



**ENVIRONMENTAL AUDIT REPORT OF OKOMU OIL
PALM COMPANY PLC MAIN ESTATE LOCATED AT
OKOMU-UDO, OVIA SOUTHWEST LOCAL
GOVERNMENT AREA, EDO STATE, NIGERIA**



SUBMITTED TO

FEDERAL MINISTRY OF ENVIRONMENT

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**Environmental Audit Report of Okomu Oil Palm
Company Plc, Main Estate, Located at Okomu-udo,
Ovia Southwest Local Government Area, Edo State,
Nigeria**

Final Report

Submitted to:

Federal Ministry of Environment, Abuja

Prepared by



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ACRONYMS AND ABBREVIATIONS

AAWUN	Agricultural and Allied Workers Union of Nigeria
AGO	Automotive Gas Oil
AIDS	Acquired Immune Disease Syndrome
ATR	African Traditional Religion
BOD	Biochemical Oxygen Demand
CBD	Convention on Biological Diversity
c ³	Cubic Meters
CO	Carbon monoxide
CO ₂	Carbon dioxide
COD	Chemical Oxygen Demand
°C	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
ECM	Environmental Compliance Monitoring
EFB	Empty Fresh Bunches
EIA	Environmental Impact Assessment
EAP	Environment Action Plan
EAuR	Environmental Audit Report
EHS	Environmental Health and Safety
EMS	Environmental Management System
FFB	Fresh Fruit Bunches
FDS	Foremost Development Services Limited
FGD	Focus Group Discussion
FMENV	Federal Ministry of Environment
GHG	Green House Gas
Ha	Hectare
HAVS	Hand-Arms Vibration Syndrome
HSE	Health Safety and Environment
HCV	High Conservation Value
IEC	Information, Education 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
kg	Kilogram
km	Kilometer
LCA	Life Cycle Analysis
LGA	Local Government Area
Ltrs	Liters
MoU	Memorandum of Understanding
MT	Metric Tonne
NDDC	Niger Delta Development Commission

Nm ³	Normal Cubic Meters
NSE	Nigeria Stock Exchange
NESREA	National Environmental Standards and Regulations Enforcement Agency
NPK	Nitrogen, Phosphorus and Potassium
NO _x	Oxides of Nitrogen
NPDC	Nigeria Petroleum Development Commission
OOPC	Okomu Oil Palm Company Plc
PHI	Public Health Impact
PLC	Public Limited Company
PMS	Premium Motor Spirit
PPE	Personal Protection Equipment
QHSE	Quality, Health, Safety and Environment
RSPO	Roundtable on Sustainable Palm Oil
RAMSAR	Convention on the Protection of Wetlands of International Importance
R & D	Research and Development
SDS	Safety Data Sheet
SIA	Social Impact Assessment
SON	Standards Organization of Nigeria
SPM	Suspended Particulate Matter
SO ₂	Sulphur dioxide
STD's	Sexually Transmitted Diseases
TOC	Total Organic Carbon
ToR	Terms of Reference
TSS	Total Suspended Solids
ULV	Ultra-Low Volume
UV	Ultraviolet
UNEP	United Nations Environment Programme
UNFCCC	United Nations Framework Convention on Climate Change
UNICEM	United Cement Manufacturing Company Limited
VOC	Volatile Organic Compounds
WHO	World Health Organization
Yr	Year

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Executive Summary

ES 1.0 The Proponent

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, palm kernel cake and crumb rubber. It started operation in 1976 as a Federal Government project and was privatized in 1990. The then Bendel State government granted the company a total concession of about 15,000 hectares within the Okomu forest reserve in 1978.

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°07' and 5°25' N and longitude 6°18' and 6°26' E.

Within the estate, there is over 600km earth road network, ensuring that all the features and plantation field are easily accessible.

ES 3.0 Project Description

The environmental audit of Okomu OPC Plc - Main estate was carried out to assess the environmental performance of the Company from the point of view of conformance to local, national, and international environmental legislation, regulatory standards, and industry best practices. The audit covered all the facilities, processes, and operations of the company.

About 14,059.98 hectares has been developed into oil palm and rubber plantations at the Main estate. The lifespan of the 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 959.47 ha, or 6.16% of the concession area for the Main 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 plantations. The roads appeared well constructed and maintained with appropriate drainage measures and sediment traps in place.

The company has put in place an incredibly good program for recycling mill and rubber factory waste nutrients in the field by means of EFB mulching. Also, the system for distributing EFB and rubber factory sludge is professionally managed.

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's palm oil mill and rubber factory are well located and operated efficiently, with high throughput, oil extraction rates and good quality control of FFA.

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.

4.1 Environmental Issues:

The quality of the environment is high with good housekeeping at the offices and management/senior staff residences. However, the housekeeping and sanitation at some workplaces particularly labour line and rubber estate residential quarters would need considerable improvement. 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 oil palm and rubber plantation and other workplaces are fraught with hazards and pollution potentials. However, the company has put in place several 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 waste recycling. These provisions include the use of fibres and kernel shells to fuel the boiler, mulching with EFB, oil retention trays and oil separation pits.

The facilities for storage of potentially hazardous substances at some chemical stores were built without the benefit of design information on environmental protection measures, such as spill containment. However, routine environmental monitoring is undertaken to ensure that the treated palm oil mill effluent and rubber effluent are of acceptable quality before it is discharged into the environment. So also, are surface water and groundwater are of acceptable quality as well.

4.2 Waste Management:

The waste management system is fairly good. For solid waste, reasonable provisions have been made for collection, transportation, and disposal. An internal solid waste dumpsite has been established thus enabling the tracking of waste. In addition, the company has a valid permit from Edo State Ministry of Environment and Sustainability to operate the solid waste dumpsite/landfill within the estate.

4.3 Safety Issue:

Signage display level, relating to safety education and safety warnings at workplaces has improved. Although, there is need for the procurement and display of more posters and safety related messages at workplaces.

4.4 Medical Statistic:

The clinic is functional. Malaria, Rheumatic and Joint Pain, Respiration Tract, and minor ailments such as bruises, cut, pains, etc., are the most prevalent illnesses. The preventive health education programme of the clinic needs some improvement with special emphasis on prevention of malaria.

ES 5.0 Laboratory Analysis Results

The results of laboratory analysis obtained during this audit show that the groundwater quality is good and free from pollution except for low pH thus making the water to be acidic (5.55 – 6.21), which is below the FMEnv and WHO (2004) drinking water guideline of pH 6.5-8.5 except for Mill Complex with 7.07. However, the appropriate recommendation has been made for the correction of the pH of the groundwater.

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

The result has shown that some parameters such as Suspended Particulate Matter (SPM) ranges between 120-150 $\mu\text{g}/\text{m}^3$; Carbon dioxide, <0.36-0.60%; Hydrocarbon, <0.1%; and Nitrogen oxides, <0.01ppm which are within FMEnv permissible limits of 250 $\mu\text{g}/\text{m}^3$, ambient, nil and 0.04-0.06ppm, respectively.

The quality of the discharged effluent needs continuous monitoring to ensure its quality and safe discharge into the environment. However, the lagoon system for biological treatment of palm oil mill effluent needs improvement to avoid incessant overflow especially during raining season while rubber effluent ponds need regular maintenance to improve its efficiency.

ES 6.0 Conclusion and Recommendation

The audit has revealed the high level of consciousness and awareness of the environment by the workers and has 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. In order to bring to effect the recommendations arising from this audit therefore, a robust environmental action plans (EAPs) has also been developed for the estate. It is recommended that the EAPs be diligently implemented.

CHAPTER ONE

1.0 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 30 years. 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 Audit of its processes and operations covering its plantations and supplementary facilities. The objective is to determine and thereby provide regulatory bodies (such as Edo Ministry of Environment and Sustainability) with a clear indication of the overall environmental performance of the company for the period covered by this audit.

The audit involved fieldwork including physical inspection of workplaces, residences, meetings, and interviews, of HSE committee and designated employees. It also involved examination and review of records and reports relating to environmental management. In addition, some physical environmental factors were sampled, and the samples collected were later analyzed in the laboratory.

The audit involves the examination of operations, records, and data between **2018, 2019 and 2020** 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.

This report is structured to present the description of the facilities and processes, provide information on environmental planning approvals and mill operation, 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) and Vegetable Oil Production and Processing (IFC, February 12, 2015).

An overall assessment of the operations is then summarized in chapter seven (Summary of Audit Findings and Recommendations) followed by Remarks and Recommendation in also in chapter seven 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.

1.1 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)

1.2 Regulatory Bodies

1.2.1 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.

1.2.2 State Ministry of Environment

The Ministry of Environment, Edo State 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.

1.2.3 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.

1.3 Review of Relevant Environmental Legislation

Some of the national legislations 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 (criminal provision) Act 42 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, (NESREA), 2007.
- S.I.8: National Environmental Protection (Effluent Limitation) Law of August 1991.
- S.I.9: National Environmental Protection (Pollution Abatement in Industries and Facilities Generating Wastes), 1991.
- S.I.15: Waste Management and Hazardous Wastes Regulations, 1991.
- S.I.28: National Environmental (Sanitation and Waste Control) Regulations, 2009
- S.I.3: National Environmental (Noise Standards and Control) Regulations, 2009
- Factories Act CAP F1 LFN 2004
- Land Use Act, CAP L5 LFN 2004

National Policy on Environment

The National Policy on Environment 1989 provides for “a viable national mechanism 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 Effluent Limitations Regulations S.I.8, 1991

These Regulations give the parameters in industrial gaseous emissions and wastewater (effluents) and their limitations, concentration, and standards for discharge into land, atmosphere and receiving surface waters.

The proposed 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 revoke 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.

1.4 International Agreements and Protocols

Nigeria's commitment 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 environment-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), 199: 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 Peoples
- **Performance Standard 8:** Cultural Heritage

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

1.5 Company Information

1.5.1 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 then 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 right and concession 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 4,775 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 at both Main and Extension One estates employs about 534 permanent workers including expatriates and Nigerians at management, intermediate, and junior cadres and about 469 fix rate and 3577 daily rated workers.

1.5.2 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 longitude 5°07' and 5°25' E and latitude 6°18' and 6°26' N.

Within the estate, there is over 600km earth road network, ensuring that all the features and plantation field are easily accessible.

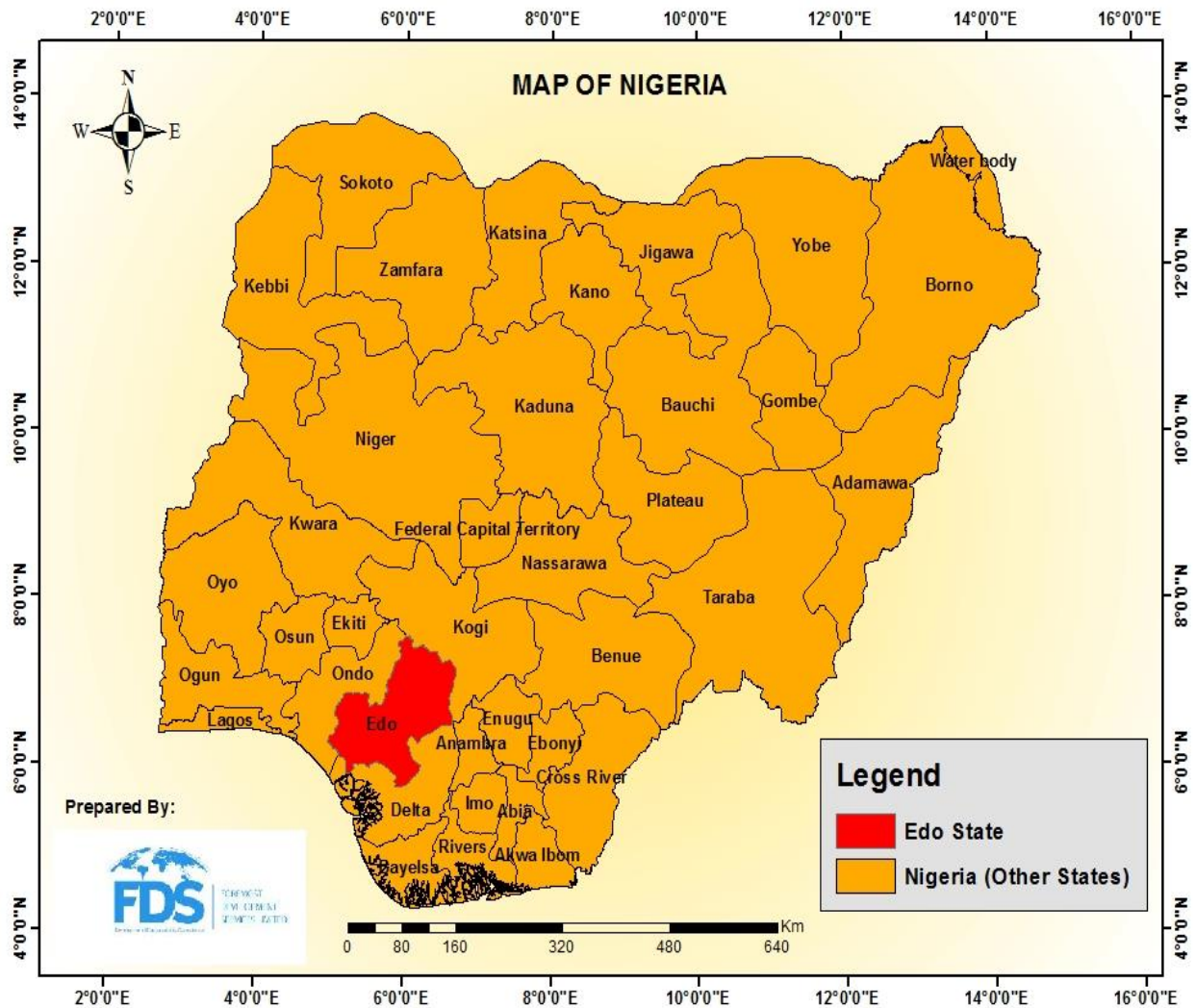


Figure 1: Map of Nigeria Indicating Edo State

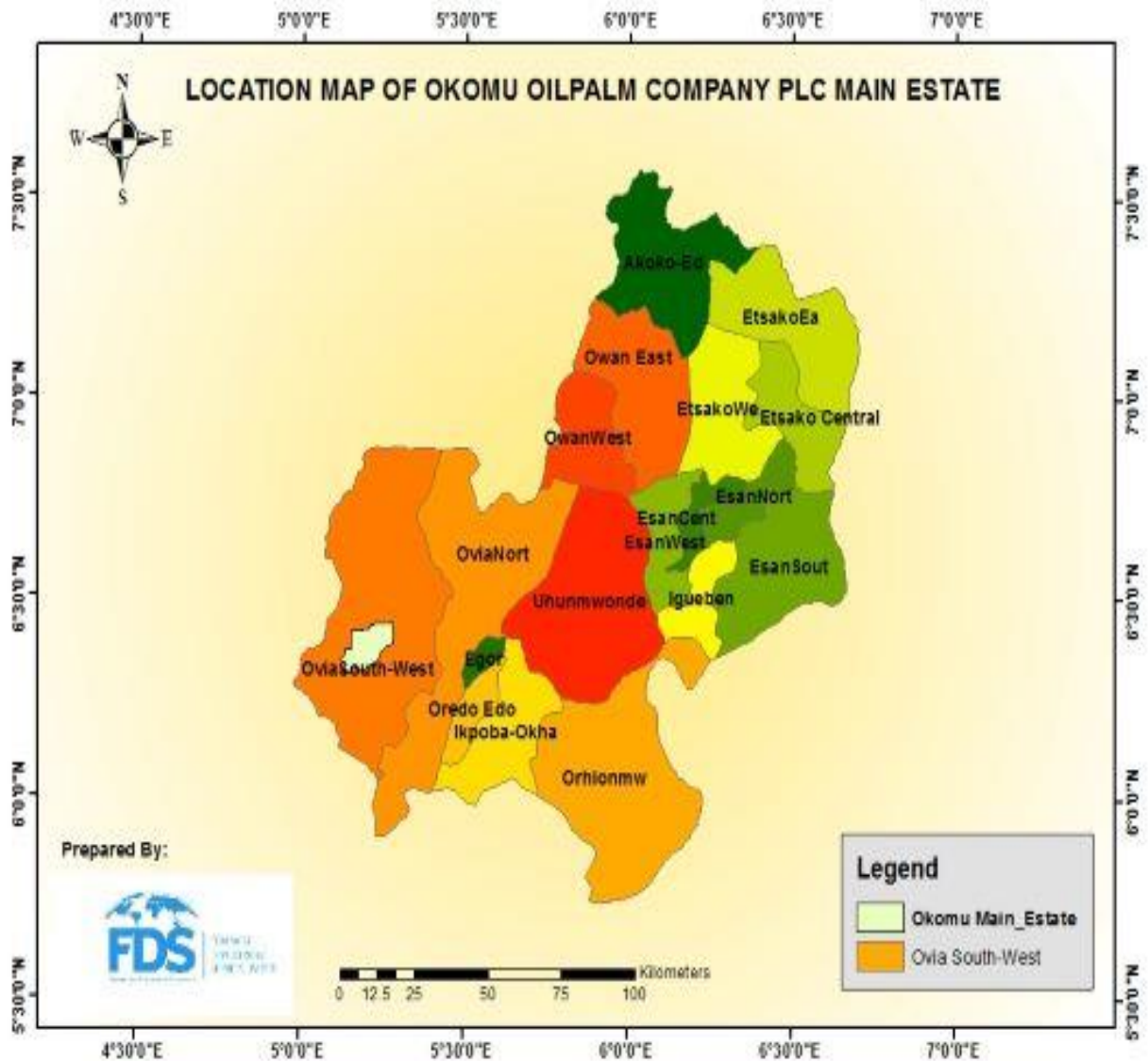


Figure 2: Map of Edo State Indicating Location of Okomu-OPC Plantation in Relation to Ovia Southwest LGA

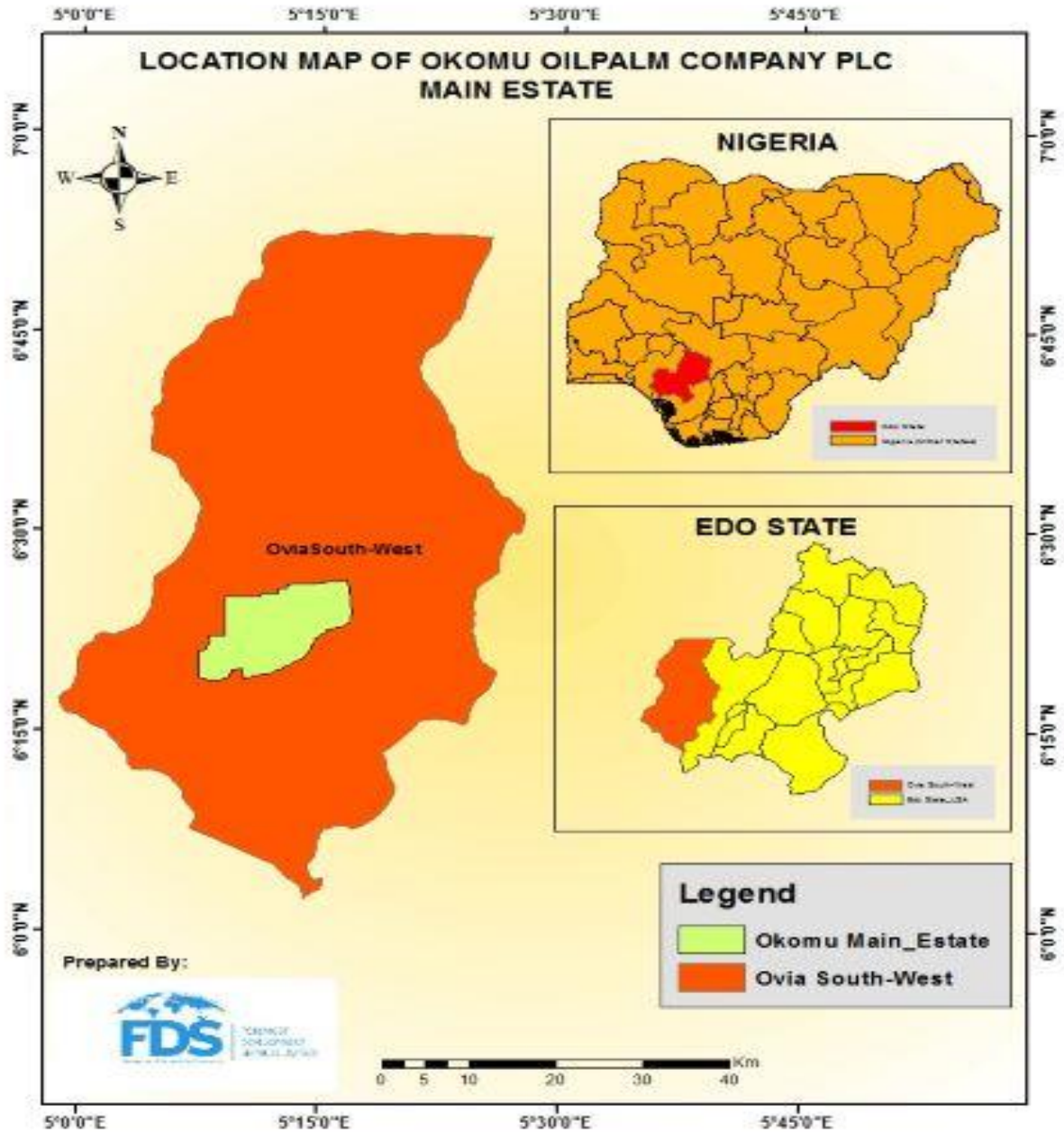


Figure 3: Location of Okomu-OPC in Relation to Ovia Southwest Local Government Area, Edo State and Nigeria

OKOMU OIL PALM COMPANY PLC:Planting Year-2017

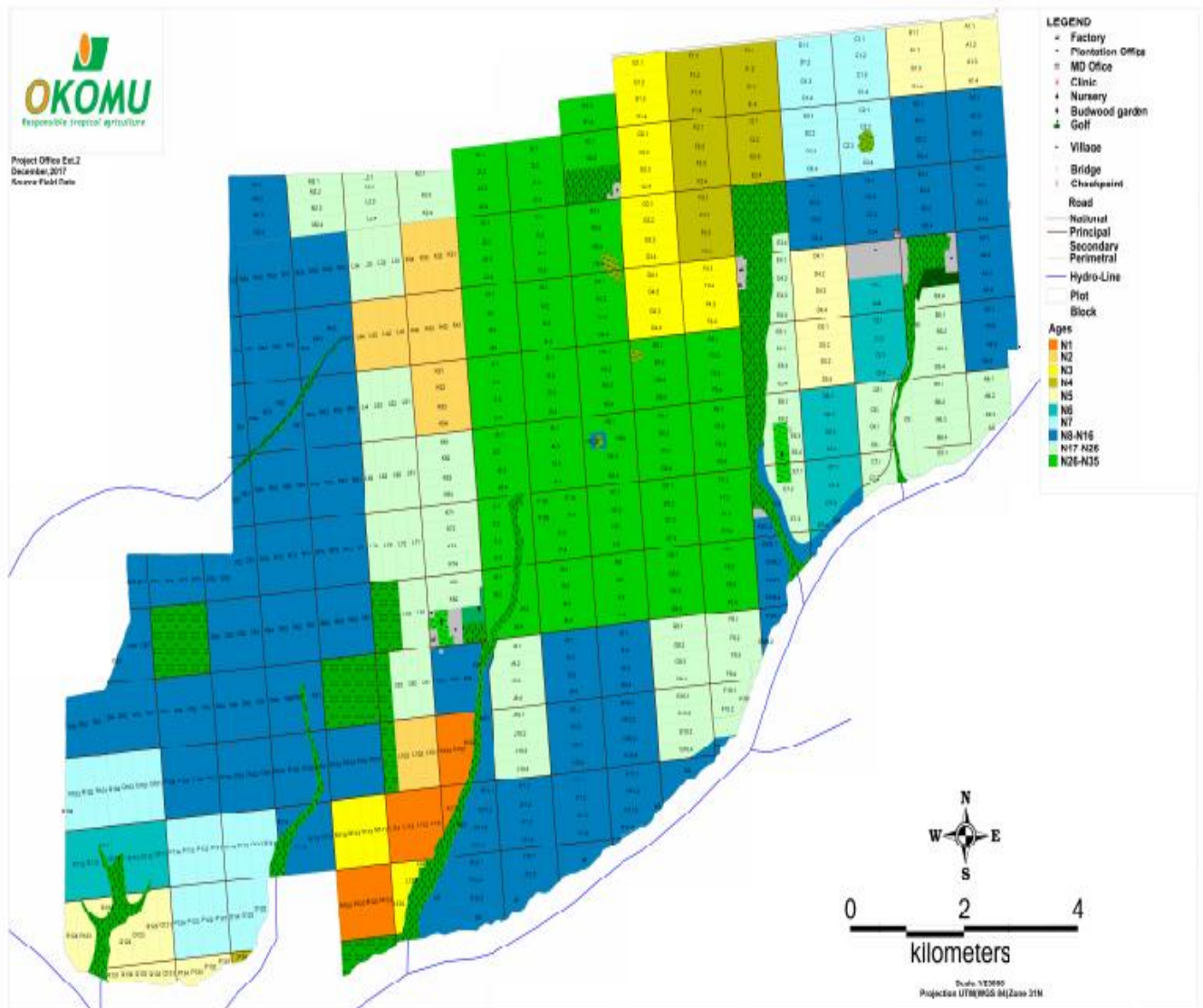


Figure 4: Main Estate Plantation Map

Source: HSE Office, OOPC Plc (December 2020)

1.5.3 Activities

The company undertakes plantation agriculture involving the growing of oil palm (*Elaeis guineensis*) and the processing of Fresh Fruit Bunches (FFB) into special palm oil. The company is also involved in the planting and tapping of rubber trees (*Hevea brasiliensis*), and the processing of cup lumps into crumb rubber. The major activities of the company include the oil palm plantation, oil mill, rubber plantation and rubber factory operations.

