENVIRONMENTAL POLICY	Page 1 of 1

1.0 **Policy Statement**

Okomu Oil Palm Company (OOPC) recognizes the value, importance and necessity of sustainably managing its operations such that the present needs of society are met without compromising the ability of future generations to meet their own needs and enjoy the same resources we have today.

2.0 **Scope**

This policy applies to all employees contractors (including temporary contractors and third party staff) of OOPC.

3.0 **Guidelines**

OOPC is committed to minimizing the environmental impact of its operations and in implementing this policy will:

- Comply with all applicable environmental management laws and obligations; and other environmental requirements to which OOPC Subscribes.
- Implement and maintain an Environmental Management System across its global operations, conforming to the requirements of ISO 14001, as well as other relevant external certifications criteria and OOPC Standard Operating Procedures and Best Practices.
- Achieve continuous environmental improvement with objectives and targets so as to minimize our environmental footprint.
- Minimize or prevent land, air and water pollution through reduced use of chemical resource conservation, waste reduction, recycling and reuse and proper waste disposal in every area of activity.
- Prevent soil erosion and degradation through adoption of best practice in agricultural management.
- Minimize impacts on biodiversity across all aspects of our operations.
- Communicate and promote this Environmental Policy with the aim of ensuring that both employees (at all levels and functions of the organization) and business partners (including suppliers, contractors, joint venture partners and smallholders) are aware of the environmental impacts of OOPC activities as well as their individual obligations.
- Educate and train employees on environmental aspects, impacts, risks and opportunities peculiar to their jobs and related issues; and encourage their participation and cooperation to minimize adverse impact and protect the environment.
- Support our joint venture partners and smallholders to adopt and implement our environmental commitments.
- Periodically review this Environmental Policy to ensure it remains relevant and applicable to our business.
- Implementation of our GHG Emission Reduction Policy.
- HSE Manager shall ensure this policy is implemented

4.0 **Record of Approval**

Task	Name/signature	Job title	Date
Approved by	**Dr. Graham Hefer**	**Managing Director**	21 MAY 2021

MANAGING DIRECTOR OOPC DR. G. HEFER

1.0 Policy Statement

Okomu Oil Palm Company is committed to providing a safe and healthy working environment for our workers and stakeholders. We believe that all incidents and occupational illnesses are preventable, and we will work relentlessly to improve our safety performance towards zero incidents.

This requires us to work towards ensuring that we take all practicable steps to protect people involved in OOPC operations from harm. Our goal is to send everyone home safely every day.

2.0 Scope

This policy applies to all employees contractors (including temporary contractors and third party staff) of OOPC.

3.0 Guidelines

This policy can be done by:

- The ongoing implementation of our Integrated Management System Policy.
- Development and implementation of Minimum Standards for Safety, Environment and Process Safety.
- Ongoing development of the global IMS reporting platform and the continued development of an open reporting culture, which includes but not limited to protection of workers from reprisals when reporting incidents, hazards, risks and opportunities.
- Seeking continuous improvement to health and safety performance through setting annual objectives, targets, KPIs and focus areas, measurement of progress against our goals and communication to our stakeholders.
- Running an internal audit program and expanding existing audit programs.
- Commitment to provide safe and healthy working conditions for the prevention of work-related injury and ill health and which is appropriate to the purpose, size and context of OOPC, and to the specific nature of its OH&S risks and OH&S opportunities, while engaging our people to build and maintain a safe workplace.
- Development and delivery of training and education material to improve workers skills and awareness of IMS requirements and practices.
- Adhering to workers' complaints, and giving workers the ability to remove themselves from work situations that they consider present an imminent and serious danger to their life or health (with verifiable evidence, such as a certified medical practitioner's report), as well as the arrangement for protecting them from undue consequences for doing so.
- Complying with all local and national legislations, and other requirements.
- Investigate all incidents to the root cause and make Corrective and Preventive Action Plans to avoid reoccurrence.
- Commitment to eliminate hazards and reduce OH&S risks through conducting periodical risk assessments and job hazard analysis to discover what is likely to harm employees.
- Regular monitoring of PPE compliance.
- Commitment to consultation and participation of workers.
- Commitment to recognize potential emergencies situations such as sudden catastrophes like, fire, chemical spill, security threat, electric shock, medical situations and flood; developing a plan, GP 12 to address with them. These emergencies are caused by Human error and Natural forces.