1.6 Objective of the Audit

The objective of this audit is to evaluate and determine the environmental performance of the Company's estates from the point of view of conformance to local, national, and international laws and standards, and industry best and management practices.

1.7 Period of Audit

The audit was undertaken from 14 – 18 December 2020

1.8 Terms of Reference (ToR)/Scope of Audit

The detailed Terms of Reference are provided in Annexure I.

CHAPTER TWO

Description of Facilities and Processes

2.1 Infrastructure & Services

The planting and production of oil palm requires infrastructure and back up services. These are provided as follows:

2.1.1 Electricity

At the estate, adequate electricity is supplied from the main powerhouse and other smaller generating units of varying ratings. The powerhouse is equipped with eleven (11 Nos.) heavy-duty industrial diesel engine mainly Perkins's generators and one (1 No.) each Siemens Turbine and Inverter as follows:

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

S/NO	MAKE, MODEL & CAPACITY	FLEET NO.	LOCATION
1	PERKINS GEN SET – 1100kVA	GS-5792	Powerhouse
2	PERKINS GEN SET – 500kVA	GS-5774	Rubber factory
3	FGWP 13 PERKINS GENSET - 12.5 kVA	GS-5795A	Mirror Gate
4	PERKINS GEN SET – 1100kVA	GS-5792A	Powerhouse
5	PERKINS GENSET-1500kVA	GS-5798	Powerhouse
6	PERKINS GEN SET - 110 kVA	GS-5795B	Standby (Workshop)
7	PERKINS GEN SET – 500kVA	GS-5776	Management Quarters
8	FGWP 13 PERKINS GENSET	GS-5811	Mirror Gate
9	PERKINS GENSET-1650kVA	GS-5799	Powerhouse

Source: HSE Office, OOPC Plc (December 2020)

The electricity generated from the powerhouse is supplied to the offices and residences. In addition to the supplies from the powerhouse, electricity requirement of the mill and agric office is also supplied from a steam turbine of about 1900 kVA while the rubber estate is connected to the powerhouse at the main estate.

2.1.2 Water Supply

The major sources of water on the estate are surface water and groundwater. There are four (Nos.) boreholes as follows:

Table 2.2: Major Sources of Water on the Estate

Borehole Location	No.
Management Quarters	2
Labour Line	2
IITA	1
Rubber Quarters	2

Irrigation and process water is sourced from perennial surface water (Aguohen and Umosan Rivers) while potable water is sourced from groundwater. Potable water from boreholes is distributed through a network of pipes connected to storage tanks located at strategic places.

2.1.3 Communication

Communication in the estate is facilitated mainly by radio communication (Walkie-Talkie). There are also installations for direct Internet communication and the global system for mobile communication (GSM).

2.1.4 Fuel Supply

The major source of energy is petroleum fuel. A filling station is available for bulk storage and dispensing of AGO and PMS. A fuel dump comprising both buried and surface storage tanks services the filling station. There are other fuel dumps located at the mill, rubber factory and main estate. The total fuel storage provision is about 435,890 litres both PMS and AGO while the main fuel storage provisions at rubber estate include 45,000 liters (45,000m³) capacity surface tank (5Nos.) mainly for AGO.

2.1.5 Fire Services

There is a fire station equipped to provide fire prevention and control services. The station is strategically located, adjacent to the filling station and proximal to the administration office for oil palm while that of rubber estate is located at the rubber factory premises.



Plate 2.1: Fire Fighting Truck at Main estate



Plate 2.2: Fire Fighting Truck at Rubber Factory

2.1.6 Roads

There is a network of earth roads of about 324.05 km connecting all workplaces and facilities at the main estate and about 326.7 km at rubber estate.

2.1.7 Workshop

There is a main workshop comprising different functional units or sections including Mechanical, Fabrication, Auto Electrical and Welding sections. These units undertake mechanical works, civil repairs, and maintenance works. The workshop is equipped with lifting and hoisting equipment of different capacities between 1.5-5tons.

2.1.8 Mill Workshop

The mill workshop is located within the mill premises to provide repairs and maintenance services for the mill operations.

2.1.9 Rubber Workshop

There is only one workshop; maintenance workshop, to support the factory operations. It comprises different functional units or sections including mechanical, auto-electrical, machine and welding sections. These units undertake factory mechanical works, electrical works, fabrication, and maintenance works.

2.1.10 Mill Laboratory

The mill laboratory undertakes process and product quality monitoring. It is fitted with equipment including electric ovens, electronic sand bath, centrifuge machine, pH meter, desiccators, scale or balance, a fume cupboard, a newly improvised emergency shower and other quality control equipment for process efficiency and quality monitoring. The laboratory is located adjacent to the mill.

2.1.11 Rubber Laboratory

The rubber laboratory undertakes process and product quality monitoring. It is fitted with equipment including ovens, Wallace rapid plastimeter, roll mill, mooney viscometer, ageing chamber, fume cupboard, scales and balances, and other quality control equipment for process efficiency and quality monitoring. The laboratory is an attachment to the rubber factory administration office located opposite the warehouse loading bay.

2.1.12 Weather Station

There are three (3Nos.) weather stations located at the Management quarters, palm nursery and rubber estate. The weather stations are equipped with rain gauge, thermometers and piche-evaporimeter to collect data on rainfall, temperatures, and sunshine.

2.1.13 Stores

There are a number of stores spread over the estate for the storage of inputs, products and other process materials including fertilizer, agrochemicals and hardware as presented in Table 2.3 below..

Table 2.3: Location of Stores on the Estate

Stores	Location	Contents
Main Store	Workshop	General Merchandise
Mill Store	Oil Mill	General Merchandise
Plantation Store	Plantation office	Chemicals, Fertilizers and Plantation equipment
Factory Store	Rubber Factory	General Merchandise

2.1.14 Guesthouse

There is a guesthouse providing on-site accommodation and catering services for official guests and visitors to the estate.

2.1.15 Clinic

A modern clinic is located behind the administration block to provide medical services to workers and their families. It handles observation/monitoring and treatment of minor ailments. The medical staff includes one (1No.) resident doctor, eight (8Nos.) nursing officers, three (3Nos.) pharmacy attendants, four (4Nos.) clinic attendants, three (3Nos.) card attendants and four (4Nos.) ambulance drivers. The company has retainer agreement with five (5Nos.) medical centers, all in Benin City as follows:

- Ihenyen Hospital (*General Medicine*)
- Total Health Care Hospital (*Surgery and General Medicine*)
- Gift Medical Centre (*Obstetrics/Gynecology & General Medicine*)
- Mayo Eye Clinic (*Ophthalmology/Eye*)
- St. Margaret Hospital (*General Medicine*)

The clinic has one (1 No.) ambulance each at main and rubber estates on stand-by for emergencies.



Plate 2.3: Standby Ambulance at Main Estate



Plate 2.4: Standby Ambulance at Rubber Estate

2.1.16 Office Accommodation

A number of buildings provide office accommodation for administration, technical and other support staff.

2.1.17 Residences

Accommodation is provided for workers and their families on the estate. Different types of residential accommodation are available for junior staff, intermediate and management staff.

2.1.18 Recreation

The provisions that are available for recreation on the estate include a football field, staff club, management clubhouse, multipurpose court and a golf course.

2.1.19 Transportation

Two categories of vehicles are provided for transportation namely light vehicles fleet and heavy-duty fleet. The light vehicles fleet comprises salon cars, 4-Wheel Drive jeeps, and mini-buses. The Administration department controls them. The agric department controls the heavy-duty fleet comprising Lorries, trailers, tractors, and buses.

There are also within the heavy-duty fleet, tippers (7tons and 10tons) and Fixed Bodies. The fixed bodies are long articulated carriers, with capacity of 150 persons, used for mass transportation of workers into and out of the main estate. Lorries with capacity of about 100 persons are also used to transport workers.

2.1.20 Schools

There are two schools named Okomu Primary School and Okomu Staff School both located beside each other at the Main estate. The former is Government owned while the latter is owned and run by the company. The company provides accommodation for teachers in the Government owned school and also maintains the school.

2.1.21 Police Post

There are police posts located at the estate's entrance gate and at other locations, providing security services for the estate.

2.1.22 Livestock Pens

The livestock pens are located within the Boy's quarter's premises south of the "management quarters". The pens accommodate a number of domesticated birds and animal species. The pens are very well confined with chain-link fence wire. But the birds and animals are usually released in the evening time to graze and feed. The birds kept in the pens include, Peacocks and Chickens, Ducks, while the animals kept include Cattle, sheep, goats, and pigs.

2.1.23 Canteens

The canteens are located by the entrance to the mill and behind the rubber factory. The canteens are operated by food vendors under contract, and they provide different types of food, mostly local dishes, and drinks to workers. The services cover breakfast, lunch, and dinner for workers.

2.2 Organizational Structure

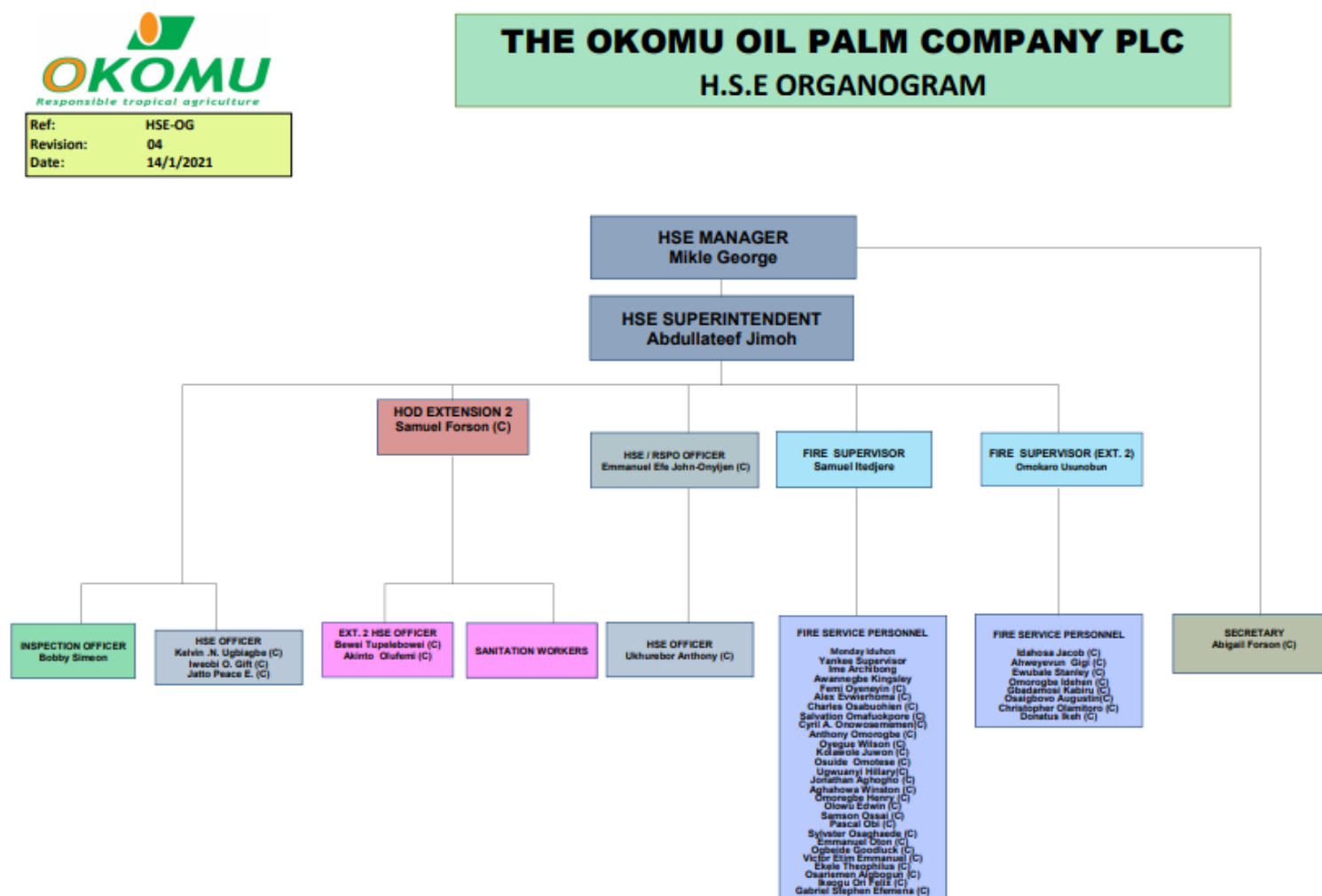


Figure 5: Okomu-OPC HSE Organogram

A. OIL PALM

2.3 Palm Nursery

The palm nursery is about 18.0ha. 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 five (5 Nos.) balloon-like (made with polyphenyl material) water storage facilities.

2.4 Oil Palm Plantation

The oil palm plantations comprise oil palm trees of different ages. The total oil palm plantation size is about 8,510.59 ha, with all mature and 22.45 ha nursery. Plantation development started in 1979 with an initial planting of 148 ha and planting and replanting have progressed till 2017, thus giving the plantation age profile of 3-41 years.

2.4.1 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.

2.4.2 Plantation Up-keep

Oil palm up-keep operations include pruning, weeding, slashing and fertilizer application. 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 application is well guided and based on results of leaf analysis.

In addition, leguminous cover crop, 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 prophylactic basis.

2.4.3 Harvesting

Malaysian knife mounted on a long pole is used in harvesting mature palms. Fresh Fruit Bunches (FFB) are collected and transported to the mill in trucks.

2.4.4 Land Use/Layout

The company operates two different plantations on the Main estate (Oil Palm and Rubber). The oil palm occupies total area of about 5,510.59 ha, while rubber occupies 5,549.37 ha (see Main estate plantation map in Figure 4 above).

Furthermore, the land use within OOPC concession area is detailed in Table 2.4 below.

Table 2.4: Current Land Use

LANDUSE	LOCATION (Ha)
	Main Estate
<u>Oil Palm:</u>	
Mature Area	8488.14
Immature Area	0
Nurseries	22.45
<u>Total Planted Area:</u>	8510.59
<u>Rubber:</u>	
Mature Area	4340.2
Immature Area	1183.4
Nurseries	13.52
Budwood garden	12.25
<u>Total Planted Area:</u>	5549.37
<u>Others:</u>	
Housing/Office Area	82.13
Reserved Areas	959.47
Roads	426.57
Undeveloped Land	51.13
Total Estate Land Area (Approx.)	15579.26

Source: HSE Office, OOPC Plc (December 2020)

The estate is divided into work areas for good management. Within the estate is provided residential quarters for the management, senior staff, junior staff and contractors. The facilities and infrastructure in the estate include a modern clinic, management club house, senior 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.

2.5 Processing

2.5.1 General Processes of Palm Oil Production

The palm oil mill processes FFB into Special Palm Oil (SPO) and Palm kernel (PK). The FFB after weighing in the weighbridge are carried in boogies, which feed them into Sterilizers and use of motorized conveyors for tilting sterilizers. The fruits are washed, threshed, and are then digested in the Digester. From the Digester, crude oil is extracted at the Press, leaving the cake. The cake line further processes the nuts and fibres. The nuts are cracked and separated into shells and kernels. The kernels are recovered and sent to the PKO plant, while the shells and fibres are fed into the boiler as fuel.

The crude oil is further decanted to produce purified Crude Palm Oil (CPO), which is stored in the storage tank, while the sludge is deposited in the sludge pit where it is further treated to recover more oil. The effluent is then released for anaerobic treatment before it is discharged into the effluent lagoon.

2.5.2 Palm Kernel Oil Processing

The palm kernel crushing plant processes palm kernel (PK) into palm kernel oil (PKO). The kernels undergo size reduction and are passed through the drying silo before going through the primary expeller to obtain the first palm kernel cake. The first palm kernel cake is taken through the second expeller to obtain the final Palm Kernel Cake (PKC) and Palm Kernel Oil (PKO). The PKC is dried and bagged, while the PKO passes through three separate vibrating screens to produce the purified Crude Palm Kernel Oil (CPKO). The CPKO is further filtered and stored in the CPKO storage tank.

2.6 Palm Oil Mill

The palm oil mill of 60 tons FFB/Hr processes fresh fruit bunches (FFB) harvested from the oil palm plantations. The mill comprises different sections processing FFB into special palm oil (SPO) and palm kernel oil (PKO) as illustrated in Figures 6a and 6b.

Source: HSE Office, OOPC Plc (December 2020)

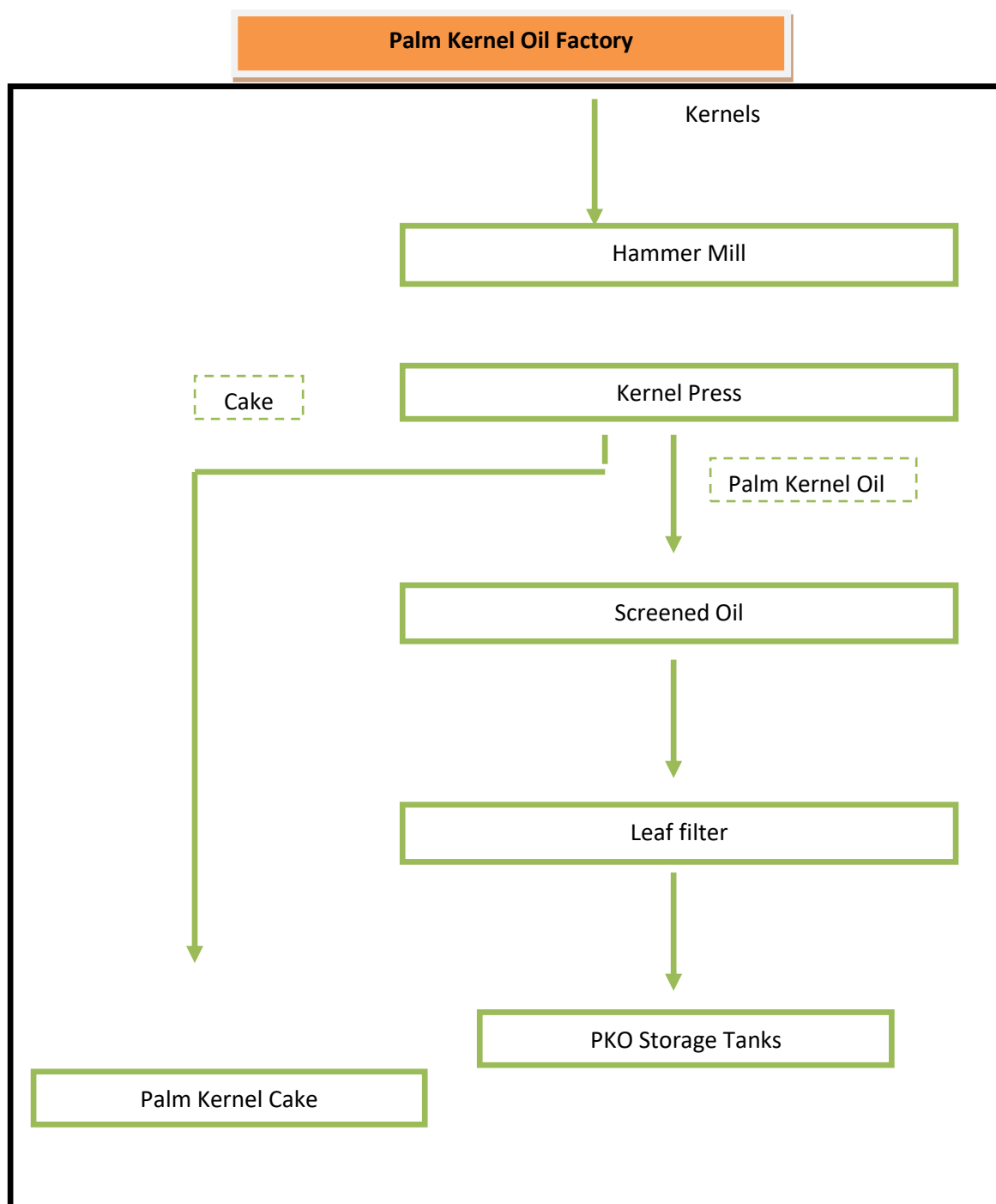


Figure 6b: Flowchart for Palm Kernel Oil Factory

Source: HSE Office, OOPC Plc (December 2020)

B. RUBBER

2.7 Rubber Nursery

The rubber nursery is about 13.52 hectares at rubber estate located east of the rubber factory. The nursery is equipped with sprinkler and sumisansui irrigation facilities and rubber seedlings are raised therein, in poly bags, until they are 10-12 months old when they are ready for transplanting in the field. The floor of the nursery is laid with fruit fibre to protect the soil from erosion and help to conserve soil moisture and control weeds.

2.8 Budwood Garden

The bud-wood garden has a collection of different clones of rubber of different origins. The bud-wood garden is about 12.25 hectares.

2.9 Plantation

The total rubber planting is 5,549.37ha at Main estate, comprising 4,340.2ha mature planting, 1,183.4ha immature planting.

2.9.1 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.

2.9.2 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 in order 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 crop, Pueraira 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).

2.9.3 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.

2.10 Processing

2.10.1 Dry storage and Blending (cup lump shed):

The rubber (cup lumps) is stored separately in a dry storage area.

2.10.2 Slab cutter

The shovel loader picks up the rubber from the dry storage area and feeds directly into the *Tank #1*. The rubber is transferred from the *Tank #1* via a bucket elevator to the *Slab Cutter* to reduce roughly the rubber. Then the rubber is carried to the *Tank #2* via an *Inspection Belt* where solid contaminants and visible dirt are removed.

2.10.3 Twin Screw Pre-Breaker

The rubber is picked up from *Tank #2* by a bucket elevator and fed into the *Twin Screw Pre-breaker*. The TWS is extremely rugged and efficient to reduce and clean the rubber. Then the broken rubber is discharged into *Tank #3*.

2.10.4 Coarse, Intermediate and Fine Pelletizer

From the *Tank #3* the rubber is picked up by a Bucket elevator to the *Coarse Pelletizer*. The *Coarse Pelletizer* will reduce again the rubber in size. The rubber is discharged into the *Tank #4*. By the same way, the rubber will pass through the *Intermediate Pelletizer* into *Tank #5* and then into the *Fine Pelletizer*.

2.10.5 Trolley Dryers

From the *Fine Pelletizer*, the rubber is carried by a *Conveyor belt* to feed the *Trolley Dryers*. Then the *Trolleys* loaded with wet rubber crumbs are mechanically pushed from the *Wet End Station* into the *Dryer*. The automatic trolley drive system ensures that all trolleys are positively mated up for good sealing and drying condition. The *Dryer* works with two automatic burners.

2.10.6 Dry End Station

At the end of the *Dryer (Dry End Station)* the rubber is removed from the *Trolley* and weighed on the *Weighing Scale*.

Then the rubber is pressed with a constant force before packing, storage, and shipment.

The process flow chart for rubber is illustrated in Figure 7a and 7b. Apart from the main processing plant components, the ancillary equipment and facility includes forklifts trucks, belt conveyors, slab cutter, bucket elevators, Weigh Bridge, cup lump shed and metal detector. Other facilities include workshop, laboratory, fuel dump and powerhouse

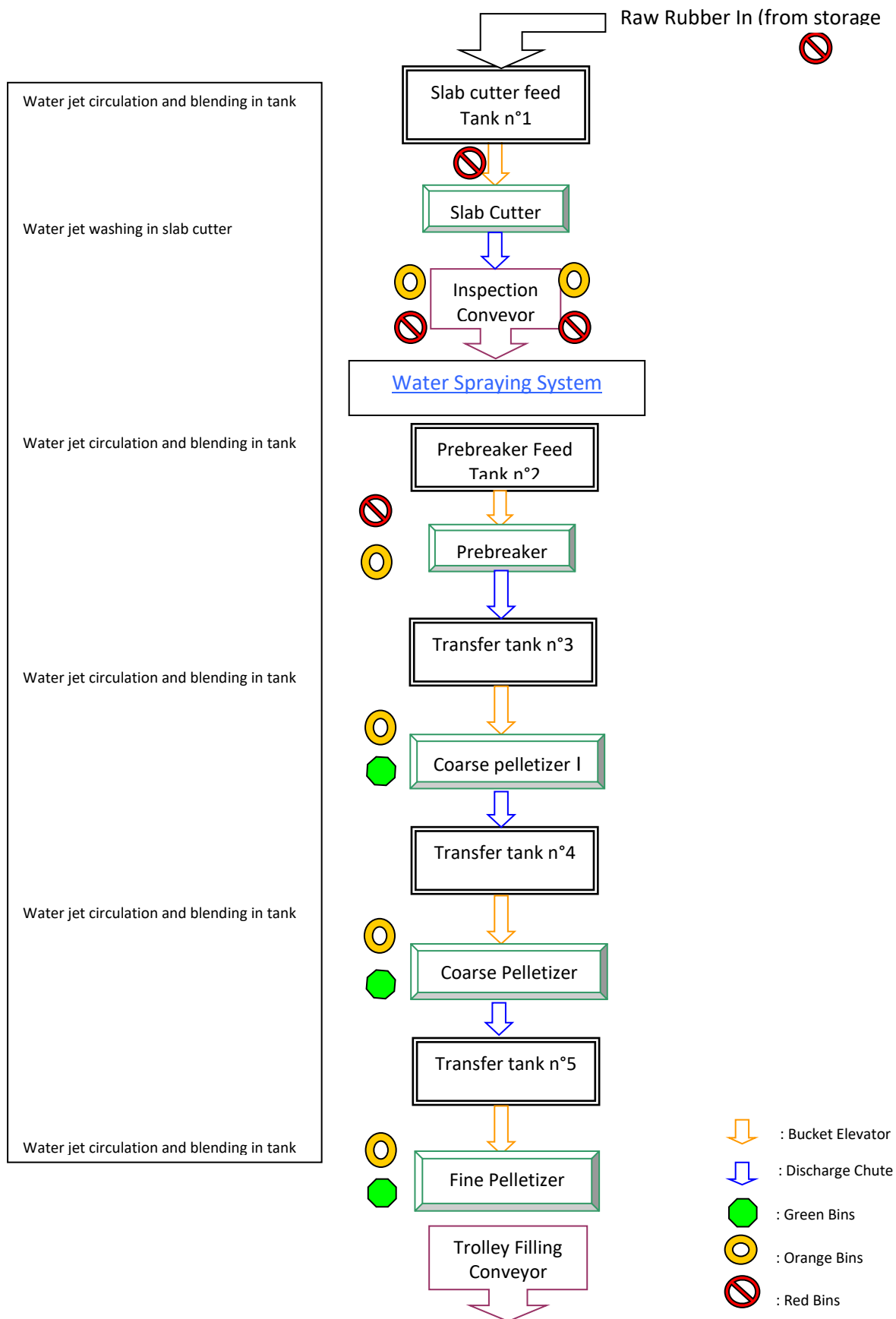


Figure 7a: Rubber Process Flow Diagram

Source: HSE Office, OOPC Plc (December 2020)

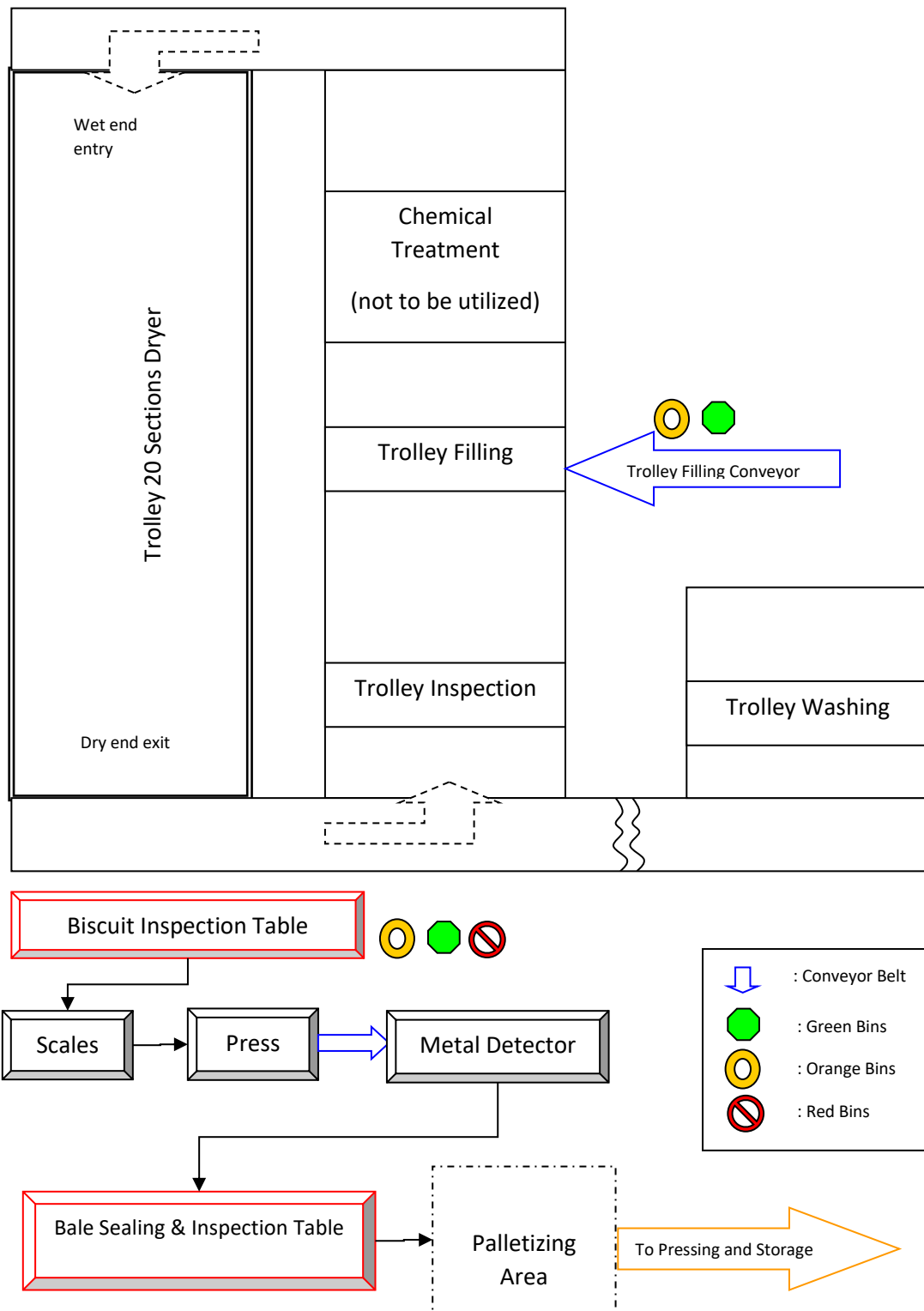


Figure7b: Rubber Process Flow Diagram Cont'd

Source: HSE Office, OOPC Plc (December 2020)

The major products include SPO, PKO, PKC and Crump Rubber. The historical record of production is presented as follows:

Table 2.5: Products

Location	Products (Tonnage)		
	2018	2019	Jan-Nov 2020
Oil mill	41961	44633	44882
Rubber	7536	7247	6642.3

Table 2.6: Water Consumption

Location	Water Consumption (m ³)				
	2017	2018	2019	2020	
				Water Consumption	Effluent Discharged
Oil Mill	258,158	268,198	285,396	311,287	207,520
Rubber Factory	149,628	139,156	129,090	115,461	115,461

Source: HSE Office, OOPC Plc (December 2020)

CHAPTER THREE

Site/Facility Inspection Audit

3.0 Baseline and Existing Environmental Assessment Study

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) and Vegetable Oil Production and Processing (IFC, February 12, 2015), the National Guidelines for Environmental Audit Report (EAR) in Nigeria, Nigeria Factories Act, CAP F1 LFN 2004 and Industry/Management Best Practices.

3.1 Sampling Points

Sampling was done within the Main estate concession. At each sampling location, the GPS was taken including groundwater quality, surface water quality, air quality and noise level measurements.

The sampling locations were within the spatial boundaries of the estate. The sampling points with their coordinates are presented in Table 3.1 and Figure 8 below:

Table 3.1: Co-ordinate Points of Sampling Locations

Sample Points	Location	Coordinates – 31N		Environmental Component Monitored
		(UTM Easting)	(UTM Northing)	
Borehole Water				
Point 1	Rubber Quarters (OKM _{RQ})	733794.10	687543.17	Groundwater
Point 2 (Control Point)	Management Quarters (OKM _{MQ})	738545.88	690688.52	Groundwater
Point 3	Labour Line Quarters (OKM _{LL})	738549.19	690690.75	Groundwater Quality
Point 4	IITA Quarters (OKM _{IITA})	735384.89	691107.08	Groundwater Quality
Point 5	Mill Complex (OKM _{MC})	N06°24’ 19.9”	E005°14’11.0”	Groundwater Quality
Monitoring Wells				
Point 6	Palm Oil Mill Effluent (POME) Monitoring Well (OKM _{MEMW})	N06°24’13.2”	E005°12’46.0”	Groundwater Monitoring
Point 7	Rubber Effluent Monitoring Well (OKM _{REMW})	N06°21.377	E005°11.298	Groundwater Monitoring
Wastewater/Effluent				
Point 8	Palm Oil Mill Effluent – Treated (OKM _{PMT})	N06°24’ .15.8”	E005°12.895	Wastewater/Effluent
Point 9	Palm Oil Mill Effluent – Raw (OKM _{PMR})	N06°24.20.7’	E005°14.076	Wastewater/Effluent
Point 10	Rubber Effluent – Treated (OKM _{RET})	N06°21.838’	E005°11.071’	Wastewater/Effluent
Point 11	Rubber Effluent – Raw (OKM _{REER})	N06°21.22.9’	E005°11.04.3’	Wastewater/Effluent
Surface Water				
Point 12 (Control)	Okomu River Inlet - OKM _I (Control)	739914.31	689294.76	Surface River Quality
Point 13	Stream 1 Outlet: Management Quarters (OKM ₃)	723029.70	688722.31	Surface River Quality
Point 14	Stream 2 Outlet: Oil Mill Stream Outlet (OKM ₅)	737161.61	688644.12	Surface River Quality
Point 15	Stream 3 Outlet: Palm-Rubber Stream Outlet (OKM ₇)	733137.74	684734.16	Surface River Quality
Point 16	Stream 5 Source: Madoti Stream (OKM ₁₀)	732147.53	686539.95	Surface River Quality
Air Quality & Noise Measurements				
Point 17	Main Powerhouse (1100 kVA, 1100 kVA & 1650kVA)	N06024.462’	E005015.653’	Air Quality & Noise
Point 18	Oil Mill Powerhouse 500kVA	N06°24.314	E005°14.128’	Air Quality & Noise
Point 19	Rubber Factory Hall	N06°21’25.4”	E005°11’04.6	Air Quality & Noise
Point 20 (Control)	Management Quarters	N06°24’ 364”	E005°16’251”	Air Quality & Noise

Source: Okomu OPC Plc Environmental Audit (December 2020)

Environmental Laboratory Services Limited (laboratory accredited by the Federal Ministry of Environment) carried out the analyses.

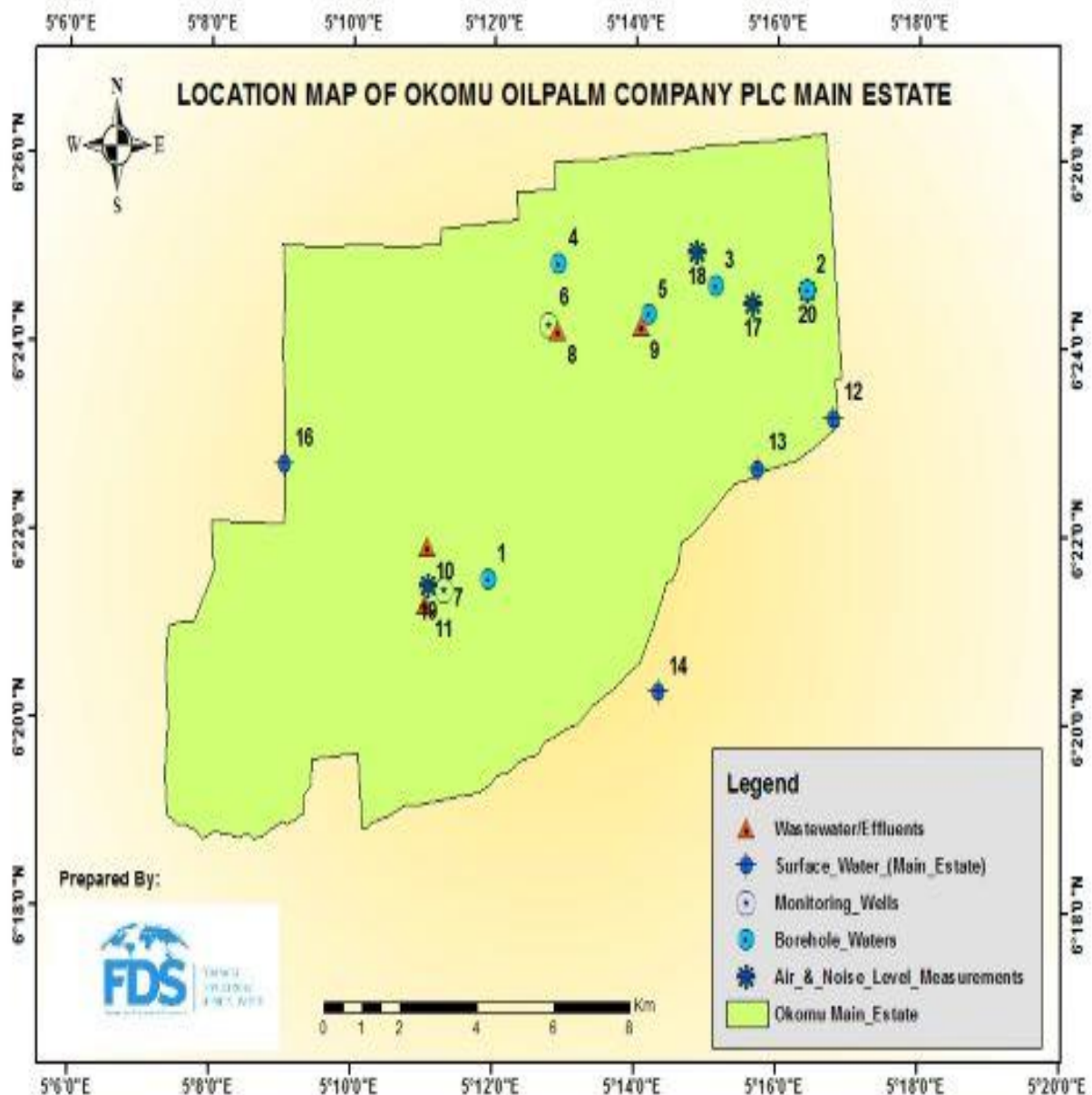


Figure 8: Main Estate Plantation Map Showing Sampling Points

Source: Okomu OPC Plc Environmental Audit (December 2020)

3.2 Study Approach

The purpose of this environment description is to provide qualitative and quantitative information of the estate.

3.2.1 Quality Assurance/Control Procedure: The Quality Assurance/Control for laboratory analysis is in accordance with FMEnv recommended methods and it includes blank analysis to establish analytical level, duplicate analysis to establish analytical precision, spiked and blank sample analyses to determine analytical accuracy. It covers all aspects of the study, and includes sample collection, handling, laboratory analysis, data coding and manipulation, statistical analysis, presentation, and communication of results. Sample chain of custody form was used for the registration and tracking of sample from the field to the laboratory.

3.2.2 Sample Collection and Handling: This was carried out in accordance with Federal Ministry of Environment guidelines and standards (sampling and handling of samples). Where logistic and safety considerations precluded strict compliance with the above guidelines and standards, other proven, scientifically acceptable methods of sample collection and handling were used.

3.2.3 Laboratory Analysis: The methods of analysis used were as specified in the Federal Ministry of Environment guidelines and standards and other International Analytical Standards methods of analysis such as APHA for water quality. Trace metal analysis was done using Atomic Absorption spectrophotometer dully calibrated using standards, physicochemical parameters were determined using Thermoelectric Genesys 10 VIS Spectrophotometer and Orion ISE Meter Model 710A, dully calibrated with standards, as well as Flame Photometer.

3.2.4 Statistical Analysis: Errors in field data include those resulting from the instrument and those introduced by the observer. With proper sustained calibration of the instrument and the use of standardized observational procedures equipment, errors were brought to acceptable minimum. Errors often arise from two-stage sampling or sub sampling, or even from the fact that the samples collected are not representative samples of the medium. There are also spatial variations for the same medium, e.g., soil and water. Thus, it is taken, so as to establish a reasonable level of confidence in the results obtained. A good result is obtained when the variance is within 5% of the mean.

3.2.5 Data Coding and Manipulation: To ensure preservation of the integrity of data collected, data coding forms for use in the field, were designed in such a way that field data could be directly entered into computer data sheets. Since their analyses may be required in legal proceedings, it is essential to establish

sample authenticity. Samples must be properly sealed and labeled. All data collected were labeled and the following information provided among others:

- Identification code or sample number
- Date and time of sampling
- Description of sample
- Methods of sampling
- Particulars of any photographs taken.

Where samples were sent to another laboratory for examination, a duplicate copy of this information was sent along with the sample to the laboratory, independent of the sample. All movements of the samples were included on the samples record. Basic information was recorded together with results of analysis, in a register.

3.3 Air Quality and Noise Level

a) Air Temperature

For air temperature and humidity of ambient conditions, a digital thermometer and Fisher Scientific Hygrometer were used, respectively.

b) Gases

In-situ determination of the gases was carried out using portable gas analyzers. The ambient air was monitored using GasTech GT402 to measure the concentration of CO, O₂, Non-methane hydrocarbons, and H₂S. BWT Gas Alert was used to determine the concentration of NO₂ and Ogawa Passive Air Samplers were used for the sampling of SO₂ and subsequently analysed in the laboratory to determine the concentration of the gases.

c) Suspended Particulate Matter, (SPM)

PPM 1055 Hand-held Aerosol Monitor was used to determine Suspended Particulate Matter (SPM).

d) Noise level measurement

Sound level was measured at same point as that for air quality. A CEL-254 Sound level meter was first calibrated and re-checked before determining the sound level. The reading was allowed to stabilize before recording in decibel units {dB(A)}.

3.4 Ambient Environment

3.4.1 Hydrogeology and Groundwater Quality

Based on the result of analysis conducted on the samples, the quality of the water conformed to FMEnv limit for potable water. The groundwater quality is good and free from pollution. The pH value of most samples indicates the water is acidic across board with readings ranging from 5.55 to 6.21 and thereby falling below the recommended limit. The Mill complex sample however fell within the limit. Pathogenic organisms were also detected in some of the sample. Other physico-chemical and microbiological parameters were however within the permissible limits recommended by WHO and FMENV for wholesome water.

The low pH in the water samples can be raised to near neutral with the addition of soda ash/sodium hydroxide.

The full results of laboratory analyses of water samples are presented in **Appendix A**.

The results of laboratory analyses of six (6) groundwater and two (2) effluent and/or wastewater samples are presented in Tables 3.2 and 3.3 below.

Table 3.2: Laboratory Analysis Results of Borehole Water Samples

PARAMETER/ UNIT	NIS554: 2017	OKM _{RQ}	OKM _{LL}	OKM _{MQ}	OKM _{EXTQ}	OKM _{ITA}	OKM _{MC}
Appearance	Clear & Colourless	Clear & Colourless	Clear & Colourless	Clear & Colourless	Clear & Colourless	Colourless with Particles	Colourless with Particles
pH @26.2°C	6.5-8.5	6.21	5.63	5.55	6.04	5.78	7.07
Temperature, °C	Ambient	29.8	28.8	26.8	28.0	26.8	28.6
Conductivity, µS/cm	1000	18.49	16.76	19.46	20.5	24.9	16.74
Colour, Pt-Co	15	3	3	3	<1	1	2
Turbidity, NTU	5	0.2	0.2	0.2	0.5	0.2	3
Total Solids, mg/L	-	10.2	9.4	10.7	11.3	17.3	14.4
Total Dissolved solids, mg/L	500	9.24	8.38	9.73	10.3	12.3	8.36
Total Suspended Solids, mg/L	-	1	1	1	1	5	6
Total Hardness, mg/L	150	4	4	4	7.3	7.4	7.3
Total Alkalinity, mg/L	-	20	10	20	20	20	20
Total acidity, mg/L	-	40	40	20	20	20	20
Calcium, mg/L	-	1	1	1	1.6	1.6	1.6
Magnesium, mg/L	20	0.37	0.37	0.37	0.8	0.8	0.8
Chloride, mg/L	250	1.6	1.7	1.8	1.8	1.8	1.8
Nitrate, mg/L	50	<0.1	0.1	<0.1	0.3	0.1	0.2
Nitrite, mg/L	0.2	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Sulphate, mg/L	100	1.4	1.5	1.6	2.0	1.5	1.2
Phosphate, mg/L	-	0.06	0.02	0.03	0.02	<0.01	0.2
Iron (total), mg/L	0.3	0.02	0.02	<0.01	<0.01	<0.01	0.02
Fluoride, mg/L	1.5	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Lead, mg/L	0.01	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
Arsenic, mg/L	0.01	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
Manganese, mg/L	0.2	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
Copper, mg/L	1.0	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
Cadmium, mg/L	0.03	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
Chromium, mg/L	0.05	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
Hydrogen Sulphide, mg/L	0.05	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Total coliform count, CFU/mL	10	0	0	0	3	0	0
Faecal coliform, <i>E. coli</i> ,	CFU/100 mL	0	0	0	0	0	0
<i>Clostridium perfringens</i> ,		0	0	0	0	0	0
<i>Salmonella/Shigella sp.</i> ,		0	0	0	0	0	0
<i>Staphylococcus sp.</i> ,		0	13	0	0	0	0
<i>Pseudomonas aureus</i> ,		0	0	0	0	0	0
Fungi,		0	8	0	8	0	0
Total plate count,		10 ²	43	0	32	21	0

Source: Okomu OPC Plc Environmental Audit (December 2020)

Table 3.3: Part Laboratory Result of Critical Effluent Parameters Compared

Quality Parameter	Palm Oil Mill Effluent-Treated (OKM _{PMT}) N06°24.158'; E005°12.895'		Rubber Factory Effluent-Treated (OKM _{RET}) N06°21.838'; E005°11.071'		FMENv. Limits for Land Application
	Far end of Lagoon (2017 Audit)	Far end of Lagoon (2020 Audit)	Rubber Factory Effluent (2017 Audit)	Rubber Factory Effluent (2020 Audit)	
pH	8.04	9.32	6.70	6.78	6-9
Total Suspended Solids (mg/l)	260	234	86	127	Not Specified
Biochemical Oxygen Demand (BOD) (mg/l)	320	126	160	75	50
Chemical Oxygen Demand (COD) (mg/l)	568	160	240	96	Not Specified
Oil and Grease (mg/l)	5.0	15.7	12.5	2.5	20
Total Hydrocarbon (mg/l)	<0.01	<0.01	<0.01	<0.01	Not Specified
Heavy Metals (mg/l)	<1.0	<1.0	<0.01	<0.01	<1.0
Total Coliform Count (MNL/ml)	10	1.8 x 10 ²	8	1.2 x 10 ²	Not Specified

Source: Okomu OPC Plc Environmental Audit (December 2020)

3.4.2 Air Quality and Noise Level Measurements

In-situ determination of the gases was carried out using portable gas analyzers. The ambient air was monitored using Mattheson IQ-1000 gas analyzer (with mega and electrochemical sensors) to measure the concentrations of carbon monoxide, Oxygen, Non-methane hydrocarbons, hydrogen sulphide, Sulphur dioxide. BWT Gas Alert was used to determine the concentration of NO₂. PPM 1055 Handheld Aerosol Monitor was used to determine Suspended Particulate Matter (SPM). Fisher Scientific Hygrometer was used to determine the temperature and humidity of ambient conditions during the sampling period.