This policy is to be read in conjunction with the:

- Hazard Identification and Assessment of Risk and Opportunity – GP 08
- Environmental Policy
- Incident and Hazard Reporting- GP18
- Safe Work Permit- GP20
- Boiler Room Operation- GP29 & GP 51 (Oil mill and Rubber factory)
- Emergency Preparedness and Response- GP12

4.0 Responsibility

- The HSE Manager shall ensure implementation and monitoring of this policy.

5.0 Record of Approval

Task	Name/signature	Job title	Date
Approved by	Dr. Graham Hefer	Managing Director	

MANAGING DIRECTOR OOPC 13 JUL DR. G. HEFER

1.0 **Policy Statement**

Training and development make OOPC a more effective organization. In pursuance of Employee's development and performance, the company shall continually strive through training and developmental programmes to update the skills and competencies of staff, as identified and deemed necessary within budgetary constraints.

As a general rule, employees cannot reject nomination to any training that he/she has been so nominated for. Failure to attend a training program, when nominated, will be classified as a dereliction of duty and will, accordingly, be treated as such.

2.0 **Objective**

The objective of the company's policy on training and development is to redress behavioural and skills deficiencies inherent in employees as a prelude to improvement in the employee's job performance.

3.0 **Scope**

This policy is applicable to the company's Board, audit committee members, all company staff, contract staff, contractors, and third party contractors of OOPC.

4.0 **Definition**

Training and Development: Is any activity designed to help individuals become more effective at their work place by improving, updating or refining their knowledge and skills, in areas where a problem has been identified. It encompasses a range of activities, for example, involvement in various projects, attendance of training courses, conferences or seminars, visit to other institutions, work shadowing, formal studying, coaching and monitoring.

5.0 **Types of Training**

5.1 Inplant – where the problem is pervasive i.e. it cuts across many employees involved in a specific activity or in the company, then the company will address such a problem with inplant training

5.2 External – where the identified problem to be addressed through training is peculiar to very few employees involved in action, or where it is impossible to hold a specific training within the company's premises due to non availability of training instruments or trainers, such training will then be held outside the company premises.

6.0 **Guidelines**

- OOPC is committed through its performance review process and introduction of new concepts, to the creation of training and development opportunities for all employees, and will work to ensure equality of opportunities across all training and development activities.
- OOPC's approach to the provision of training and development is to consider the developmental needs that have been identified, and how these needs should be met.
- All request for training must be document on training request form.
- Equal opportunities to access training will be given to all employees, and this shall be monitored specifically via the implementation of OOPC's Equal opportunity and no discrimination policy.
- Employees are sent a training invitation by the HR, after they have been nominated for training by their HOD.
- OOPC will monitor and evaluate training and developmental activities of all participants, including asking feedback from participants on the value and effectiveness of the training they undertake so as to continually assess and improve the training process. All staff, contractors and third parties are expected to participate in the evaluation of their training and development.
- Training shall be funded by OOPC.
- The Head of Human Resource Department will endeavor to ensure that training is delivered only by people who are competent and qualified to do so.
- Individual training records will be kept securely and centrally in each staff member's file in the Human Resources Department of the company.
- The Human Resource Department will be responsible for the production of an annual Staff Training & Development Programme, which will be based on a review of both the individual staff training needs and that of staff team training needs.
- This policy will be communicated to all company staff, contract staff, the company's Board, audit committee members, contractors and third parties(as per OOPC communication procedure GP[illegible])

7.0 **Record of Approval**

Task	Name/signature	Job title	Date
Approved by	Dr. Graham Hefer	Managing Director	2

1.0 **Objective**

OOPC does not condone the use of any child labour in any form whatsoever, by any person, company or institution, as defined in the International Labour Organization's Convention on Child Labour, and in the Nigerian Labour Act.

2.0 **Scope**

This policy is applicable to all employment processes in OOPC, contractors, and third party contract workers, or any company and/or institution that do business with OOPC.

3.0 **Definitions**

Child Labour: is defined as the employment of a child in business or industry in violation of Nigerian Federal statutes prohibiting the employment of children under a specified age. The Nigerian Labour Act 2004, as amended, classifies a child as a 'young person' under the age of fifteen (15) years.