The results of ambient air quality determination are presented in Table 3.4 below.

Table 3.4: Result of Air Quality Measurements Carried out within the Facility.

Location	Main Powerhouse (1100, 1100 & 1650kVA)	Oil Mill Powerhouse 500kVA	Rubber Factory Hall	Management Quarters	FMEnv. Limit
Coordinate	N06°24.462'	N06°24.314'	N06°21'25.4"	N06°24' 364"	
	E005°15.653'	E005°14.128'	E005°11'04.6	E005°16'251"	
Elevation (m)	61	72	72		
Noise, dB(A)	94.2	101.6	70.3	42.8	90
SPM (µg/m ³)	120	140	150	120	250
Humidity (%)	90.3	91.1	75.7	85.7	Ambient
Temperature (°C)	24.8	25.6	29.3	26.8	Ambient
Carbon monoxide, ppm	<1.0	<1.0	<1.0	<1.0	10-20
Carbon dioxide, %	0.60	0.56	0.38	0.36	Ambient
Hydrogen sulphide, ppm	<0.1	<0.1	<0.1	<0.1	-
Hydrocarbon, %	<0.1	<0.1	<0.1	<0.1	-
Oxygen, %	21.0	21.0	21.0	21.0	21.0
Sulphur dioxide, ppm	<0.01	<0.01	<0.01	<0.01	0.01
Nitrogen oxides, ppm	<0.01	<0.01	<0.01	<0.01	0.04 – 0.06
VOC, ppm	<0.01	<0.01	<0.01	<0.01	

VOC = Volatile Organic Compounds; SPM = Suspended Particulate Matter.

Source: Okomu OPC Plc Environmental Audit (December 2020)

Table 3.5: Result of Noise Level Measurements at Critical Areas within the Main Estate.

S/N	Location	Noise Level, dB(A)
1.	MAIN POWERHOUSE (1650, 1100kVA & 1500 kVA)	
a)	Nearest Residential Block	80.9
b)	Powerhouse office	80.1
c)	Dispensing Station	87.4
d)	Security Post	63.2
e)	Welding Unit	88.8
f)	Gas Depot	76.6
2.	OIL MILL	
a)	Workshop:	75.2
b)	Boiler	87.5
c)	Cloak Room:	70.8
d)	Sterilizer Area:	90.2
e)	Ramp:	70.1
f)	Weighbridge	68.4
g)	Laboratory/Office	71.8
h)	Cracking Section	98.8
i)	Palm Kernel Oil Factory	85.9
j)		
3.	RUBBER FACTORY HALL	
a)	Slab Cutter	68.4
b)	Pre-breaker	69.3
c)	Pelletizer	67.6
d)	Dryer	77.6
e)	Bailing Section	70.4
NESREA Standard (8-hour)		90

Source: Okomu OPC Plc Environmental Audit (December 2020)

3.5 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 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, <i>Crotalaria</i> , <i>Canavalia</i> , <i>Mucuna</i> or <i>Tephrosia</i> ; intercropping along contours with legumes such as <i>Cajanus</i> , <i>Sesbania</i> , <i>Lupinus</i> , <i>Tritolium</i> , and creating multi species shelterbelts, and/or windbreaks to reduce evapotranspiration and soil loss through water erosion.	Interrow are ploughed and cover crops such as <i>Pueraria plaseoloides</i> and <i>Mucuna bracteata</i> are broadcasted/ planted which grow vigorously and form a dense cover over the plantation (see Plate 3.1 below).	This practice should be sustained
			
	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.	

Plate 3.1: Established Groundcover in Mature Palms

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	No Action Required
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.	No Action Required
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, 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.	No Action Required.



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.
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<ul style="list-style-type: none"> Maintaining Soil Productivity 	<p>Cultivate crops that are suited or adapted to the local climate and soil conditions and adopt good agronomic practices to optimize crop productivity</p>	<p>Okomu-OPC usually cultivates crops that are suitable for the area, climate, and soil. Good agricultural practices are practiced.</p>	
	<p>Collect meteorological data on precipitation, evapotranspiration, temperature, photosynthetically active radiation, and use information to inform and guide agronomic and silviculture management techniques</p>	<p>There are three (3Nos.) weather stations located at the Management Quarters, oil palm nursery and rubber estate. The weather stations are equipped with facilities to collect data on rainfall, temperatures, and sunshine.</p>	<p>Install in the meteorological station with wind vane to collect data on wind speed and wind direction.</p>
	<p>Use soil maps and soil survey results to determine crop suitability and appropriate soil management practices</p>	<p>Soil maps are used, and soil survey done every 5-10 years.</p>	<p>Always ensure that soil survey is done for new plantation development.</p>
<ul style="list-style-type: none"> Nutrient Management 	<p>Develop and implement a soil monitoring and management plan that includes soil and terrain mapping and erosion risk identification.</p>	<p>This is done through identification of slopes with the aid of soil maps.</p>	
	<p>Conduct regular surveys to monitor soil structure and chemistry in order to identify areas where remedial action is required.</p>	<p>Soil survey is done every 5-10 years.</p>	<p>See Above</p>
	<p>Recycle and/or incorporate organic materials (e.g., crop residues, compost, and manures) to replenish soil organic matter and improve soil water-holding capacity.</p>	<p>Crop residues most 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.</p>	



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	<p>The company has developed an integrated pesticide management programme that includes routine monitoring system every two months to observe pest attacks.</p> <p>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.</p>	No Action 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	<p>The main groundcover species are <i>Pueraria</i> and <i>Mucuna bracteata</i>, which grow vigorously and forms a dense cover over the plantation.</p> <p>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.</p>	No Action Required.
Incorporate nitrogen-fixing legume crop plants and cover crops in the cropping cycle.	The main groundcover species are <i>Pueraria</i> and <i>Mucuna bracteata</i> , which are rich in Nitrogen. They are also known as nitrogen-fixing leguminous crops.	No Action Required.
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.	Improve on this system
Time the application of crop nutrients to maximize uptake and minimize nutrient runoff.	Fertilizer applications are done during raining season but not heavy rains.	This 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 width of the River.	No Action Required
Select and maintain fertilizer application equipment to ensure desired application rates are used and overbroadcasting 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.
Implement nutrient planning and documentation, which includes the use of a fertilizer logbook to record the following information: <ul style="list-style-type: none"> ▪ 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). 	Record of application is kept in a notebook and the monthly record manual at Plantation department. Record of purchase dates is also kept at both plantation departments for both oil pal 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 standard organizations (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 expert. Fertilizer and chemical training are ongoing.	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 Sheet (SDS's) are available	Display SDS's by all chemicals and fertilizers.

<p>▪ Crop Residue and Solid Waste Management</p>	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.	No Action Required
	Consider the potential for harboring and spreading pests and diseases before implementing this practice.	Plantation department takes this factor greatly into consideration.	No Action Required
	Disperse (or mulch) large vegetative structures (e.g., trunks, branches), unless there are compelling habitat and biodiversity benefits identified in the Biodiversity Management Plan.	Done regularly with harvesting and pruning.	
	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
<p>• Water Management</p>	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 need per palm is given without waste.	
		Water use for irrigation is from groundwater sources which are pumped from boreholes to overhead storage tanks for distribution to the nursery.	
	Maintain soil structure and soil organic matter. Use of crop residues and mulches will assist in maintaining soil organic matter levels, retain soil humidity, and reduce surface evaporation.	Cover crop like Pueraria plaseoloides and Mucuna bracteata are used and the palm fronds are packed in the interrow during pruning and harvesting. By-product like EFB, POME and fibres are sent to the fields.	No Action Required
	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	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

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.

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.

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 water reaches the end of the

The main groundcover species are *Pueraria* and *Mucuna bracteata*, which grow vigorously and forms a dense cover over the plantation.

Regular maintenance of irrigation system is being practiced with a logbook to estimate water use. Irrigation is usually done in the morning and evening time.

No Action
Required

	<p>furrow and discharges to the environment.</p> <p>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.</p>		
<p>• Pesticide Management</p>	<p>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.</p>		
	<p>Use harvesting methods (such as directional felling) or other appropriate measures to minimize the amount of debris deposited in streams.</p>	<p>Harvesting is done manually with debris deposited in the plantation field.</p>	<p>No Action Required</p>
	<p>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.</p> <p>Remove harvest debris from streams and consider the use of debris traps such as trash lines where possible.</p>	<p>Buffer zone of about 50m to 150m along Riverbanks is created depending on the width of the river.</p>	<p>No Action Required</p>
	<p>Have you identified the main pest associated or affecting the crop?</p>	<p>The main insect pest is the leaf miner. The company monitors pest numbers in the plantations by carrying out LMO checks monthly.</p>	<p>No Action Required</p>
	<p>Do you apply early warning mechanism for pest and disease i.e. (pest and disease forecasting technique).</p>	<p>There is phyto-sanitary team in place monitoring pest out-break and by LMO checks monthly.</p>	<p>No Action Required</p>
	<p>What other control measures are in place other than dependency on pesticide use? In terms of biological control (birds, mites).</p>	<p>Use of pruning</p>	<p>No Action Required</p>
	<p>How do you store, handle, or apply pesticides?</p>	<p>Pesticides are stored in a safe storage area, separate from other products. Application is done only when necessary and with</p>	<p>The pesticide storage and use area should be</p>

	trained workers that are provided with adequate PPE. The storage is secure and well ventilated which meet safety requirements such as spill containment and safety signage.	upgraded to meet the requirements of the IFC Guideline for Pesticide Handling and Application (1998). The design should include secondary spill containment for the storage of chemicals, a water supply for cleaning, disposal of wastewater in an absorption trench, a workbench for maintenance of spray equipment, equipment storage, ventilation for dispersion of fumes and safety signs.
Is there a pest management plan (PMP) that includes procedures for procurement, storage, handling, and ultimate destruction of all out-of-date stock?	There are no specific programmes in place for the management of hazardous materials. Although, pesticides are moderately used and at the appropriate time usually at the beginning and toward the end of raining season.	
<ul style="list-style-type: none"> 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



Plate 3.5: Bund Wall around Hazardous Chemicals

	Verify if store is set away from water sources, residential and built-up areas as well as livestock and food storage areas.	Chemical store is not near any water sources, residential, food and livestock.	No Action Required
	Are there spill kits in place in case of accidental spillage?	Spill kits are provided at all hazardous substance storage area (see Plate 3-6 below).	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 all pesticide storage area.
	Do you have a register of all pesticide procured, records of when they were received, amount used and remaining in store.	Record available	
	Is there a SDS and is it appropriately located?	The company keeps an up-to-date inventory and safety data sheets (SDSs) are available and well displayed for all the chemicals in storage	No Action Required
• Pesticide Handling	Do operators read, understand, and follow product label instructions for mixing, safe application, and disposal?	Pesticide handlers receive instructions on 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 a 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. More so, periodic medical examinations are provided for them.	Organize a regular 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 include 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 agrochemical

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 of pesticide is usually done on bunded concrete tank (see plate 3-8 below).

Mixing should be confined to the pesticide tank and this must be done with utmost caution.



Plate 3.6: Bund Wall around Pesticide Mixing Tank at Agric Office

The design should include disposal of wastewater in an absorption trench with more safety signs.

• **Pesticide Application**

How is application done?

Pesticides are usually applied using knapsack sprayers. Sometimes ULV application is done using ULV sprayers, following strictly manufacturers' technical instructions. Pesticide applicators receive special training in the use and application of pesticides.

No Action Required

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) on annual basis.

The company has not experienced any stock of outdated pesticides in recent time.

Develop contingency plan for expired hazardous

chemical management including disposal.

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) 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.

Establish that the empty agrochemical containers are returned to the manufacturers

• **Fertilizer**

How are fertilizers stored?

Fertilizers are stored in the main store on top of pallets. The store is well secured and always under lock. (see below)

No Action Required



Plate 3.7: Fertilizer Stockpiled on Pallets

Are fertilizers kept with pesticides and machinery? e.g., fuels, ignition, or heat source.

Fertilizers are kept separately from agrochemicals as shown in Plate 3.8 above.

No Action Required.

Are fertilizers purchased minimally and stored or purchased in large quantity 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?	Fertilizer requirement is known, and rate of application would appear economical in terms of requirement, quantity, timing, and methods.	
• Energy Use	Consider implementing training programs to make operators aware of energy efficient practices when using machinery.	There is no programme in place to make operators aware of energy efficient practices.	Create awareness (formal or informal) on energy efficient practices such as switching off engines when waiting to load and all electrical appliances including air conditioners when leaving the office.

3.6 Palm Oil Processing/Rubber Processing Management

ISSUE	GUIDELINES	CURRENT PRACTICE	REMARKS
ENVIROMENT- <i>solid waste and by-products.</i>	Reduce product losses through better production/storage control (e.g., monitor and adjust air humidity to prevent product losses caused by the formation of molds on edible materials).	The Company adopts best general industrial practices (GIP) for processing and product storage where 40% of oil is recovered from the effluent generated through the fat pits (3 Nos.).	No Action Required
	Collect residues from the raw material preparation phase for conditioning (drying) and processing (grinding) to yield by-products (e.g., animal feed).	Palm Kernel Cake (PKC) is produced as by-product	Practice should be sustained
	Return waste and residues to fields to assist in soil nutrient management; for example, EFBs from oil palm plantations with tree trimmings are a valuable soil amendment and/or can be composted with vegetable oil wastewater effluent	Excess empty fruit bunches (EFB) and tricanter cake, sludge mixed with fibre are returned to the plantation field as fertilizer.	Practice should be sustained.
	Use waste and residues for energy generation in the project plant's boiler(s). Note, however, that relatively high atmospheric emissions (such as particulate emissions (PM)) are possible when burning crop residues, and potential fire risks (e.g., from combustible dust) may arise from handling, storing, and processing crop residues; as such, expert advice on fuel characteristics and boiler design should be solicited when planning to use biofuels in this manner.	EFB, Palm Kernel Shell and fiber are used as source of fuel in the boiler for steam generation. More so, about 25 cones are fixed in the boiler to filter ash and dust from the smoke generated before going out from the chimney.	Practice should be sustained.
	Use uncontaminated sludge and effluent from on-site wastewater treatment as fertilizer in agricultural applications or as a supplemental boiler fuel. Recommendations for the management of EHS issues common to sludge and effluent are provided in the General EHS Guidelines and in the Water and Sanitation EHS Guidelines . Dispose of contaminated sludge from wastewater treatment at a sanitary landfill or by incineration. Incineration should only be	The effluent from the mill and rubber factory is sent to an effluent lagoon and ponds for further treatment, respectively.	The treated wastewater should be channeled into the plantation field for irrigation

conducted in permitted facilities operating under internationally recognized standards for pollution prevention and control

WATER CONSUMPTION AND MANAGEMENT

Replace water-based conveyor systems by mechanical systems (augers or conveyors).	Mechanical conveyor system is used at both palm oil mill and rubber factory.	No Action Required
Apply Cleaning-in-Place (CIP) procedures to help reduce chemical, water, and energy consumption in cleaning operations	Cleaning-in-Place procedure is done mostly.	No Action Required
Recover and reuse condensate from heating processes	Condensate from turbine is returned to boiler while condensate from sterilizer is mixed with crude palm oil process water.	Practice should be sustained.
Use dry cleanup techniques before rinsing floors.	Dry clean up technique is practiced	No Action Required
Manually clean vessels before rinsing to remove solids for recovery or disposal	This is done	
Vegetable oil processing wastewater generated during oil washing and neutralization may have a high content of organic material and, subsequently, a high biochemical oxygen demand (BOD) and chemical oxygen demand (COD).	Retention trays are available in the palm oil mill to recover spilled palm oil, while wire mesh are installed at interval in the drainage channel to trap any processed rubber from escaping.	No Action Required.
Wastewater may also have a high content of suspended solids, organic nitrogen, and oil and fat, and may contain pesticide residues from the treatment of the raw materials. Recommended measures to reduce contaminant loading include the following: install spill collection trays to collect solids at appropriate places in the production line; use emulsion breaking techniques, (e.g., dissolved air flotation (DAF)), to segregate high BOD and COD oils from wastewater	Wastewater from the oil mill is first channeled to Fat Pits for palm oil recovery, while wastewater at rubber factory passes through decantation pit to recover any loose processed rubber and later channeled to the effluent lagoon and ponds for further treatment by natural/biological method.	Treated wastewater should be channeled into the plantation field for irrigation.
Use grids to cover drains in the production area to prevent solid wastes and concentrated liquids from entering the wastewater stream.	Grids and solid covers provided at the Fat Pits while wire mesh is installed inside the drains at rubber factory.	No Action Required

Select disinfection chemicals to match the cleaning operation being applied on the process equipment to the type of problem. Caustics are typically used for polymerized fat, and acids are used for lime deposit acids.

NAFDAC approved solvents are being used for cleaning at palm oil mill

No Action Required

PROCESS WASTEWATER TREATMENT

Techniques for treating industrial process wastewater in this sector include: grease traps, skimmers, or oil water separators for the removal of floatable solids; flow and load equalization; sedimentation for suspended solids reduction using clarifiers; biological treatment—typically anaerobic, followed by aerobic treatment—for the reduction of soluble organic matter (BOD); biological nutrient removal for reduction in nitrogen and phosphorus; chlorination of effluent when disinfection is required; and dewatering and disposal of residuals. In some instances, composting or land application of wastewater treatment residuals of acceptable quality may be possible. Additional engineering controls may be required to contain and neutralize nuisance odors.

Palm Oil Mill Effluent (POME) and rubber effluent is sent to the effluent lagoon and effluent ponds for palm oil mill and rubber factory respectively for anaerobic and aerobic treatment and/or natural/biological method.

Results of laboratory analysis of POME and rubber factory effluent are presented in Table 3.6a and Table 3.6b below.

Table 3.6(a): Laboratory Analysis Results for Critical Effluent Parameters (Oil Palm)

Quality Parameter	Far end of Lagoon (2015 Audit)	Far end of POME Lagoon (2017 Audit)	Far end of Lagoon (2020 Audit)	FMENV. Limits for Land Application
pH	6.8	8.04	9.32	6-9
Total Suspended Solids (mg/l)	35	260	234	-
Biochemical Oxygen Demand (BOD) (mg/l)	51.48	320	126	50
Chemical Oxygen Demand (COD) (mg/l)	85.6	568	160	-
Oil and Grease (mg/l)	9.1	5.0	15.7	20
Total Hydrocarbon (mg/l)	<0.1	<0.01	<0.01	-
Heavy Metals (mg/l)	<0.01	<1.0	<1.0	<1.0
Total Coliform Count (MNL/ml)	68	10	1.8 x 10 ²	Not Specified

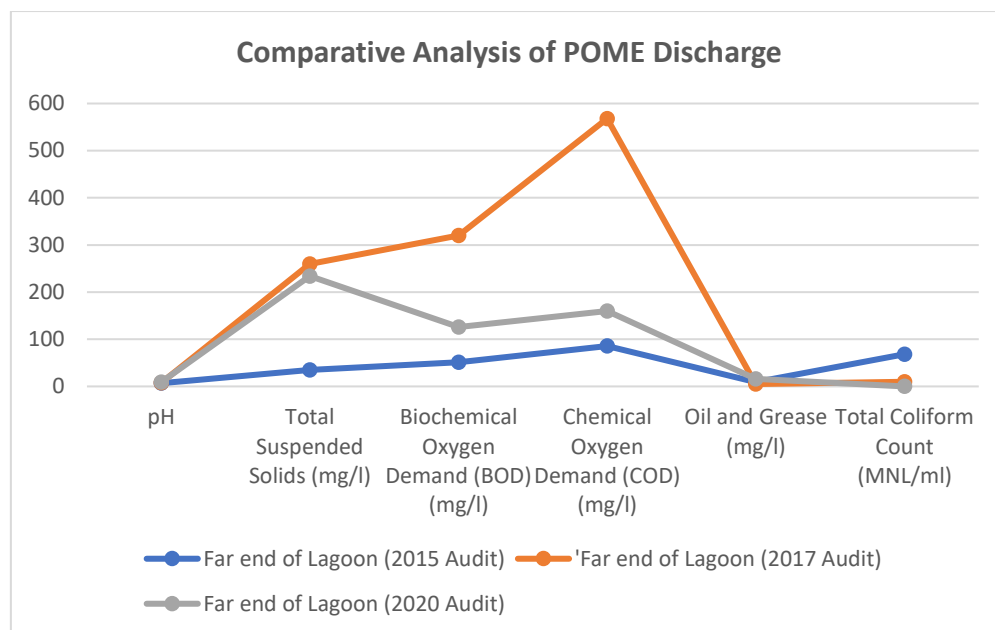


Figure 9(a): Comparative Analysis of Palm Oil Mill Effluent Discharge

The effluent sample does not conform to the general FMEnv effluent limits for industries due to its high Chemical Oxygen Demand and Biochemical Oxygen Demand as presented in Table 3.6(a). Although there is a sharp drop in the overall quality of POME when compared with the quality obtained in 2017. It is recommended that the respective effluent treatment system be maintained regularly for improved efficiency such as scooping the bottom layer of POME Lagoon.

Table 3.6(b): Laboratory Analysis of Critical Effluent Parameters (Rubber)

Quality Parameter	Rubber Factory Effluent (2015 Audit)	Rubber Factory Effluent (2017 Audit)	Rubber Factory Effluent (2020 Audit)	FMEnv. Limits for Land Application
pH	5.5	6.70	6.78	6-9
Total Suspended Solids (mg/l)	250	86	127	-
Biochemical Oxygen Demand (BOD) (mg/l)	978.2	160	75	50
Chemical Oxygen Demand (COD) (mg/l)	1626	240	96	-
Oil and Grease (mg/l)	<0.1	12.5	2.5	20
Total Hydrocarbon (mg/l)	-	<0.01	<0.01	-
Heavy Metals (mg/l)	0.02	<0.01	<0.01	<1.0
Total Coliform Count (MNL/ml)	-	8	1.2 x 10 ²	Not Specified

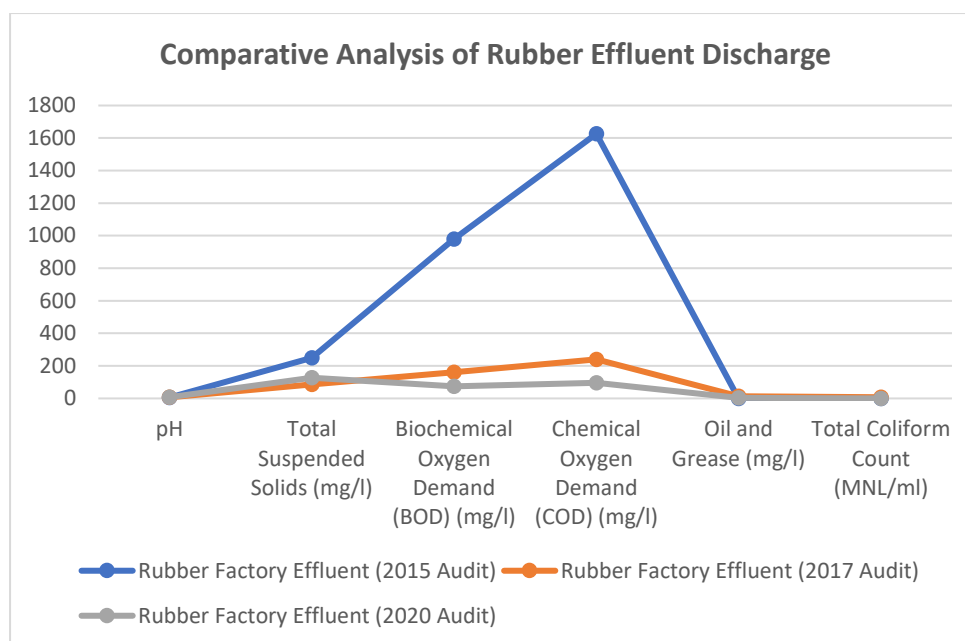


Figure 9(b): Comparative Analysis of Rubber Effluent Discharge

The effluent sample does not comply with general FMEnv effluent limits for industries due to its high Chemical Oxygen Demand and Biochemical Oxygen Demand as presented in Table 3.6(b). However, there is a tremendous improvement in the overall quality of rubber effluent when compared with the quality obtained in 2015 and 2017.

Remarks:

A monitoring well each has been established at 100m and 250m radius to palm oil mill effluent (POME) lagoon and rubber factory ponds respectively. This will allow for groundwater monitoring in case of any infiltration.

It should however be noted that the wastewater and/or effluent is not discharged into any surface water body.

ENERGY CONSUMPTION AND MANAGEMENT

Increase efficiency of air removal in sterilization vessels to improve heat transfer.	The conventional type of sterilizer has been upgraded to modern (tilted) type. The process is now fully automated whereby there is efficiency of air removal to improving heat transfer.	No Action Required
Identify and implement opportunities for process heat exchange, e.g., optimized oil-oil heat exchangers in continuous deodorization.	Not Applicable	No Action Required
Reduce stripping steam consumption by improving process efficiency, e.g., improve stripping tray design. Where possible,	Not Applicable	No Action Required

consider technologies such as dry ice condensing systems that significantly lower energy consumption.

Where feasible, use anaerobic digestion for wastewater treatment to capture methane for power production and use, a process that improves energy efficiency and reduces greenhouse gas emissions.

Open anaerobic treatment (not enclosed) is employed.

Adopt the technology to capture methane for power production (i.e., biomethanation) especially the POME.

ATMOSPHERIC EMISSIONS (PARTICULATE MATTER & VOC)

Recommended management techniques include:

Process improvements, for example:

- Optimize recovery of solvents by distilling the oil from the extractor.
- Back-vent to the solvent delivery tanks during bulk storage tank filling.
- Improve exhaust air collection systems.

Implement leak prevention systems.

Solvent extraction is not used. However, the ambient air quality was determined in-situ during the audit for critical locations (see Appendix B).

In general, the emission sources and air emission potential of oil mill complex, rubber factory complex and other critical work areas is presented in Table 3.7 below:

Table 3.7: Emission Sources and Air Emission Potential

Sources	Location	Air Emission
Point Source	Powerhouse, Mill, Rubber Factory, Dumpsite	NO _x , SO ₂ , CO, PM, VOCs, CH ₄ , dioxin
Fugitive	Nursery, earth roads, unpaved ground	PM, NO _x , SO _x , CO
Mobile Sources	Tractors, Machinery	NO _x , SO ₂ , CO, PM, VOCs
Greenhouse Gases	Effluent Lagoon, Powerhouse, Mill, Rubber Effluent Pond, Dumpsite	CO, CO ₂ , CH ₄ ,

Periodically monitor the emission levels of all the work areas.

The results of in-situ air quality determinations conducted on the facility show that the concentration of noxious gases was detected within the recommended range and therefore does not pose any threat to the environment. The particulate matter at all the monitored locations was also found to be below the FMEnv. Limits for 8-hour exposure.

RECOMMENDED TECHNIQUES TO MANAGE DUST AND ODOR

Ensure proper maintenance of cleaning, screening, and crushing equipment—including in any ventilation and air handling systems—to reduce emissions of fugitive dust and avoid the use of compressed air or steam for cleaning.

Cyclones are used to remove fiber dust from air coming from nut/fibre separation systems. Compressed air is not used for cleaning.

GREEN HOUSE GAS EMISSIONS

The high nutrient loading of wastewater can be a source of methane (CH₄) when treated or disposed of anaerobically. It can also be a source of nitrous oxide (N₂O) emissions associated with the degradation of nitrogen components in the wastewater (e.g., urea, nitrate, and protein). Recommended measures to prevent and control non-fossil-fuel-related GHG emissions include:

- Avoid open anaerobic conditions for wastewater treatment by ensuring a regular program of operational maintenance in the wastewater treatment system.
- Consider biological methods of wastewater treatment, such as anaerobic digestion and methane capture; use of waste effluent for irrigation; co-composting of by-products, where appropriate (e.g., oil palm empty fruit bunches with palm oil mill effluent nutrient waste or olive mill waste residue with wastewater); and detoxification by nitrogen fixation.

A biological method of wastewater treatment is being used where open anaerobic wastewater treatment is employed.

Biological methods of wastewater treatment, such as anaerobic digestion and methane capture should be considered.

OCCUPATIONAL HEALTH AND SAFETY**PHYSICAL HAZARDS**

Physical hazards in vegetable oil production and processing facilities are similar to those present in other industry sectors and include the potential for falls caused by slippery floors and stairs; injuries caused by unprotected machinery or moving parts; hazards associated with potential collisions with internal transport, such as trucks; and accidental contact with conveyor systems, such as those used in crushing plants and in the removal of spent earth. The **General EHS Guidelines** provide guidance on the prevention and control of physical hazards.

The risk assessment of the mill and rubber factory gives a guideline for the prevention and control of physical hazard. However, some of the operations 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. The most common physical hazards derived from palm oil processing and rubber factory are presented in Table 3.8 below.

Table 3.8: Physical Hazards Associated with Palm Oil & Rubber Processing

Workplace	Physical Hazards Sources
Mill	Rotating & Moving Equipment, Noise, Vibration, Electrical, Hot Work, Working Environment Temp, Ergonomics, Working Heights, Floors, Stairs.
Rubber Factory	Rotating & Moving Equipment, Noise, Vibration, Electrical, Hot Work, Working Environment Temp, Ergonomics, Working Heights, Floors, Stairs.
Workshop	Rotating & Moving Equipment, Noise, Vibration, Electrical, Welding Work, Working Environment Temp, Ergonomics, Eye Hazards,
Stores	Working Environment Temp, Illumination, Eye Hazards.
Offices	Working Environment Temp, Ergonomics, Illumination.
Transport	Industrial Vehicles & Site Traffic

CONFINED SPACE ENTRY

Grain silos present a significant risk of death from asphyxia. Extremely toxic nitrogen oxides begin to accumulate in the head space of the silo within hours of its filling. Tank cars may also represent asphyxia risks if, for example, a tanker is flushed with nitrogen prior to loading. Recommendations for the management of occupational health and safety (OHS) risks associated with confined spaces are provided in the **General EHS Guidelines**

The relevant confined spaces include boiler fire chamber, process and product storage tanks and sterilizers. Details of the procedure for working in confined spaces are provided in working in confined space procedure (GP26).

CHEMICAL HAZARD

Operators in vegetable oil facilities may be exposed to hazardous substances, including inhalation of hexane or other solvents used for extraction; inhalation of toxic chemicals (e.g., sodium methylate can cause burns on the skin and lung tissue if inhaled); eye or skin exposure to acids or bases; inhalation of dust from the transportation of raw materials (e.g., seeds and beans to the crushing plant); inhalation of dust

Physical extraction is used instead of chemical extraction. The only place where chemicals are used is in the quality control laboratory and adequate provision is made for filters masks. However,

from meal treatment and shipment; inhalation of dust from bleaching earth, filter aid, and nickel catalyst; and inhalation of aflatoxins present in raw materials. Additional recommendations include;

- In oil extraction areas, ensure that there is adequate air circulation to reduce the concentration of solvents.

some of the operations in the plantation, mill and rubber factory involve the use of chemicals and hazardous substances with potential for accident, injury, or illness due to repetitive exposure to these chemical uses. The most common chemical hazards derived from palm oil and rubber processing is presented in Table 3.9 below.

Table 3.9: Chemical Hazards Associated with Palm Oil & Rubber Processing

Workplace	Chemical Hazards Sources
Laboratory	Air Quality, Fire & Explosion, Corrosive, Oxidizing & Reactive Chemicals.
Mill	Air Quality, Fire & Explosion.
Rubber Factory	Air Quality, Fire & Explosion, Corrosive, Oxidizing & Reactive Chemicals.
Workshop	Air Quality, Fire & Explosion, Corrosive.
Stores	Air Quality, Fire & Explosion, Corrosive, Oxidizing & Reactive Chemicals.

Provide ventilation, especially at workstations devoted to raw-material handling, milling, handling of bleaching earth, and use of solvents

The ambient temperature is normal for open space workstations because mill and rubber factory are of open design. On the other hand, in-door temperatures are controlled artificially to make for worker's comfort.

No Action Required

ELECTRICAL HAZARDS

Risks of fire and explosion occur at different stages of vegetable oil production and processing and can lead to loss of property, as well as possible injury or fatalities among project workers. General fire safety management should be handled according to the **General EHS Guidelines**. Sector-specific risks are related to the combustibility of vegetable oil and the high volumes of combustible dust present both in grain and oil-seeds handling and in storage facilities. The

Dust is removed from air through cyclones and housekeeping is done to keep environment dust-free. However, provisions are made for firefighting equipment including fire hose reels, fire truck, fire extinguishers, sand

No Action Required

control and removal of this dust and the control or removal of potential ignition sources are key to eliminating the explosion hazard. The storage of grains and seeds represents a combustion risk, owing to the potential for self-heating and ignition. Silo safety for these products, as well as for oil storage, is critical. Vegetable oil facilities also present the risk of explosions resulting from the volatilization of solvent dissolved in the oil (e.g., hexane), along with the risk of fire from spent bleaching earth with a high iodine-value oil, high ambient temperature, and high circulation-draft of air. buckets, and stand-by water tankers.

COMBUSTIBLE DUST AND SILO SAFETY

Use recognized international standards in design and operation. See confined space entry above.

- Classify areas according to respective hazard classes following practices and requirements found in recognized international standards and deploy intrinsically safe electrical circuits and anti-explosion electrical devices (including lighting).

No Action
Required

Ensure that emergency plans and procedures are developed and understood by staff. Install suitable detection equipment in silos, such as temperature sensor cables and gas detectors. Spark/heat detectors should be connected to an extinguishing system installed in transport systems (belt conveyors, dust extraction systems, etc.) to reduce the risk of ignition. Establish a suitable extinguishing operation (e.g., water, foam, inert gas, powder) based on the silo construction and bulk material stored. The silo should be prepared with connections or openings suitable for the planned method and silo construction, e.g., pipe systems and connections should be located at the top of the silo wall if the roof is not considered sufficiently strong to withstand an explosion. There is an emergency plan and procedure that is well understood by all workers. In addition, smoke detectors are available at key location.

PROCESSING RISK

Ensure regular and proper maintenance of equipment to avoid leaks.	Maintenance is done regularly	No Action Requires
Establish procedures for startup, shutdown, and maintenance, and train personnel to identify air leaks and react to the outbreak of fires	This is in practice such as log-out-tag-out (LOTO)	

NOISE

Operators in vegetable oil plants are also exposed to noise from internal transport, conveyors, boilers, pumps, fans, and various steam and air leaks. The General EHS Guidelines provide guidance on the prevention and control of noise impacts.	Ear mufflers and plugs are provided in high noise areas with warning signs conspicuously pasted in critical work areas.
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COMMUNITY HEALTH AND SAFETY

Community health and safety impacts during the operation phase of vegetable oil processing are common to most industry sectors—including those related to traffic safety during transport of raw materials and finished products—and are discussed in the General EHS Guidelines . Industry-specific issues that could affect the community or the public at large may include the potential presence of pathogens and contaminants in processed oil (e.g., pesticide residues).	Process water is monitored for contamination. Pesticide residue test is also carried out on product.	No Action Required
	There is a comprehensive transport policy.	

FOOD SAFETY IMPACT AND MANAGEMENT

Food safety is an industry-specific risk relevant to vegetable oil processing. For example, a product recall caused by contaminated or adulterated products found in commerce that is attributable to a specific company can damage a viable business. If a company can trace its products back to specific lot numbers, then a recall is a matter of removing all non-conforming products associated with the specific lot numbers.	Traceability and Recall systems available (Non-Conformity of ISO 9001-QMS). Food Safety Systems are also in place.	No Action Required
With a food safety management system in place, the company can protect itself against product adulteration, contamination, and the impacts of product recalls. Vegetable oil processing should therefore be performed according to internationally recognized food safety standards consistent with the principles		

of Hazard Analysis Critical Control Points (HACCP),⁹ Food and Agriculture Organization (FAO)/World Health Organization (WHO) *Codex Alimentarius*, and ISO 22000

Recommended product safety principles include

Fully institutionalize HACCP prerequisites, including sanitation, good management practices, implementation of integrated pest and vector management programs, and maximization control through mechanical means (e.g., traps and mesh on doors and windows), chemical control, allergen control, and the establishment of a customer complaints mechanism.	This is in place, and it is fully operational	No Action Required
All personnel should receive training to ensure they are aware of potential microbiological contamination and growth during processing, material handling, storage, and maintenance (e.g., salmonella contamination)	Training is conducted regularly for all workers	No Action Required
Food grade-quality fresh bleaching earth should be used for processing food and feed-grade products to avoid risks to public health from food and feed contamination	Not Applicable	

3.6.1 Environmental Sustainability and Planning

Issues	Indicator	Current Practice/Status	Comments
Institutional workplace environment policy	Institutional environmental sustainability policy	A formal Environmental and other Policies have been prepared and duly signed by the Managing Director	Conformed to national environmental legislation
Structures to address environmental issues	Environmental committee	Environmental Committee in place (see Figure 5 in chapter two).	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 FMEnv, EIA reports for new projects, EMPs	The Company is up to date in the environmental audit of its facility and processes. All the previous Environmental Audit Reports were 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.

3.6.2 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 fledged HSE department.	Conformed This practice should be sustained
Housekeeping		Housekeeping is fair across board but so poor at Labour Line quarters. (See Plate 3.8 below).	Action Required to improving on the housekeeping across board.



Plate 3.8: Poor Housekeeping at Labour Line Quarters

3.6.3 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 results of laboratory analysis obtained during this audit show that the groundwater quality is good and free from pollution except for low pH thus making the water to be acidic (5.55 – 6.21), which is below the FMEnv and WHO (2004) drinking water guideline of pH 6.5-8.5 except for Mill Complex with 7.07. See full laboratory analyses results of borehole water 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.	<p>Audit findings show there is no air pollution at the facility and environs. The measurements carried out at the facilities show that the concentrations of gases and particulate matter monitored were within the FMEnv. Limit.</p> <p>The result has shown that some parameters such as Suspended Particulate Matter (SPM) ranges between 120-150µg/m³; Carbon dioxide, <0.36-0.60%; Hydrocarbon, <0.1%; and Nitrogen oxides, <0.01ppm which are within FMEnv permissible limits of 250 µg/m³, ambient, nil and 0.04-0.06ppm respectively, while the full results and methodology are presented in Appendix B.</p>
Noise Pollution & Control Measures	Initiatives to reduce Noise	Soundproofing of generators and provision of ear protective device.	<p>Audit findings show that there is no noise pollution except at the mill and turbine area. The measurements taken at different workplaces show that noise levels range from 68.4dB(A) – 98.8 dB(A) and 67.6dB(A) – 77.6 dB(A) for palm oil mill and rubber factory, respectively. (See Appendix B).</p>
Powerhouse	Appropriate designs for primary and secondary containments	There are designs for primary and secondary containments.	Conformed
Fuel Storage	Pollution prevention measure	There are two (2Nos.) surface tanks at the filling station and five (5Nos.) at rubber factory for fuel storage to store petroleum product (PMS &	<p>Non-Conformance.</p> <p>The arrangement in the fuel storage area is poor.</p>

AGO) with primary but no secondary containment to control soil pollution (see Plates 3.9 below).

In addition, fuel servicing is being done on bare ground.



Plate 3.9: Provision of Bund Wall against Spillage at Main estate Filling Station and Rubber Factory

General Pollution
Control Measure

Pollution
Abatement
Provisions

In-House Pollution Monitoring

The HSE department undertakes pollution monitoring as part of its oversight functions.

Potential for Accidental Spill Control/Management

The potential for accidental spills does exist and there are adequate measures in place to control accidental spill across board.

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.

Pollution Complaints

No complaints relating to pollution have been received from the host communities in recent time.

No Action Required

No Action Required

No Action Required

3.6.4 Waste Management

There is a comprehensive and detailed waste management plan 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 Handling	Initiatives to segregate, reducing, reusing, and recycling of waste	<p>Storage: At all the points of waste generation, waste bins/drums are provided for the immediate storage of different solid waste (see Plate 3.11 below).</p> <p>Collection and Transfer: Containers are located at designated places to collect wastes. Wastes from the storage bins are emptied into the waste collection containers, waiting for transfer to the solid waste dumpsite.</p>	<p>The current practice of solid waste handling is fairly good but needs improvement in the area of plastic/nylon management.</p>
			<p>Red - Household Waste Only</p> <p>Green - Plastic & Cellophane only</p> <p>Blue - Aluminium Only</p> <p>Black - Glass & Broken Bottles Only</p>
		<p>Disposal: The solid waste collected is transported by means of a tractor and disposed at the solid waste dumpsite (see plate 3.11).</p>	No Action is Required
Liquid Waste Handling		<p>Domestic Wastewater: Domestic liquid waste is channeled into soak</p>	No Action Required

Plate 3.10: Colour Coded Bins for Solid Waste Storage

	Appropriate designs to collect wastewater and storm water	away pits attached to every building at residences and offices.	Improve on wastewater handling at Labour Line Quarters.
		Storm water: Rainstorm water is collected and channeled out into the plantation.	No Action Required
		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 locations and construction.	No Action Required
Gaseous Waste Management	Better maintenance of heavy machinery and equipment.	Maintenance of heavy machinery and equipment is done as contained in the maintenance schedule.	No Action Required

3.6.5 Waste Management Interventions

Issues	Indicator	Current Practice/Status	Comments
Waste Segregation		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 3.10 above and Plate 3.11 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 Reduction			
Waste Reuse	Initiatives to segregate, reducing, reusing, and recycling of waste		
Waste Recycling			
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 solid waste dumpsite.	The mode of waste transportation is good but can still be improved upon by avoiding flight tipping 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 stream including domestic solid waste.	The Company has a valid permit from Edo State Ministry of Environment to operate the in-house solid waste dumpsite.



Plate 3.11: Solid Waste Dumpsite

3.6.6 Climate Change (Adaptation & Mitigation)

Issues	Indicator	Current Practice/Status	Comments
Energy Saving Initiatives	Initiatives to Conserve energy	Petroleum hydrocarbon is the main source of energy on the estate. The record of fuel and lubricant consumption has been kept and consumption trend seems to have been established as indicated in the table below.	This is good and commendable, but energy use targets need to be set.

Petroleum Product	Fuel Consumption (Litres)		
	2018	2019	2020
AGO	2,427,116.04	2,420,695.00	2,168,239.00
PMS	219,896.00	211,478.00	169,385.00
Lubricants	39,497.40	38,429.00	36,752.00

Source: HSE Department, OOPC Plc (2020)

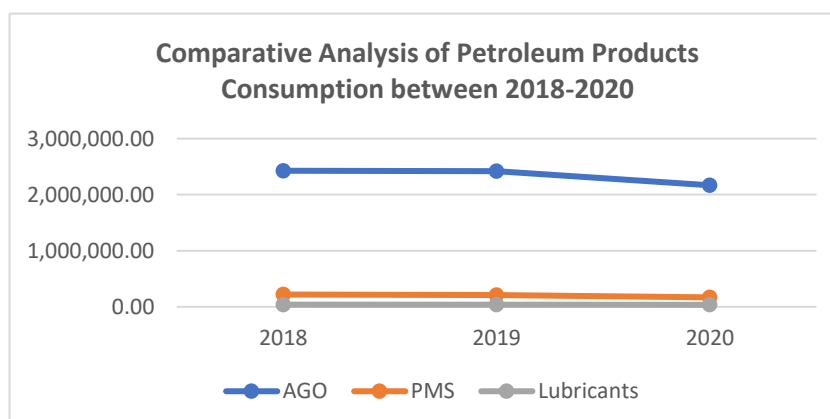


Figure 10: Fuel and Lubricant Consumption in 2018, 2019 and 2020

Soil Conservation	<p>Initiatives to reduce evapotranspiration and soil loss through water erosion, which may include:</p> <ul style="list-style-type: none">• Use flow control wires and diversion canals to reduce erosion in areas with field drainage.	<p>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/trap pits are dug to reduce runoff and trap sediments in runoff water as could be found across the plantation field (see Plate 3.2 of section 3.5).</p>	<p>Some of the rainwater retention initiatives being adopted by the estate is commendable but can still be improved upon.</p>											
Measures to control greenhouse gases	<ul style="list-style-type: none">• Sources of on-farm GHG emissions and establishment of a GHG management plan that includes methods of mitigating emissions and a monitoring program.	<p>The emission sources and air emission potential of the estate are presented in Table 3.10 below.</p> <p>Table 3.10: Emission Sources on the Estate</p> <table><tr><th>Sources</th><th>Location</th><th>Air Emission</th></tr><tr><td>Point Source</td><td>Powerhouse, dumpsite, effluent lagoon and ponds.</td><td>NOx, SO₂, CO, CO₂, Suspended Particulate Matter (SPM), CH₄, H₂S, Dioxin, VOCs.</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, SO₂, CO, VOCs and Particulate Matter,</td></tr></table>		Sources	Location	Air Emission	Point Source	Powerhouse, dumpsite, effluent lagoon and ponds.	NOx, SO ₂ , CO, CO ₂ , Suspended Particulate Matter (SPM), CH ₄ , H ₂ S, Dioxin, VOCs.	Fugitive	Earth roads, unpaved ground.	PM, NOx, SOx, CO	Mobile Sources	Tractors, Machinery.
Sources	Location	Air Emission												
Point Source	Powerhouse, dumpsite, effluent lagoon and ponds.	NOx, SO ₂ , CO, CO ₂ , Suspended Particulate Matter (SPM), CH ₄ , H ₂ S, Dioxin, VOCs.												
Fugitive	Earth roads, unpaved ground.	PM, NOx, SOx, CO												
Mobile Sources	Tractors, Machinery.	NOx, SO ₂ , CO, VOCs and Particulate Matter,												
	<p>Initiatives to reduce fossil energy use by adopting energy-efficient production and management practices.</p>	<p>No programme in place yet to make operators aware of energy efficient practices.</p>	<p>Action Required</p>											

3.6.7 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 environmental projects and activities that have been undertaken jointly with stakeholders particularly an MoU with ONP and projects done by Okomu OPC Plc for the host communities (CSR).	This is Good and Commendable.
Corporate Social Responsibility (CSR) on Environment	CSR initiatives in place	<p>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. The full CSR undertaken in 2018 and 2019 and 2020 are presented in Appendix D while the areas where the support projects were undertaken are presented below.</p> <ul style="list-style-type: none"> • Road maintenance • Educational support such as stipends to teachers and scholarship awards. • Electricity Project • Skill Acquisition Development • Construction of Town Hall 	This practice is good and does conform to best management practices.
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 environments especially in environmental compliance monitoring.	<p>This is in conformity with State and Federal Environmental laws.</p> <p>This should be sustained.</p>

3.6.8 Environmental and Ecological Enhancements

Issues	Indicator	Current Practice/Status	Comments
Wetlands, Riverbanks, lakeshores, and seashore management	Rehabilitation initiatives	Not applicable.	Action Not Required
Conservation of biological diversity and Environmental significant areas	Conservation initiatives	Conservation areas known as HCVs (756.98 hectares) have been established within the estate.	Good and commendable
Environmental restoration	Degraded lands secured, restored and conserved	No degraded lands on the estate.	Action Not Required

3.6.9 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 this 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.	Action needs improvement. 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 information, Education, and Communication (IEC) boards on environment, occupational health, and safety at strategic locations on the estate.	This is good and should be sustained.
Recognition of environmental champions	Evidence of appreciation of environmental sustainability champions	The company is involved in co-sponsoring many environmental programmes at state and Federal levels.	This is good and should be sustained.

3.6.10 Health Issues

Issues	Indicator	Current Practice/Status	Comments
Occupational Illnesses	Analysis of Occupational Illnesses.	Occupational illnesses are documented on daily basis and also analyzed.	This practice is good and commendable.