4.0 **Guidelines**

- OOPC shall always comply with all relevant and applicable National labour regulations and principles relating to the protection, welfare, health and safety of children. In this regard, the company recognizes the negative effect of Child labour, which can persist to affect children during their life time, to include the following;
  - lack of schooling, and opportunity for higher education for older children, results in missing educational and higher qualifications, respectively, and higher skills thus perpetuating their life in poverty;
  - general child injuries and abuses like cuts, burns and lacerations, fractures and tiredness;
  - children might be exposed to sexual abuse, particularly sexual exploitation of girls by adults, rape, early sex and unwanted pregnancy, abortion, Sexually Transmitted Diseases (STDs) and HIV/AIDS, drugs and alcoholism
  - physical abuse that involve corporal punishment, emotional maltreatment such as blaming, belittling, verbal attacks, rejection, humiliation and bad remarks.
  - emotional neglect such as deprivation of family love and affection, resulting in loneliness, and hopelessness,
  - physical neglect like lack of adequate provision of food, clothing, shelter and medical treatment.
  - competition of children with adult workers leads to depressing wages and salaries.
- Therefore, no person deemed to be a child, as defined herein, shall be employed on any OOPC sites of operations.
- Furthermore, OOPC shall ensure that all contractors, companies and or organizations of any kind engaged by OOPC on the premises strictly abide by this policy.
- OOPC shall comply with the Child's Rights Act of Nigeria (2003), as amended, to ensure the protection of all children against all forms of abuse, and the Employment Rights Act of Nigeria (2004), as amended, which prohibits the employment of any persons aged below 16. OOPC also, subscribes to the Education Act (2004) of Nigeria, as amended, which provides for compulsory education of all children up to the age 15. Article 3 of International Labour Organization (ILO) Minimum Age Convention 1973 (No. 138), states that the minimum age for admission to any type of employment or work which by its nature or the circumstances in which it is carried out is likely to jeopardise the health, safety or morals of young persons shall not be less than 18 years. **Therefore, due to the various stipulations between Nigeria Labour law and ILO, the minimum age for employment in OOPC is 18.**
- If a worker below 18 is found to be working, the activity the worker is carrying out will be stopped, the worker will be sent home and the contractor whom the worker works for will face appropriate disciplinary action.
- If employment is temporary, such as an educational internship, apprenticeship etc. OOPC may, at its sole discretion consider such employment that in some cases involve young persons between the ages of 15 years and 18 years.
- A suspected under age worker is required to present affidavit of aged declaration done in a court of law or birth certificate for age verification.
- HR Department shall ensure proper implementation and monitoring of this policy.
- This policy will be communicated to all workers, staff, contractors, third parties, visitors and suppliers, or anyone who does business with OOPC (as per OOPC communication procedure GP10).

5.0 **Record of Approval**

Task	Name/signature	Job title	Date
Approved by	**Dr. Graham Hefer**	**Managing Director**	

MANAGING DIRECTOR
OOPC
28 JUN 2024
DR. G. HEFER

1.0 **Policy Statement**

Okomu Oil Palm Company (OOPC) adheres to a strict zero burning policy, which is enforced by all means, agriculturally, economically and/or socially (see Clause 6.0 for Policy Exception). This is in line with OOPC's commitment to following environmentally friendly practices and is also in accordance with Socfin's Responsible Management policy and sustainability principles.

2.0 **Objective**

This policy is aimed towards combating air pollution and is a pledge by the company to actively assist government's efforts to reduce greenhouse gas (GHG) emissions that have become a major factor in global climate changes.

3.0 **Scope**

This policy is applicable to all stakeholders actively engaged in OOPC's land clearing and preparation processes for all new developments as well as future replanting.

4.0 **Definition**

Zero burning: a method of land clearing whereby the tree stand is felled, shredded, stacked and/or left in situ to decompose naturally.

5.0 **Guidelines**

OOPC is committed to:

- Complying with all international and national legislation and RSPO national interpretations.
- A ban on the use of fire in land clearing (see Clause 6.0 for Policy Exception).
- Implementing the zero-burning policy on new plantings or replanting of oil palm/rubber.
- The provision of forest and fire management plans such as Fire Management Meetings & Fire Surveillance.
- Safeguarding OOPC's plantations against fire risks using fire hazard monitoring and management processes such as daily patrols during dry seasons/briefings and maintaining a competent firefighting team that is equipped with up-to-date fire-fighting equipment and proper skills through regular trainings and fire drills.
- Strictly applying this policy to waste management where all felled palms/rubber are left for biomass reuse.
- Continually channeling resources towards the prevention, management and suppression of fires from both inside and outside of the company's plantations.
- Communicating this policy to both employees and contractors, highlighting that any non-compliance may result in termination of employment or contracts. Efforts will be made to communicate this policy to the surrounding communities/farmers.

5.1 **Mechanical Clearing**

The following steps are to be taken to ensure proper implementation of this policy.