Malaria (9058) was the most common illness treated in 2020 followed by Non-Industrial Musculo-skeletal Problems (3248), followed by Gastrointestinal Tract (GIT) and Abdominal Problems (1262) against what was recorded in 2018 and 2019 as presented in Table 3.11 below:

Table 3.11: Total Cases of Recorded Illnesses			
AILMENTS	TOTAL		
	2018	2019	2020
GIT/ABDOMINAL PROBLEMS	2377	3128	2018
MALARIA	11469	16445	9058
BACTERIAL INFECTIONS	1811	1413	1157
VIRAL INFECTIONS	173	130	69
FUNGAL INFECTIONS	146	183	113
SKIN INFECTIONS	704	979	770
EYE PROBLEM	838	694	563
EAR PROBLEM	140	133	86
WORKPLACE INJURIES	104	66	112
HOME ACCIDENTS /INJURY	860	744	632
ROAD TRANSPORT ACCIDENTS (RTA)	86	58	77
NON-INDUSTRIAL MUSCULO-SKELETAL PROBLEMS	4394	4639	3248
DENTAL DISEASES	178	150	109
HYPERTENSIVE DISEASES	437	50	54
DIABETES	24	3	5
SURGICAL PATIENTS	138	86	72
RESPIRATORY PROBLEMS	2796	2611	1262
OTHER	285	410	183

Source: HSE Department, OOPC Plc (2020)

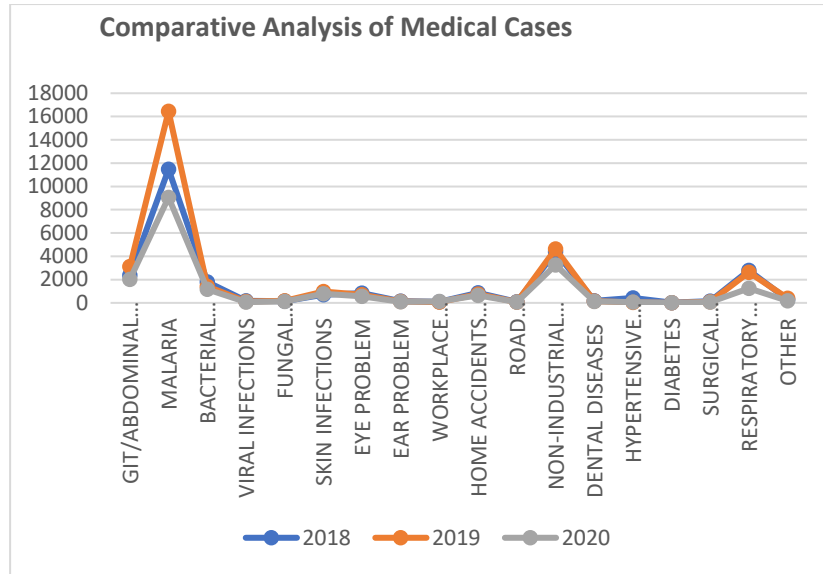


Figure 11: Comparative Analysis of Medical Cases Treated in 2018, 2019 & 2020

Analysis of Industrial Accidents and Fatalities

Records of industrial incidents, accidents and fatality are compiled.

Action Not Required

Health Screening & Monitoring

Accidents and Diseases Monitoring

The plantation 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.

Commendable and should be sustained

3.6.11 Safety Issues

Some of the operations in the plantation field, palm oil mill, rubber factory, stores, workshop 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.

Issues	Indicator	Current Practice/Status	Comments
Occupational Hazards	Physical Hazards	Appropriate personal protective equipment (PPE) is provided.	Action Not Required
	Chemical Hazards	Adequate provisions are put in place such as appropriate personal protective equipment (PPE) provided for workers.	Action Not Required
	Biological hazards	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 suspected presence of biological agents at workplaces.	Action Not Required
	Radiological Hazards	There are no activities involving occupational and/or natural exposure to ionizing radiation.	
Risk Assessment	Initiatives to conduct a comprehensive risk assessment	Risk assessment and analysis for all jobs and tasks have been conducted in recent time.	This is good and commendable.
			Action Not Required
Work Procedures	Initiatives to document work procedure	Work procedures were neither displayed nor sighted during the audit.	Action Required
PPE	Commitment	As part of the prevention and control measures for the identified hazards, some PPE have been provided for workers. The PPE issued to workers would appear adequate. The level of use of PPE by workers is high. It would seem that enforcement level by management is high and proper use of PPE has been communicated to workers. Some of the PPE provided to workers include helmet, aprons (overall), safety boots, eye goggles, hand gloves, earmuffs and nose masks etc.	The level of compliance to PPE usage is remarkably high and should be sustained. Action Not Required

Safety Education	Initiatives on safety Education	Safety education is evident on the estate.	The level of safety education is fair but commendable
Signage	Initiatives to Signage Production especially traffic safety	There is several signage on the estate and are strategically sign posted.	
			
Plate 3.12: Traffic sign “Speed Limits” displayed on Major Roads			
Fire Safety (Prevention & Control Measures)	Risk of Fire and Explosion	All the office has fire detectors for fire surveillance. Stand-by water tankers and fire extinguishers are the provisions made for firefighting on the estate.	The measures will seem to be adequate for plantation and industrial operations.
	Initiatives on Fire Fighting Equipment Systems	There is a security patrol team for fire detection and control. The provision for fire control/fighting include: <ul style="list-style-type: none">• Trained fire fighters• Fire extinguishers• Sand buckets• Fire hydrants• Stand-by Water Tankers• Fire Fighting Procedure	
	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).	
Fire Drills	HSE department in place	There is a full-fledged HSE department in place and there are records to show that fire drills have been conducted in recent time.	

There is potential for accident as there are few traffic signage on major roads in the plantation which is commendable.

Action not Required

Action not Required

This should be sustained
Action Not Required.

3.6.12 Conformance to Legislation Issues

3.6.12.1 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 Company is committed in this regard. Submissions to regulatory bodies are made when necessary.	This is good and should be sustained. Action Not Required

3.6.13 Environmental, Health & Safety Permits

Issues	Indicator	Current Practice/Status	Comments
Permits/Licenses/ Approvals	Initiatives to Obtain applicable Permits/Licenses/ 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 3.12 below:	Conformance to Legislation is fair. But lack of necessary document can hinder the smooth operation of the plantation and/or estate.

Table 3.12: Permit Licenses and Approvals Obtained

Operations/Processes	Requirement (Permit/License/ Approval)	Status: Obtained/Not Obtained	Date Obtained	Expiry Date
Solid Waste Dumpsite	Permit	Paid Nov. 2020, Awaiting Certificate	Ongoing	
Storage of Petroleum Products	License	Obtained	15/04/2019	31/12/2020
Discharge Outfall (Effluent Ponds and Lagoon)	Permit	Obtained	05/12/2018	14/12/2020
Food Handlers Test	Certificate	Obtained	2020	2021
Clinic	License	Obtained	07/02/2019	Feb. 2021
Factory Registration	Certificate	Paid, Awaiting Certificate	02/06/2020	02/06/2021
Fire Safety	Certificate	Obtained	20/08/2020	19/08/2021
Registration of Product with NAFDAC where applicable	Certificate	Obtained	Ongoing	
Verification of Weights and Measures	Certificate	Obtained	22/11/19	21/11/2020
Lifting, hoisting and pressure equipment	Certificate	Obtained	Jan. 2019	Jan. 2021

Pressure Testing of Fuel Storage Tanks	Certificate	Obtained	30/03/2016	29-03-2021
EIA Permits for new operations: a. Rubber Factory Project b. Mill Expansion Project c. Extension One Plantation Project	EIS/Permit	Obtained Obtained Obtained	Feb. 2019 Feb. 2020 Feb. 2019	NA

Environmental and Other Policies Commitment

The Company has a well written and articulated environmental and other policies, duly signed by the Managing Director (see Appendix F).

Good and Commendable
Action Not Required.

3.6.14 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. Action Not Required
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. Action Not Required
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. Action Not Required
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. Action Not Required.

Legend:

No Action Required	Commendable	Action Required
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CHAPTER FOUR

4.0 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 estate from plantation maintenance through harvesting and tapping, FFB processing and rubber processing, waste generation and disposal or recycling. This technique 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.

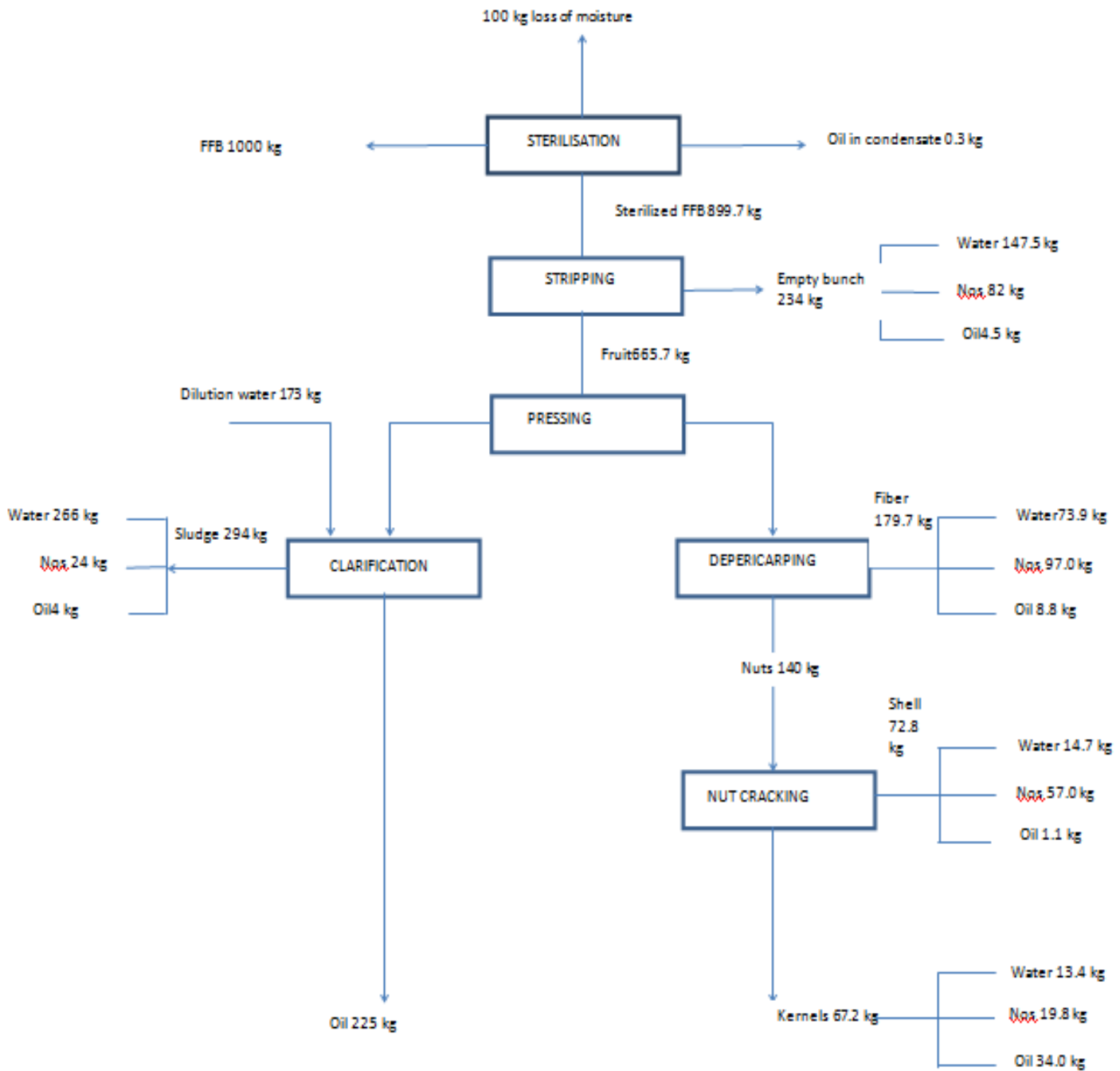
4.1 Material Input, Output and Balance

Table 4.1 contains materials that are used on the estate. The unit of the materials is well inserted. They are merely in liters (Ltrs), kilograms (kgs), metric tons (MT), cubic meters (m³) and Normal cubic meters (Ncm³) such as the output for natural gas. 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 and Wet Cup Lumps output.

Table 4.1: Material Balance for the Oil Palm and Rubber Plantations

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
Cup Lumps	16,300.5 Tons Processed (Wet)						7341.2 Tons (Dry)
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	
Lubricants	Liters	0	36,752.00	36,752.00	0	36,752.00	
Palm Oil Mill Water Usage	m³						311,287
Rubber Factory Water Usage	m³						115,461
POME Discharged	m³						207,520
Rubber Factory Effluent Discharged	m³						115,461

Source: HSE Department, OOPC Plc (2020)



MATERIAL BALANCE FOR MILL PROCESSING

Figure 12: Material Balance for the Palm Oil Mill Processes

CHAPTER FIVE

5.0 Waste Management

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

5.1 Waste Classification

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

5.2 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 areas generate the liquid waste, while the bulk of the gaseous emission comes from the powerhouses and effluent lagoon. The waste profile is presented in Table 5.1.

5.3 Solid Waste Handling

5.3.1 Storage: At all the points of waste generation, colour coded waste bins are provided for the immediate storage of solid waste. Sorting and segregation of solid waste start from the point of generation (see Plate 3.11).

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

5.3.3 Disposal: The solid waste collected is transported and disposed of at the solid waste dumpsite (see Plate 3.12).

5.4 Liquid Waste Handling

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

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

Table 5.1: Okomu OPC Plc Estate Waste Profile

Project Phase	Waste Characterization		
	Solid	Liquid	Gaseous
Land Preparation	<ul style="list-style-type: none"> • Soil and vegetation • Shrubs • Food Waste • Spoilt farm equipment • Organic materials 	<ul style="list-style-type: none"> • Engine oil • Spent oil 	<ul style="list-style-type: none"> • Fugitive Dust • Suspended Particulate • Carbon dioxide • Carbon monoxide • Greenhouse Gases
Planting	<ul style="list-style-type: none"> • Dust • Polythene bags • Food Waste • Paper 	<ul style="list-style-type: none"> • Spent Oil 	<ul style="list-style-type: none"> • Fugitive Dust • Suspended Particulate • Carbon dioxide • Carbon monoxide • Greenhouse Gases
Field Maintenance	<ul style="list-style-type: none"> • Dust • Agrochemical containers • Fertilizer bags • Used drums and buckets 	<ul style="list-style-type: none"> • Wastewater • Spent Oil 	<ul style="list-style-type: none"> • Fugitive Dust • Suspended Particulate • Carbon dioxide • Carbon monoxide
Harvesting/Tapping	<ul style="list-style-type: none"> • Papers/plastics/glass • Scrap office equipment • Spout • Used drums and buckets 	<ul style="list-style-type: none"> • Wastewater • Spent Oil 	<ul style="list-style-type: none"> • Carbon dioxide • Carbon monoxide • Fumes
Offices	<ul style="list-style-type: none"> • Papers • Hardware and scraps • Plastics • Metals 	<ul style="list-style-type: none"> • Wastewater 	<ul style="list-style-type: none"> • Carbon dioxide
Stores	<ul style="list-style-type: none"> • Papers, • Plastics • Nylon • Wood • Hand gloves & Nose masks 	<ul style="list-style-type: none"> • Wastewater 	<ul style="list-style-type: none"> • Carbon dioxide • Chemical fumes • Fumes/Vapour
<i>Powerhouse</i>	<ul style="list-style-type: none"> • Plastics • Empty cans • Electric cables 	<ul style="list-style-type: none"> • Wastewater • Spilled Oil • Spent Oil 	<ul style="list-style-type: none"> • Suspended Particulate • Carbon dioxide • Carbon monoxide

Source: HSE Department, OOPC Plc (2020)

5.5 Waste Re-use/Re-cycling

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 sold to prospectus buyers for recycling.



Plate 5.1: Scrap Yard for Recyclable Waste

5.6 Waste Manifest and Tracking

A manifest system has been established.

5.7 Waste Treatment

Waste treatment on the estate is as presented below:

Table 5.2: Okomu OPC 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 approved vendors in the state
Hazardous waste mainly empty agrochemical containers	Evacuated by agrochemical suppliers as part of the contract agreement
Batteries	Evacuated by prospective buyers
Metal Scraps	Evacuated by selling to prospective buyers

CHAPTER SIX

Impacts Evaluation

6.1 Introduction

The primary intention of this Environmental Audit Report (EAuR) is to systematically identify, analyze and evaluate the impacts of oil palm plantation, rubber plantation, palm oil mill and rubber factory at the estate and also, develop an environmental action plan to correct the environmental effects of activities of the estate.

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 fauna 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 Vegetation and Spoil Disposal

Soil accumulated during harrowing and stumping, and felled vegetation will have to be removed and deposited somewhere. Accumulation of soil spoils, if not removed, may alter water drainage pattern and reduce landscape beauty. Disposal of the vegetation and soil spoils will give opportunity for employment in the communities.

6.2.1.3 Ploughing, Grading, and Leveling of Tracks and Roads

There is the possibility of initiation of erosion because the topsoil in the affected areas is loose and coarse-grained.

6.2.1.4 Increased Transportation and use of Heavy Machinery during Land Preparation

Wildlife presence in the affected area may be reduced due to unusual and frequent high-level noise from tractor-drawn ploughs and harrows and chain saws. During the raining season, the access earth roads/tracks may be rendered inaccessible due to activity of these vehicles.

6.2.1.5 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.

6.2.1.6 Fertilizer Application

In order to increase productivity of oil palm fruit bunches 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 level 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, 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.

6.2.1.7 Palm Oil Mill Effluent (POME) and Rubber Effluent Disposal

The discharge of the raw and untreated POME and rubber effluent to the open land area although undesirable, has beneficial impact on the adjoining soils.

a.) Soil Nutrient Enrichment: the recent study has revealed that the levels of both essential macro and micronutrient elements needed for plant growth and development were increased following the open discharge of the POME in the soil. Specifically, there were notable increases in the levels of exchangeable cations of potassium and magnesium, and corresponding elevation in the values of available phosphorus, organic carbon and total nitrogen content of the soils containing POME. Also, the amount of iron, zinc, manganese, and copper increase in these soils. Proper and effective management of the soils could lead to increase in crop yield and productivity.

b.) Hydrocarbon and Oil/Grease Contaminants: The increase in the amount of these contaminants in the soil could have adverse effect in the functionality and productivity capacity of the soils. Relatively high levels of THC and Oil/Grease in the soil receiving POME and rubber effluent can reduce the microbial activity of the soil thereby making potentially available nutrients unavailable for plant uptake.

c.) Heavy Metals Enrichment: Enrichment of the POME and rubber effluent soil with heavy metals such as lead, cadmium, chromium, nickel and vanadium as determined in the present study would have adverse effects or impacts on soil quality. This is because, under favourable soil conditions of pH, texture and moisture regimes, these metals could be made available for plant uptake, especially when the soil is used for the cultivation of vegetables and shallow rooting crops.

6.2.1.8 Transportation of Fresh Fruit Bunches and Cup Lumps

During harvesting, fronds are pruned. This helps to give easy access to the ripe fruit bunches as well as keep the oil palm stem clean of hanging dead and decaying leaves. The fronds are left on the ground to add organic matter to the soil. The pruning of fronds, harvesting, collection of fruit bunches, tapping and collection of cup lumps are activities which provide employment for more workers.

6.2.1.9 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 fronds. 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 follow:

- Weeding in young plantation and manual removal of unwanted weeds with cutlass in mature planting.
- Fertilizer Application: mainly ash from boiler is applied. Also, other chemical fertilizer application may affect groundwater because of runoffs and leaching. Others include.
- Pruning, harvesting, tapping, collection of fruit bunches and cup lumps.
- Transportation of Fresh Fruit Bunches (FFBs) and cup lumps from the field to the palm oil mill and rubber factory respectively for processing.
- Laying off workers/Severance Payment
- Lack of care of plantation
- Decommissioning and abandonment have three main activities which will produce adverse impacts as listed in *section 6.2.1.9* above.

6.3 Significant Positive Impacts

The following are some of the potential positive social impacts of the estate activities and operations:

- a.) Creation of Employment:* The activities and operations of the estate creates thousands of new jobs. The various activities including palm nursery development and maintenance, plantation land preparation, planting and harvesting are all labor-intensive activities and also gives employment to the affected communities; a significant tool for reducing rural unemployment and rural poverty.
- b.) Improved Planting Material:* Introduction of high yielding types of oil palm and sustainable management of palm plantation practices.
- c.) Capacity Building:* Training and capacity building for employees and smallholders is ongoing, including knowledge and technology transfer in the application of best practices and delivery of world class products and services in the oil palm industry.
- d.) Corporate Social Responsibility:* Development of the local communities through Corporate Social Responsibility of the Okomu Oil Palm Company Plc.
- e.) Taxes:* Tax revenue for the Edo State Government.

f.) Smallholder Development: Significant positive impacts for smallholder schemes.

g.) SME Development: Commercial opportunities for small and medium scale enterprises including petty trading.

h.) Infrastructure Development: The company's corporate social responsibility includes different infrastructure development projects for the communities. It was obvious from socio-economic survey that the affected communities of the proposed oil palm plantation development project lack the desirable infrastructure out of prolonged government neglect. The affected communities are therefore have been enjoying considerable infrastructure development in their respective communities.

6.4 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 collected in the field to be processed in the palm oil mill and rubber factory, respectively. 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 and it is basically within the company's land concession. Therefore, the operation of the 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.

6.5 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 adjacent surface water and groundwater by pesticides and excessive use of fertilizers – No surface river close to this estate.
- Buildup of dry and decaying fronds leaves and other organic matter under plantation posing a fire hazard.
- Rapid spread of unwanted weeds.

6.6 Public Health Impact (PHI) of Okomu OPC Main Estate Operations

The public health impact assessment of the estate is a rapid appraisal of the likely health impacts the estate 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.

6.6.1 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 estate activities and/or 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- Main 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	<ul style="list-style-type: none"> - Allergy - Eye irritation Nose irritation - Respiratory Tract Infections - Skin burn leading to skin cancer 	<ul style="list-style-type: none"> - 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	<ul style="list-style-type: none"> - Hearing impairment, hypertension, annoyance, sleep disturbance of site workers. - Hand-Arm Vibration Syndrome (HAVS) 	<ul style="list-style-type: none"> - 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	<ul style="list-style-type: none"> - Illnesses including Typhoid, Cholera, Dysentery, Polio, Hepatitis 	<ul style="list-style-type: none"> - 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 <ul style="list-style-type: none"> - Solid waste constituting aesthetic nuisance - Sewage nuisance 	All	Improper solid waste handling can lead to the following: <ul style="list-style-type: none"> - Creating conditions favourable to the survival and growth of microbial pathogens - Causing infectious and chronic diseases especially the waste workers. 	<ul style="list-style-type: none"> - Waste is contained and removed regularly.
Hostility Land acquisition and take-over conflicts between the communities and the company.	Workers and communities	<ul style="list-style-type: none"> - Youth restiveness - Persistence conflicts between community and company - Hostages 	<ul style="list-style-type: none"> - Grievance and conflict resolution mechanism has been instituted. - Company employs as much local labour as possible.
Waste Management <ul style="list-style-type: none"> - 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: <ul style="list-style-type: none"> - Skin and blood infections resulting 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 	<ul style="list-style-type: none"> - The company has a waste and pollution management plan in place that addresses the management of all categories of waste generated on the estate.

Sewage - Faecal aesthetic issues for the project area. - Spillage of septic liquor	Workers	- Cholera - Dysentery - Infectious and chronic diseases	- On-site toilets are made available for use
Socioeconomics - Promiscuity - Sexual harassment - Youth Militancy - Unemployment - grievances	All	- Sexually transmitted diseases (STDs) - HIV/AIDS - Population explosion	The company has been operating cordially with the host communities through regular engagement with the communities.
Workers' Welfare Especially when workers leave the organization and/or layoff.	Workers	- Depression - Hypertension - Workers' restiveness	The company 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	The company always ensures that its day-to-day activities and operations do not portend 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.**

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 (50-250m) between planting areas and surface water body 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.

6.7 Socioeconomic and Social Impact Analysis

A quick appraisal on socio-economic of the twelve (12) communities, namely, Agbado, Ajebamidele, Awuri, Gbelebu, Inikorogha, Madagbayo, Makilolo, Maroghionba, Mallim, Obagie, Safarogbo and Udo, four (4) camps, namely, Obazuwa, Taye, Thousand Odoola, and Utesi. was carried out in December 2020 taking cognizance of the comprehensive Social Impact Analysis (SIA) that was carried out in 2018. The extracts from the report are presented as follows:

6.7.1 Communities

The respective community locations are as follows:

6.7.1.1 Agbado Community

Agbado, which translates to “*Belong to all of us*”, is an Edo community in Ovia Southwest Local Government Area (LGA) in Edo State, Nigeria. The community is a landlord in the Main oil palm plantation field of OOPC living happily with Yoruba, Akwa-Ibom and Urhobo migrants and shares boundaries with Okomu, Madagbayo, Ejide and Akhinde in the North, South, East and West, respectively. The GPS coordinates of the community that is, latitude and longitude are N6° 26’22.6’’ and E5°8’39’’ respectively. The community with a combination of linear and nuclear settlement pattern is accessible by road from Iguobazua (Ovia Southwest LGA headquarters) and Benin City (Edo State Capital).

6.7.1.2 Ajebamidele Community

Ajebamidele, which translates to “*We will bring money home*”, is a Yoruba speaking migrant community in Ovia Southwest Local Government Area in Edo State, Nigeria. The community is a tenant in the Main oil palm plantation field of OOPC and shares boundaries with Okomu Plc, Mallim camp, Okomu plantation and Madagbayo in the North, South, East and West respectively. The landlord to Ajebamidele is Madagbayo community. The GPS coordinates of the community that is, latitude and longitude are N6° 22’38.5’’ and E5°8’41.2’’ respectively.

The community with a linear settlement pattern is about 130km by road to Iguobazua (Ovia Southwest LGA headquarters) and 200km to Benin City by road.

6.7.1.3 Awuri Community

Awuri, which translates to “*Don’t look for my trouble*”, is an Ijaw speaking community in Ovia Southwest Local Government Area in Edo State, Nigeria. The community is a landlord in the Okomu Main oil palm plantation field and

shares boundaries with Udo, Inikorogha, Igbiniba and Ofunama in the North, South, East and West, respectively. The GPS coordinates of the community is latitude and longitude are N6° 16'20.54'' and E5°19'52'' respectively.

The community with a combination of linear and nuclear settlement pattern is accessible by road from Iguobazuwa (Ovia Southwest Local Government headquarters) and about 160km to Benin City by road.

6.7.1.4 Gbelebu Community

Gbelebu, which translates to “Inner part”, is an Ijaw speaking community in Ovia Southwest LGA in Edo State, Nigeria. The community is a landlord in the *Main* oil palm plantation field of OOPC and shares boundaries with Ofunege, Madagbayo, Malin and Akotobo (Ondo State) in the North, South, East and West respectively. The GPS coordinates of the community that is, latitude and longitude are N6° 23'38.6'' and E5°6'13.7'' respectively.

The community has a combination of linear and nuclear settlement pattern and about 65km by road to Iguobazuwa (Ovia Southwest LGA headquarters) and about 125 hours to Benin City by road.

6.7.1.5 Inikorogha Community

Inikorogha, which translates to “Strong personalities”, is an Ijaw speaking ethnic community in Ovia Southwest Local Government Area in Edo State, Nigeria. The community is a landlord in the Okomu Main oil palm plantation field and shares boundaries with Udo, Iboro, Gbole-Uba and Ofunama in the North, South, East and West respectively. The GPS coordinates of the community that is, latitude and longitude are N6° 14'54.69'' and E5°21'21.4'' respectively.

The community has a nuclear settlement pattern, and it is about 150km by road to Iguobazua (Ovia Southwest Local Government headquarters) and about 200km to Benin City by road.

6.7.1.6 Madagbayo Community

Madagbayo, which translates to “*If you are not strong, don't go there*”, is an Edo speaking community in Ovia Southwest LGA in Edo State, Nigeria, and was founded by Orumwense who came from Udo many hundreds of years ago. The community is a landlord in the Main oil palm plantation field of OOPC with Agbado, Gbelebu, Okomu and River Oha (Ondo State) in the North, South, East and West, respectively. The GPS coordinates of the community that is, latitude and longitude are N6° 24'40.5'' and E5°6'40.2'' respectively.

The community has a combination of linear and nuclear settlement pattern, and it is 60km by road to Iguobazuwa (Ovia Southwest LGA headquarters) and 120km by road to Benin City.

6.7.1.7 Makilolo Community

Makilolo, otherwise called “*Coconut camp*”, is an Ijaw speaking ethnic community in Ovia Southwest LGA in Edo State, Nigeria and was founded around 1930 by Makilolo Igbo. The community is a landlord in the Okomu Main oil palm plantation field and shares boundaries with Okomu, Akarama, Ik camp and Sikolobaon the North, South, East and West, respectively. The GPS coordinates of the community is N6⁰ 18’41.1’’ and E5⁰9’50.8’’ respectively. The community is linear settlement about 70km by road to Iguobazuwa (Ovia Southwest LGA headquarters) and about 95km to Benin City by road.

6.7.1.8 Mallim Camp

Mallim, which translates to “*Ours is good*”, is a Yoruba speaking migrant camp in Ovia Southwest LGA in Edo State, Nigeria and was founded by a man called Mallim from Gbongan town in Osun State in 1989. The community is a tenant in the Main oil palm plantation field of OOPC and shares boundaries with Baiakim, Madoli, Ajibade and Gbelebu in the North, South, East and West respectively. The landlord to Mallim camp is Gbelebu community. The GPS coordinates of the community is N6⁰ 24’30.06’’ and E5⁰15’43.74’’ respectively.

The community with a combination of linear and nuclear settlement pattern is about 50km by road to Iguobazua (Ovia Southwest Local Government headquarters) and about 85km to Benin City.

6.7.1.9 Maroghionba Community

Maroghionba, which translates to “*Not the Oba’s enemy*”, has existed for more than 40 years known then as ‘African Timber and Plywood (AT&P)’ and headed by a leader called Camp Chairman before it was renamed ‘Maroghionba’. This is an Edo speaking ethnic community in Ovia Southwest LGA in Edo State, Nigeria. The community is a landlord in the Main oil palm plantation field of OOPC living in harmony with Yoruba and Urhobo migrants and shares boundaries with Udo, Okomu, Utesi and Annah camp in the North, South, East and West, respectively. The GPS coordinates of the community are N6⁰ 23’46’’ and E5⁰16’59.6’’.

The community with a combination of linear and nuclear settlement pattern is 50km drive by road to Iguobazuwa (Ovia Southwest Local Government headquarters) and 70km by road to Benin City.

6.7.1.10 Obagie Community

Obagie, in Benin language means “*The people the King sent*”, is a Yoruba speaking migrant community in Ovia Southwest LGA in Edo State, Nigeria; and it was said that the community settlement was established in the year 1994 by a man named Pastor Omotosho who migrated from Akinlalu town in Osun State. The community is a tenant in the Main oil palm plantation field of OOPC and shares boundaries with Ureze, AT&P, Okomu main gate/Udo and New site in the North, South, East and West respectively. The landlord to Obagie is Udo community. The GPS coordinates of the community are N6° 26’43.1’’ and E5°14’24’’.

The community has a linear settlement pattern and is about 45km by road to Iguobazuwa (Ovia Southwest LGA headquarters) and about 1 hour to Benin City.

6.7.1.11 Obazuwa Camp

Obazuwa, in the Edo language means “*The king chooses wealth*”, is a Yoruba speaking migrant camp otherwise called ‘New Site’ is in Ovia Southwest LGA in Edo State, Nigeria. This settlement was also established in 1991 by a man called Mr. Omotosho who migrated from Osun State and firstly settled down at Iguorahum camp before creating the so-called New Site. The community is a tenant in the Main oil palm plantation field of OOPC and shares boundaries with Obagie, Agbado, Okomu plantation and Igwerhanwhon in the North, South, East and West respectively. The landlord to Thousand Odoola camp is Gbelebu community. The GPS coordinates of the community are N6° 25’49.8’’ and E5°12’13.8’’.

The community with a linear settlement pattern is about 40km by road to Iguobazuwa (Ovia Southwest LGA headquarters) and about 50km to Benin City.

6.7.1.12 Safarogbo Community

According to oral traditional accounts, Safarogbo was founded by Odigbala in 700BC. Safarogbo, which translates to “*Land of no debt*”, is an Ijaw speaking community in Ovia Southwest Local Government Area in Edo State, Nigeria. The community is a landlord in the Okomu Main oil palm plantation field and shares boundaries with Gbelebu, Gbolowoso, Okomu and Jeribeni in the North, South, East and West respectively. The GPS coordinates of the community are

N6° 14' 54.9'' and E5° 3' 55.3''. The community with a combination of linear and nuclear settlement pattern is about 150km by road to Iguobazuwa (Ovia Southwest LGA headquarters) and about 175km to Benin City.

6.7.1.13 Taye Camp

Taye, which translates to “*First twins*”, is a Yoruba speaking migrant in Ovia Southwest LGA in Edo State, Nigeria; and was founded by a man called Taye Odefunke who migrated from Akinlalu town in Osun State in 1994. The community is a tenant in the Main oil palm plantation field of OOPC and shares boundaries with Markilolo, Thousand Odoola camp, Okomu plantation and Etohon the North, South, East and West respectively. The landlord to Taye camp is Gbelebu community. The GPS coordinates of the community are N6° 20' 24.41'' and E5° 6' 27.98''. The community with a linear settlement pattern is about 100km by road to Iguobazuwa (Ovia Southwest LGA headquarters) and about 125km to Benin City.

6.7.1.14 Thousand Odoola Camp

The name Odoola, means “*River of big wealth*”, is a Yoruba speaking migrant camp in Ovia Southwest LGA in Edo State, Nigeria. The community is a tenant in the Main oil palm plantation field of OOPC and shares boundaries with Etohon camp, Mallim camp, Okomu plantation and Madoti Federal camp on the North, South, East, and West respectively. The landlord to Thousand Odoola camp is Gbelebu community. The GPS coordinates of the community are N6° 21' 16'' and E5° 6' 36.4''. The community with a linear settlement pattern is about 75km by road to Iguobazuwa (Ovia Southwest Local Government headquarters) and about 120km to Benin City.

6.7.1.15 Udo Community

According to oral accounts, Udo was founded by Okpe many centuries ago. Okpe was to have come from Nupe and met a woman named Oye dated to the Biblical era of tower of Babel. The two got married and settled in the present place due to vast fertile land and they were blessed with six children- 5 males and 1 female. The name Udo means “*Peace land*”, is an Edo speaking ethnic community in Ovia Southwest LGA in Edo State, Nigeria. The community is a landlord in the Okomu Main oil palm plantation field and shares boundaries with Okponha, Ajefe, Agbomoba and Igwela in the North, South, East, and West respectively. The GPS coordinates of the community are N6° 28' 22.1'' and E5° 21' 23.7''. The community of 5 km² in dwelling has a combination of linear and nuclear settlement pattern, It is about 15km by road

to Iguobazuwa (Ovia South West Local Government headquarters) and about 35km to Benin City.

6.7.1.16 Utes Camp

The community is a tenant with Udo as the landlord community and it is 13.25km southeast Okomu. The GPS coordinates of the community are N6° 28'06.1" and E5°17'22.4". The community has a linear settlement pattern, and it is about 20km by road to Iguobazuwa (Ovia Southwest LGA headquarters) and about 40km to Benin City.

6.7.2 Study Approach and Methodology

Methodology adopted for the study in the twelve (12) communities and four (4) camps involved triangulation of various sources of data with the use of tools relevant to Participating Rural Appraisal (PRA) and Socio-Economic Assessment.

For the result to be successful, under listed steps were applied:

- Formal stakeholders' meetings with the two local communities of the estate
- Scoping: This is the process of identifying, defining, and prioritizing the social components to be addressed in the social assessment. The impact of the project was assessed in terms of the following impact criteria:
 - ✓ *Scale*: Physical scale/areas which the impact would be felt (local or regional).
 - ✓ *Duration*: Length of time the impact would likely be felt (short term, medium term and long term).
 - ✓ *Severity*: The intensity of the impact.
 - ✓ *Direction*: Whether the impact is positive (beneficial) or negative (adverse).

6.7.3 Data Collection

To facilitate accurate information dissemination from each community, the following tools were used.

- Designed checklists were used to enlist information and data in the six communities as well as other internal and external stakeholders of the respective communities such as community executives, Local Government representatives, and so on.
- Interview of key informants in each community to obtain divergent views on the issues at stake and how to address them.

6.7.4 Review of Relevant Document

Secondary facts were gathered from journals, archives, publications, and internet. The gathering and review of published and unpublished baseline/project data were not left out.

6.7.5 Community Socioeconomic

Human development is measured by the Human Development Index (HDI). This index measures the average achievements in a locality or country in three basic dimensions of human development: a long and healthy life, knowledge and a decent standard of living.

This section is an exposition of situations of the communities addressing the following elements in specific terms:

- a. Demography
- b. Social composition
- c. Social Amenities
- d. Economic Activities
- e. Livelihood Strategies

Table 6.2: Schedule of SIA Exercise

S/No.	Communities / Camps	SIA Field Exercise	Attendance			Checklist authentication
			M	F	Total	
1	Agbado	10/11/2016	16	3	19	Felix Ofu (08155432372)
2	Ajebamidele	10/11/2016	23	9	32	Adesiyan Matthew (09051182911)
3	Awuri	12/11/2016	8	10	18	Jahwil Udom Umoren
4	Gbelebu	10/11/2016	15	13	28	Chief Enoch Sulubor (08058007850)
5	Inikorogha	12/11/2016	19	4	23	Mathis Polo (07019369451)
6	Madagbayo	9/11/2016	12	-	12	Rev H.O. Ogienebo (09050729336)
7	Makilolo	11/11/2016	18	1	19	Eric Markilolo (08154901422)
8	Mallim camp	14/11/2016	43	28	71	Muritala Oyelade (08137568153)
9	Maroghionba	11/11/2016	18	11	29	Benedict Okoruwa (07033815912)
10	Obagie	12/11/2016	59	44	103	Tunji Adeosun (08037995672)
11	Obazuwa	11/11/2016	24	15	39	Abiodun Adetunji
12	Safarogbo	9/11/2016	21	-	21	Ebifagha Kiyah (08052339231)
13	Taye camp	14/11/2016	55	37	92	Tokode Phillip (08034780625)
14	Thousand Odoola	14/11/2016	25	44	69	Tunde Oduola (08052548503)
15	Udo	19/12/2016	7	3	10	Ogbemudia Benjamin (08033834555)
16	Utesi camp	20/12/2016	4	2	6	c/o Ogbemudia Benjamin

6.7.5.1 General Demography

Most Nigerians live in rural areas, with an average settlement having 5,000 or less inhabitants. Out of the twenty-two assessed communities of OOPC, only five (5) have estimated population above 5,000 (community sources). Four out of these five communities are still rural because of infrastructural decadence while only two are semi-urban, that is Ofunama the clan headquarter of Egbema clan and Udo. A dominant feature of the structure of the population of the affected communities is its significant skew towards young people with 79.3% of the population below the age of 45 years. Adults in the age group 45 years and above constitute about 20.7 % of the population (Table 6.3). The cumulative population of all the affected communities is 121,972. The sex ratio of the total population in the assessed communities was 0.632 (632 males per 1 000 females) which is lesser than Nigerian sex ratio of 1.026(United Nations Department of Economic and Social Affairs-Population Division, 2015). The implications are that there are more vulnerable and dependent groups as well as quest for family labour. Hence, the practice of polygamy. Therefore, the pressure on the few available infrastructures would increase. Rural population growth (annual %) in Nigeria was last measured at 1.07 in 2014 (World Bank, 2014).

Table 6.3: Demographic Data

S/No.	Community	Children	Youth	Adult	Total	Male	Female	Christianity		Housing Roofing	
								%	Church	thatched	zinc
	Main Estate:										
1	Agbado	1,900	1,600	500	4,000	1,500	2,500	75	8	1%	99%
2	Ajebamidele	70	180	50	300	130	170	70	4	2%	98%
3	Awuri	2,500	1,800	700	5,000	1,500	3,500	90	4	2%	98%
4	Gbelebu	5,000	3,000	2,000	10,000	4,000	6,000	68	10	2%	98%
5	Inikorogha	5,068	4,020	1,340	10,428	4,316	6,112	60	7	20%	80%
6	Madagbayo	800	2,000	700	3,500	1,500	2,000	80	6	1%	99%
7	Makilolo	1,200	1,000	300	2,500	800	1,700	97	2	30%	70%
8	Mallim camp	250	400	150	800	300	500	90	3	5%	95%
9	Maroghionba	5,152	4,480	1,568	11,200	4,480	6,720	93	5	3%	97%
10	Obagie	750	550	200	1,500	700	800	80	3	5%	95%
11	Obazuwa	180	150	70	400	150	250	60	4	7%	93%
12	Safarogbo	6,000	9,000	7,000	22,000	16,000	6,000	70	9	60%	40%
13	Taye camp	304	400	130	834	314	520	30	4	30%	70%
14	Thousand Odoola	370	320	120	810	300	510	35	2	20%	80%
15	Udo	7,000	8,000	5,000	20,000	8,000	12,000	50	10	-	100%
16	Utesi	200	200	100	500	230	270	50	1	2%	98%
	TOTAL	47,114	49,550	25,308	121,972	55,950	88,522		93		

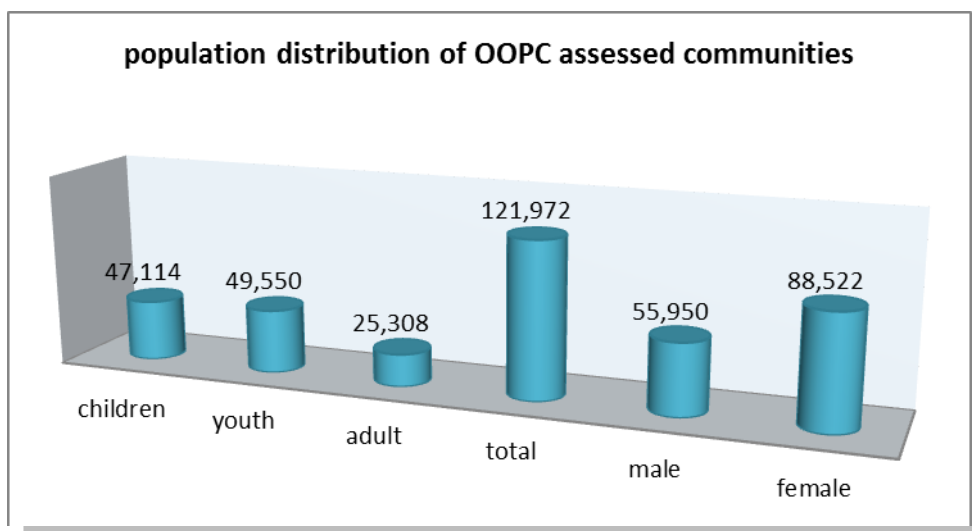


Figure 13: Demographic Data of OOPC Assessed Communities

6.7.5.2 Settlement Pattern and Housing

The settlement is generally gently sloping susceptible to erosion. Ten out of twenty-two assessed communities have a combination of linear and nuclear settlement patterns with different housing patterns, while eight communities have linear settlement, and the remaining four communities have nuclear settlement patterns. This is depicted in Figure 13 below.

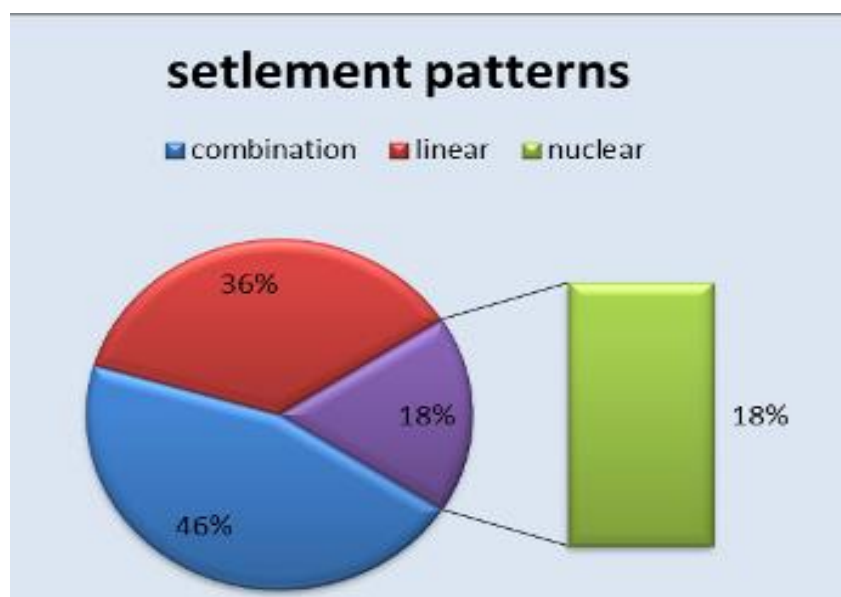


Figure 14: Settlement Patterns of the Assessed Communities

Housing is one of the three essential things of life and the housing pattern of the people in the assessed communities is below SDG goals with less than 25% living in cement block houses. Fourteen (14) out of Sixteen assessed

communities have 70% and above houses roofed with zinc, while only two (2) communities have houses between 40% and 67% thatched roofed (Table 6.4).

6.7.5.3 Social Composition

In respect to religious characterization, Christianity tends to dominate in most of the communities assessed with an average of 71% of the members being Christians, and this is followed by members who are adherents of traditional religion and Islam. Cumulatively, the number of churches is 93, despite this difference in belief, there is harmony and balance in all the communities.

a.) Social Amenities

Generally, the level of government presence in terms of infrastructure and institutions in the operational areas of the OOPC is abysmally low. The few functioning amenities in some of these communities and camps are mainly provided by OOPC. Most of the dwellers embark on journey on untarred rural roads, and virtually all the dwellers from camps travelled on bad untarred roads and paths, which consumed more time than necessary. Since time is a resource, the state of these roads contributes to income loss and impoverishes the assessed operational area's communities; many of them went through great difficulties to evacuate their farm produce from the farms to nearby markets due to bad road network. In spite of few boreholes provided by OOPC, in most communities and camps, people still fetch water from streams for their domestic use which could be unsafe for their health and well-being.

The role of infrastructural facilities in grassroots development and poverty reduction cannot be over-emphasized whether in urban or rural environments. McNeil (1993) shows that adequate infrastructure reduces the costs of production, which affects profitability, levels of output, and employment. When infrastructure works, productivity and labour increase; and when it does not work, citizens suffer, particularly the poor. Thus, economic renewal and societal welfare become postponed or halted.

The general state of infrastructural development in the study area is poor with communities' members undergoing considerable difficulties in their daily existence because of this. The provision of boreholes to landlord communities as well as educational support all by OOPC received commendations and encomium from communities concerned. The community head of Gbelebu said "*Okomu is the only government we know in this area*".

Health care, telecommunication, and electricity facilities are the least developed or non-existence. The disparity of so called "Camps" from other landlords' communities in provision of infrastructural amenities can be a

tinder for conflicts and breach of peace in the communities soon and this should be addressed by OOPC. Nine (9) camps have neither government presence nor OOPC in the area of socio-infrastructure provision. These communities popularly referred to as camps are Ajebamidele, Makilolo (coconut camp), Obagie, Obasuwa, Taye, Thousand Odoola and Utesi all in main oil palm field; while the remaining two are in Extension One and they are Adeola and Bisi. It was also discovered that none of the communities have Community Development Framework and the infrastructural projects implemented and being implemented by OOPC are from willful lists of individual CDAs.

b.) Education

There are ten (10) primary schools and four (4) secondary schools in all the assessed communities located in the landlord communities, but no school in all the eight (8) camps. OOPC provided textbooks in major subjects to all the pupils and students in primary and secondary. There has been yearly skill acquisition organized by OOPC for the communities with 2 to 8 slots per community. OOPC also has been providing bursary to students of tertiary institutions annually to indigenes of the landlord communities between 2 and 6 slots.

Table 6.4: Summary of Education Issues.

Issue	Subject	Objective Analysis
Education	• Level of education	Medium
	• Quality of education	Low due to absence of qualified teachers
	• Skills building programme	Medium
	• Education by gender	Not applicable

c.) Health

There are only four (4) health centres and one Community Health Centre run by UBTH in the assessed communities, but one is not functioning. Among the functional ones in Madagbayo and Ofunama there are felt needs especially nurses, doctors, and medicines. The summary of health-related issue in all the Main and Extension One assessed communities is contained in the Table 6.5 below.

Table 6.5: Health and Related Issues

Issue	Subject	Objective Analysis
Health	<ul style="list-style-type: none"> • Level of health • Access to clean water • Access to latrine • Hygiene behavior 	<p>Poor</p> <p>Extremely difficult in camps</p> <p>Fair with provision of sanitary pavilions by OOPC</p> <p>Fair</p>



Plate 6.1: Ambulance at UBTH Branch, Udo



Plate 6.2: Patients awaiting consultation at UBTH, Udo

d.) Agriculture and Household Nutrition

Farming and agricultural activities are rain fed and at subsistence level. Men are more engage in farming (usually with the assistance of children/youth) than women. A wide range of crops is cultivated especially cocoa, plantain/banana, maize, cassava, vegetables, and root/tuber crops. Apart from being one of the main traditional occupations of the people, it is also practiced mostly by the natives due to the community's land ownership structures.