- Trees are to be directionally felled and stacked using excavators and/or bulldozers.
- The felled trees are stacked between the rows of re-plantings on flat or undulating terrain. On hilly areas, they are spread out evenly on the lips of planting terraces which will be opened when the slopes are above 6°.

The management and staff shall be trained and made aware that the zero burn policy should be adhered to.

The Palm Agriculture Coordinator, Rubber Agriculture Coordinator and HSE Manager shall implement and monitor this policy.

6.0 **Policy Exception**

OOPC will consider burning only as a last resort for the control of diseases such as Fomes in rubber. In such cases, burning will be limited to root disease infected or susceptible areas. Pictorial evidence (prior to burning) of the infections and/or presence of predisposing factors such as heaps of vulnerable soft wood biomass will be collected to substantiate the need for minimal burning. Organic matter will be retained on the ground as much as possible. In the case of a change in land use, such as the replanting of rubber to oil palm and with due consideration to clause 4.5.4 of the Guidelines for Implementation of ASEAN Policy on Zero Burning, 2003, the incidence of rodents, pests like *Oryctes* and pathogens like *Ganoderma* will be checked. If there is any need for use of fire, a decision will be taken by all the management staff, responsible for implementing this policy, after weighing the pros and cons with sufficient documentation.

7.0 **Record of Approval**

Task	Name/signature	Job title	Date
Approved by	**Dr. Graham Hefer**	**Managing Director**	

MANAGING DIRECTOR
OOPC
2 OCT 2017
DR. G. HEFER

1.0 **Policy Statement**

Okomu Oil Palm Company PLC (OOPC) embraces Corporate Social Responsibility (CSR) and will actively look for opportunities to improve our working environment and contribute to the wellbeing of the communities in which we operate. Our corporate social responsibility approach is driven by our values and mission with the objective to create and promote behavior that generates value to all interested stakeholders in the context of a socially responsible culture that is reflected in the development of a sustainable tropical oil palm company.

The following policies contribute to our corporate social responsibility commitment: Bursary Policy, Code of Ethics Policy, Environmental Policy, Human Rights Policy and Workplace Health and Safety Policy.

2.0 **Scope**

This policy is applicable for all activities and projects aimed at the environment, human rights, economic, stakeholder engagement (and philanthropy, during pandemics or environmental disasters) and is implemented for all stakeholders, especially neighboring communities and our employees.

3.0 **Definition**

CSR is a continuing commitment by business to behave ethically and to contribute to economic development while improving the quality of life of the workforce and their families as well as of the local community and society

4.0 **Guidelines**

OOPC commits to:

- Operate ethically in an environmentally sustainable way and to include concern for societal, environmental, legal, cultural, and organizational diversity, as well as differences in economic conditions, in all our activities and decision making.
- Execute our mission through developing strong relationships with communities, workers, partners, organizations and individuals which are conducted with integrity and courtesy, and by ensuring that we honour our commitments.
- Comply with all applicable international & national laws and legislation. Where no legislation exists, OOPC will seek to adhere to best management practices, subscribed sustainability certifications and applicable principles of ISO 26000:2010 viz: Accountability, Transparency, Ethical behavior, Respect for stakeholder interests, Respect for the rule of law, Respect for international norms of behavior and Respect for human rights.
- Establish a CSR strategy embedded in the CSR Procedure (See GP 35) taking into account the perspectives and interests of stakeholders, priority areas, timeline for implementation, responsible staff/committee/partners, their roles and process for reviewing and assuring outcomes of the CSR of OOPC.
- Respect our staff and actively promote their welfare, engagement and empowerment.
- Clearly train and sensitize all interested stakeholders on the CSR strategies.
- Measuring, reporting and improving our CSR performance by setting applicable targets, developing and implementing specific environmental and social policies and procedures based on each CSR thematic areas.
- Communicating this CSR policy, strategies, mechanisms, objectives, actions and performance transparently to all interested stakeholders.
- Periodically review and evaluate the social, economic and environmental impacts of our CSR projects.
- Reviewing this policy annually, or following significant changes to our business practices, to ensure that our commitment to environmental responsibility, the communities, and our ethical policies are addressing current issues and are as proactive as possible.

The Managing Director will have ultimate responsibility for CSR management within the Company and will be responsible for the provision of advice and guidance on all CSR matters.

5.0 **Record of Approval**

Task	Name/signature	Job title	Date
Approved by	Dr. Graham Hefer	Managing Director	