The assets used in agricultural activities are as follows:

Human Assets: The people employ traditional farming skills such as:

- Land management skills, like rotational bush fallowing, in cultivation of crops
- Maintenance of local farm tools
- Fairly good marketing skills but growth and opportunity in the commodity value chains are not developed.

Natural Assets: These include farmland, soil and topography and favorable climate.

Physical Assets: Farmers own hoes, cutlass, spades, wheelbarrow, basins, basket, and other equipment.

Social Assets: There is low level of social integration due to subsistence level of farming practice as well as poverty.

The rainy season (March/April to October/November) is associated with peak cropping seasons especially arable crop cultivation whilst the dry season is used for harvesting, marketing, and land preparation for the next farming season.

The level of poverty in all the communities is very high as the standard of living is very low and rudimentary. Though the communities are rich in agricultural produce, due to the lack of processing facilities, most of their crops get spoilt early because of lack of storage facilities for this produce.

Water resources and forest natural resources (such as honey, snail etc) are continuously utilized over the years, but now threatened due to Okomu oil palm and rubber development while over dependence on forest resources for domestic energy requirement (firewood) has considerably led to deforestation and vegetation depletion.

The nutrition/food security issue in all the assessed communities is contained in the Table 6.6 below.

Table 6.6: Household Nutrition and Food Issue

Issue	Subject	Objective Analysis
Food Security	• Food consumption pattern	Garri + Native soup, Plantain + Pepper Soup
	• Access to food	Throughout the year. High consumption (January – June) & Low consumption (July – December)
	• Diet diversity	Available
	• Number of meals	3 times daily
	• Difficult periods of the year	July – September
	• Changes in food consumption	None
	• Differences in consumption - Gender - Age	Male & female eat the same food. No difference.

The traditional occupation is practiced alongside other modern economic activities such as transportation business (motorcyclists), fashion designing, civil service, catering etc. Table 6.7 below summarizes the ranking of major occupation by communities/camps.

Table 6.7: Ranking of Major Occupation by Communities/Camps

S/No.	Community	Farming	Fishing	Logging	Hunting	Trading	Artisans	Civil Service	Major Cash Crop
1	Agbado	1 st	-	-	-	2 nd	3 rd		Cocoa
2	Ajebamidele camp*	1 st	-	-	-	2 nd	-		Cocoa
3	Awuri	1 st	2 nd	4 th	5 th	3 rd	-		Cassava
4	Gbelebu	1 st	2 nd	-	4 th	3 rd			Cocoa
5	Inikorogha	1 st	2 nd	-	4 th	3 rd			Oil palm
6	Madagbayo	1 st	3 rd	-		2 nd	4 th	5 th	Oil palm
7	Makilolo	1 st	2 nd			3 rd			Plantain
8	Mallim camp*	1 st				2 nd			Cocoa
9	Maroghionba	1 st				2 nd			Cassava
10	Obagie camp*	1 st				2 nd			Cocoa
11	Obazuwa camp*	1 st				2 nd			Cocoa
12	Safarogbo	1 st	2 nd			3 rd			Plantain
13	Taye camp*	1 st				2 nd			Cocoa
14	Thousand Odoola camp*	1 st				2 nd			Cocoa
15	Udo	1 st	-	4 th	3 rd	2 nd	5 th	6 th	Oil palm
16	Utesi*	1 st			3 rd	2 nd			Plantain

*Stands for Tenant Community

6.7.5.4 Livelihoods and Natural Resources

The communities and camps of the operational areas of the OOPC are rich in human and natural resources, especially unskilled labour. However, the communities and camps are underdeveloped in terms of modern infrastructure, socio-economic well-being and incomes. There are potentials to expand the economic and income opportunities in these communities. These include the following, among others.

- The abundant resources especially land, forest, human and physical in the community that support enterprise and development.
- Existence of social groups that provide various services.
- The relative peaceful co-existence in the community.
- Availability of labour for farming and other activities.

The summary of resource base and utilization in the area is presented in Table 6.8 below.

Table 6.8: Resource Base and Utilization in most Communities

Resource Category	Resource Name / Class		Notes
Rich but hardly tapped	(i)	Reserved forest	Legislation by government especially at Udo
Rich and well tapped	(i)	Fertile Land	Available and well utilized.
	(ii)	Forest products	-Use mostly for domestic purpose but few for commercial - natural herbal medicines and non-timber forest resources
	(iii)	Stream	Domestic
Threatened	(i)	Wildlife	Hunting pressure and forest clearing for oil palm plantation as well as rubber

Table 6.9: Resource Base and Utilization of Riverine Communities especially in Ofunama

Resource Category	Resource Name / Class		Notes
Rich but hardly tapped.	(i)	Raffia Palm	Abundant raffia palm but hardly tapped due to inadequate knowledge of necessary technology.
	(ii)	Crude oil	Full Exploration yet to commence. - But beyond the know-how and financial scope of the communities, requires investment from external enterprise.
Rich and well tapped	(i)	Sand	Wined both manually and mechanically for livelihoods and sand filling of the community.
	(ii)	Land	Available and well utilized.
	(iii)	Creeks and rivers	For fishing and marine transportation.
Threatened	(i)	Aquatic life	Due to activities of the sand dredgers and resultant effect of oil exploration activities

6.7.5.5 Pattern of Conflicts

The communities and camps of the OOPC operational areas are relatively peaceful as the people live harmoniously together, there exist potential conflict triggers and conflict resolution mechanisms as highlighted below.

(a) Potential Conflict Triggers

There are four main potential conflict triggers in the area namely:

- Land encroachment between families
- Poor information dissemination
- Usurping of community benefits
- Political differences (APC vs PDP)

(b) Severity and Frequency

Intra-communal conflicts and intra-household at domestic level are quite frequent and could be severe but do not usually threaten the corporate existence of any of the community/camp. This is because effective traditional conflicts resolution mechanisms are in place to solve these and well respected and subscribed.

Inter community conflicts especially armed mass conflict could be severe and threaten the peaceful coexistence between communities. The resolutions of such conflicts sometimes end with the traditional organs at the clan level. Even chieftaincy title tussle could threaten the peaceful coexistence of stakeholders within the community concerned and the resolution of such end with the clan held especially Oba of Benin (the highest level of traditional authority in Benin land) with Udo as case in reference.

(c) Mediation and Conflict Resolution Efforts

Virtually all the communities/camps are relatively peaceful and co-existence among each community members is characterized by love, peace and unity. Each community head with his Council of Chiefs/Elders and the Community Development Association (CDA) are mainly charged with conflict resolution within the community while a third party might be involved to resolve inter communal conflicts. This notwithstanding, some conflicts end up in law court and / or with law enforcement agents for resolution.

(d) Impacts of Conflicts

The impacts of the various conflicts have always been negative. Some of the impacts include the following, among others.

- Lack of unity and trust and low motivation to work together to achieve the goals and aspirations of the community.
- Vicious cycle of poverty.
- Slow pace of development in the community.
- Loss of opportunity as the case with Gbole-Uba in 2013 scholarship slot
- Bloodshed and loss of innocent lives.

6.7.6 Community Socioeconomic Conditions

Human development and human security are inseparable: whereas human development seeks to increase peoples' options, opportunities and access to public services and goods, and emphasizes what can be achieved, human security focuses on the risks, dangers, and threats to human development, evaluates the degree of confidence that people have in public services and goods, and emphasizes what can be lost when human potential is thwarted (Tadjbakhsh and Chenoy, 2007). Human development is measured by the Human Development Index (HDI). This index measures the average achievements in a country in three basic dimensions of human development: a long and healthy life, knowledge and a decent standard of living.

6.7.6.1 Agbado Community

The community came into existence many years ago and the first settler was called Agbado who migrated from Benin to Igwe-kahen and later finally settled at the present Agbado community. He was a farmer and gave birth to two children namely Omezee and Ovuwighe. The leadership of the community is by seniority and the head of the community is called Odionwere.

i.) Demography: The present estimated population of Agbado obtained from community sources is about 4,000 persons made up of 1,500 male and 2,500 females. This is depicted in Figure 15. The ratio of in-migration to out-migration is 4:1 principally due to the presence of Okomu and associated opportunities. The immigrants are more of Akwa-Ibom, Yoruba and Urhobo.

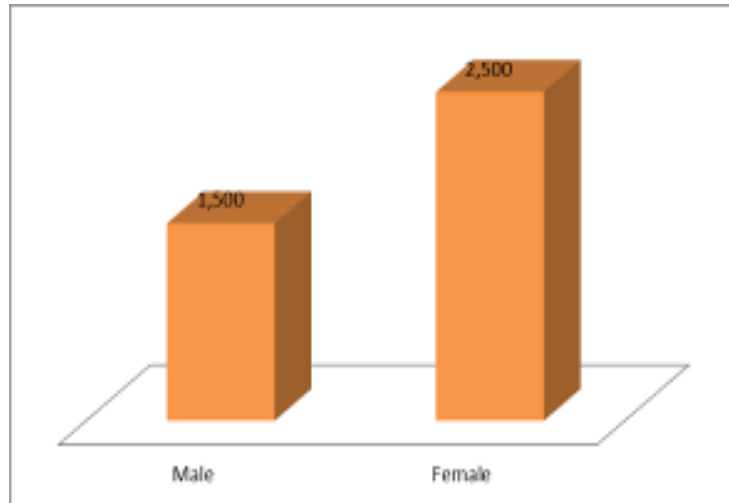


Figure 15: Agbado Population Structure

ii.) Settlement Pattern and Housing

The Topography of the settlement is gently slope and susceptible to flooding. Agbado has a combination of linear and nuclear settlement patterns with different types of housing pattern in the community; complete thatched roof account for 1% of the total houses while the remaining are zinc roofed. But only 22% are block/cement plastered among the zinc roofed and mud houses 78%.

iii.) Social Composition

Agbado is over 90% indigenous community with the remaining less than 10% made up of other tribes across the country especially Akwa-Ibom, Yoruba and Urhobo. It has eight (8) churches of various denominations, two (2) mosques, while no public cemetery is located within the community. People of the community indicate that they are about 75% Christians, 20% Muslims, and 5% African Traditional Religion (ATR) worshippers.

The Agbado people speak Benin language and Pidgin English. The time of day and different occasions such as wedding, burial etc reflect different greetings. The formal greetings of Good Morning, Good Afternoon and Good Evening translate to “Obowei, Obavan and Obo ota” respectively.

iv.) Social Amenities

Agbado lacks modern social infrastructure and social amenities and institutions provided by government or OOPC as shown in Table 6.10 below. The community likewise has no telecommunication facility, no electricity and no portable.

Table 6.10: Agbado Community Social Projects-Infrastructures

S/No.	Amenities/Projects	Source / Provider	Estimated beneficiaries	Date Completed	Status	Remarks
1	Agbado Primary School: 2 No. blocks of 6 classrooms (N06 26' 13.3", E05 08' 36.5" Elevation 59m)	Edo State Government	The entire community	1986	Not in use	Complete total renovation
2	Agbado Community market	Community effort	The entire community	On going	In use	Needs open and lock-up stores to attract patronages

iv.) Education

There is no functional formal or informal school in Agbado which affects early child education in the community. The nearby primary and secondary schools are in Madagbayo, therefore, attainment of qualitative education is costly in the face of high poverty rate among the indigenes. Some parents even send their wards to relatives in nearby towns for them to have access to qualitative education. This threatens the attainment of Sustainable Development Goals (SDGs) especially SDG 4 that is, ensures inclusive and equitable quality education and promotes lifelong learning opportunities for all.

v.) Health

The situation analysis of certain basic needs of the community populace relating to health is dismal because there is no access to qualitative healthcare. The people of the community travel long distance in search of drugs and medical treatments. Attainment of SDG 3 that is, ensures healthy lives and promote well-being for all at all ages is threatened in the community. Other health related issues are summarized in the Table 6.11 below.

Table 6.11: Situation Analysis of Agbado Basic Need

S/No.	Category	Availability / source	Accessibility	Challenges	Remarks
1	Portable	None, except Agbado stream located at the end of the community	Poor	High cost of drinking water. Trekking long distance in search of water for domestic use	Water borne diseases are prevalent.
2	Sanitation	No facility	poor	<ul style="list-style-type: none"> • Human waste is openly into bush. • Kitchen waste is usually disposed at the backyard. 	This constitutes health hazards.

vi.) Agriculture and Household Nutrition

The farming systems in the community are principally traditional subsistence crop farming. They are characterized by small-sized farm holdings of less than one hectare per household. Cocoa is the main cash crop grown by the community and this followed by cassava. Other crops grown for commercial purpose are plantain and maize.

vii.) Livelihood and Natural resource use

The traditional occupations of the people of Agbado farming, which are the mainstay of the community's economy, and the largest employer of labour with almost 86% engagement. This livelihood is practiced alongside other gainful non-traditional economic activities such as trading and artisans.

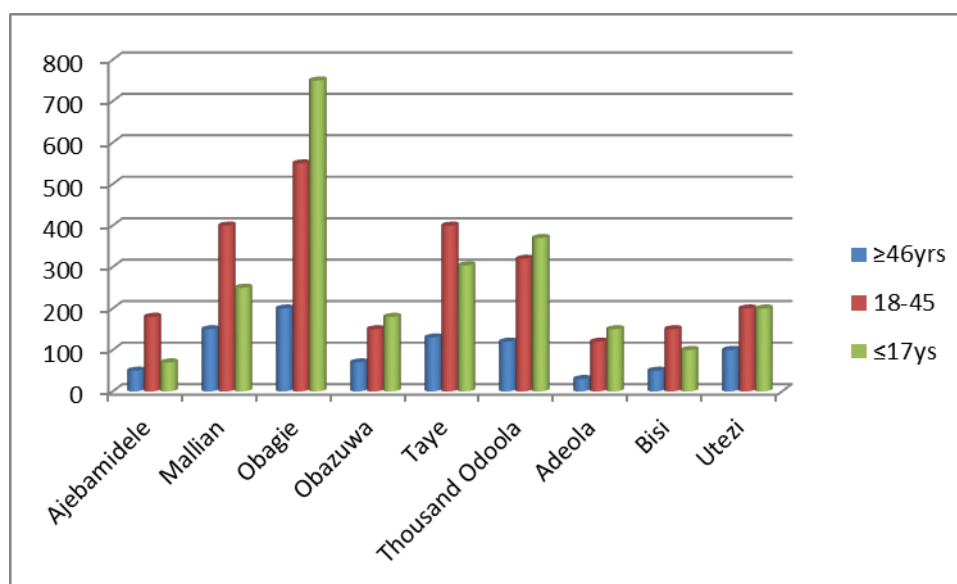
The rich and well tapped natural resource is fertile land being used predominantly for cocoa production apart from arable food crops such as cassava. The threatened natural resource is forest and useful non timber forest resources such as medicinal herbs and game due to Okomu oil palm and rubber development. Consequently, the community is facing land pressure and the coping strategy being employed is managing little available farmland with crop intensity. The community is blessed with Agbado stream which is hardly tapped effectively except for domestic water source.

6.7.6.2 Camps

There are four (4) camps among the sixteen communities assessed with similar social characteristics. These camps were founded between 1989 and 2013 by migrants mostly from Osun State. Table 6.12 below shows key variables of these camps.

Table 6.12: Key Variables of the Camps

S/No.	Camp	Founder & Date	Landlord	Population			Religions		
				≥46yrs	18-45	≤17ys	Christi an	Musli m	ATR
1	Ajebamidele	1996	Madagbayo	50	180	70	70%	30%	0
2	Mallim	Mallim (1989)	Gbelebu	150	400	250	90%	9%	1%
3	Obagie	Pastor Omotosho (1994)	Udo	200	550	750	80%	20%	0
4	Obazuwa	Mr. Omotosho (1991)	Udo	70	150	180	60%	40%	0
5	Taye	Taye (1994)	Gbelebu	130	400	304	30%	60%	10%
6	Thousand Odoola	Taye Odefunke (1992)	Gbelebu	120	320	370	35%	60%	5%
7	Adeola	Resettlement for - Olomu camp (2013)	Gbole-Uba	30	120	150	83%	17%	0
8	Bisi	Bisi	Gbole-Uba / Evboirubor	50	150	100	70%	30%	0
9	Utezi	1992	Udo	100	200	200	75%	25%	0

**Figure 16: Population Stratification of the Camps**

The population of most of the camps is skewed toward youth (18-45years) because farming (the principal livelihood of the camps) requires energetic population and surprisingly Cocoa instead of oil palm is the major crop cultivated, as these migrant population are from the traditional cocoa growing state of Osun State, and it may be assumed that they are already used to cocoa cultivation. Ajebamidele was a replica of all the camps with bushy, narrow and erosion prone access road.

i.) Settlement Pattern and Housing

The settlement that Ajebamidele has like other camps is generally gentle slope susceptible to flood, water and pollution. Ajebamidele has a linear settlement pattern with different types of housing pattern in the community with complete thatched roof account for 2% of the total houses while the remaining are zinc roofed.

ii.) Social Composition

Like other camps, Ajebamidele is non-native community with Yoruba as a dominant language. It has four (4) churches of various denominations, one (1) mosque, while no public cemetery is located within the community. The community is made up of about 70% Christians and 30% Muslims. Like Ajebamidele, Taye and Obazuwa have four churches each while the remaining camps have between one (1) and two (2) churches. Only Taye camp has two (2) mosques, all the other camps have one mosque each except Adeola with none. Despite religious differences there is harmony in all the camps.

All people in the camps speak Yoruba language and Pidgin English. The time of day and different occasions such as wedding, burial etc attract different greetings. The formal greetings of Good Morning, Good Afternoon and Good Evening translate to “Ekaro, Ekasan and Ekaale” respectively while “Ekabo” and “Eseun” translate to Welcome and Thank you.

iii.) Social Amenities

There is no single social amenity in virtually in all the camps. The population of children in the camps is low because school age children are sent to their towns of origin to attend school because there is no formal school in all the camps. This threatens the attainment of Sustainable Development Goals (SDGs) especially SDG 4 that is, ensures inclusive and equitable quality education and promotes lifelong learning opportunities for all.

Only Mallim and Utezi camps have a neighbourhood borehole each and it is grossly inadequate for a population of 800 in case of Mallim camp. There is no portable water in other camps therefore, SDG 6 that is, ensures availability and sustainable management of water and sanitation for all is threatened. The only source of water in other camps is either river or stream and some are seasonal like Ajebamidele stream.

Table 6.13: Camps Social Projects - Infrastructures

S/No.	Amenities/Projects	Source / Provider	Estimated beneficiaries	Date Completed	Status	Remarks
1	<u>Obagie:</u> 3 Nos. palm oil mills N06 27' 02.9" E05 14' 23.8" Elevation 33m	Private	Entire community	2008 to 2010	In use	In use but need to be upgraded into modernized small scale processing equipment
2	<u>Obazuwa:</u> Palm oil mill N06 25' 49.9 E05 12' 09.0" Elevation 35m	Private	Entire community	2010	In use	Needs modern facility like modernized small scale processing equipment.
3	<u>Mallim:</u> Borehole	Okomu	Entire community	2014	In use	Additional one needed
4	<u>Utezi:</u> Borehole	Okomu	Entire community	2014	In use	

iv.) Agriculture and Household Nutrition

The farming systems in the camps are principally traditional subsistence crop farming. They are characterized by small-sized farm holdings of less than one hectare per household. Cocoa is the main cash crop grown by all and is followed by kolanut in some camps. Other crops grown for domestic purpose are plantain and cassava. There are three (3) local palm oil mill in Obagie installed by private individuals between 2008 and 2010 while Obazuwa has one; but hardly for commercial purpose (Tables 13&14).

v) Livelihood and Natural resource use

The traditional occupation of the people of Ajebamidele is farming like other camps, which is the mainstay of the economy and the largest employer of labour. Occupational activities which farming provides engage between 80-95% persons in the assessed camps. This means of livelihood is practiced alongside other gainful non-traditional economic activity such as trading.

The rich and well tapped natural resource is fertile land being used predominantly for cocoa and kolanut production apart from arable food crops such as cassava. Most members are share-croppers renting land from absentee landlords.

6.7.6.3 Awuri Community

Awuri, which translates to “Don’t look for my trouble”, is an Ijaw speaking ethnic community. The community comprises four (4) quarters. The road to the community needs serious attention as some spots are almost not motorable. This is a landlord community to Hassan camp (Hassan camp has a litigation against Okomu in respect of Extension One oil palm and rubber development).

i.) **Demography:** The present estimated population of Awuri obtained from community sources is about 5000 persons made up of 2250 male and 2750 female. There are more children (≤ 17 years) accounting for 2,500 or 50% of the population than the youth (18-45 years) and the adult (over 46 years) who are estimated to be 1,800 (36%) and 700 (14%) respectively.

ii.) **Social Composition**

Awuri is over 90% indigenous community with the remaining less than 10% made up of other tribes across the country. It has four (4) churches of various denominations. The community has three (3) sacred forest/shrines and is made up of over 90% Christians, 7% Muslims and about 3% African Traditional Religionists.

iii.) **Social Amenities**

Awuri has been neglected in the provision of social amenities by both the external and internal stakeholders (Government, OOPC and community inclusive) as shown in Table 6.14. Apart from one borehole, the community has no telecommunication facility, no electricity, and no market.

Table 6.14: Awuri Community Social Projects- Infrastructures

S/No.	Amenities/Projects	Source / Provider	Estimated Beneficiaries	Date Completed	Status	Remarks
1	Water borehole	Edo State Government.	Entire community	2012	functioning	Grossly inadequate for population of 5,000

iv.) Education

There is no functional formal or informal school in Awuri which affects early child education in the community, therefore, attainment of qualitative education is costly, coupled with high poverty incidence. Some parents resort to sending their wards to relatives in nearby towns for them to have access to education. This is a threat to the attainment of Sustainable Development Goals (SDGs) especially SDG 4 that is: ensures inclusive and equitable quality education and promotes lifelong learning opportunities for all.

v.) Health

The situation analysis of certain basic needs of the community populace relating to health and wellbeing is appalling because there is no access to qualitative healthcare. The people of the community travel long distance in search of drugs and medical treatments. The lack of access to quality rudimentary health care facilities threatens access and attainment of SDG 3 that is: ensure healthy lives and promote well-being for all at all ages is non-existence in the community. Human waste is openly discharged into bush, so also kitchen waste is usually disposed at the backyard.

vi.) Livelihood and Natural Resource Use

The traditional occupation of the people of Awuri is farming, which is the mainstay of the economy and the largest employer of labour with almost 80% engagement. This means of livelihood is practiced alongside with fishing because there is an all-season stream at the outskirts eastward of the community. Other gainful non-traditional economic activities include trading and operation of commercial motorcycles.

The rich and well tapped natural resource is fertile land being used predominantly for cocoa and kolanut cultivation apart from arable food crops such as cassava.

6.7.6.4 Gbelebu Community

Gbelebu is an Ijaw speaking ethnic community and landlord to nine (9) camps and these camps are Mallim, Ofunege, Eto, Ogundipe, Baba-Dele, Okwa, Federal, Taye and Odo-ola.

- i.) Demography:** The present estimated population of Gbelebu obtained from community sources is about 10,000 persons made up of 4,000 male and 6,000 female. There are more children (≤ 17 years) accounting for 5000 or 50% of the population than the youth (18-45 years) and the adult

over 46 years) who number about 3000 (30%) and 2,000 (20%) respectively.

ii.) Social Composition

Gbelebu is 80% indigenous community with the remaining 20% made up of other tribes across the country. It has ten (10) churches of various denominations. The community is made up of 68% Christians, 2% Muslims and about 30% African Traditional Religionists.

iii.) Social Amenities

Gbelebu has a fair provision of social amenities mostly by OOPC as shown in Table 16. The community head Chief Enoch Sulubor said, *“The only government we know is Okomu in the area of provision of social amenities”*. One of the major infrastructures lacking in the community is telecommunication.

Table 6.15: Gbelebu Community Social Projects- Infrastructures

S/No.	Amenities/Projects	Source / Provider	Estimated beneficiaries	Date Completed	Status	Remarks
1	Yearly grading of access roads	OOPC	Entire community	2011 to date	Motor able	Untarred
2	Boreholes (4Nos.)	OOPC		One each year from 2012 to 2015	Functioning	
3	Yearly skill acquisition programme	OOPC	Trainees & family members	Since 2012	Continuing	5 youth yearly
4.	Yearly bursary	OOPC	Tertiary students	Since 2012	Continuing	2 slots yearly
5	2 blocks of 2 classrooms each at Primary School & equipped with furniture	OOPC	Pupils & Teachers	2014	Functioning	
6	Sanitary pavilion at Primary School	OOPC	Pupils and Teachers	2014	Functioning	
7	Furniture for Secondary School	OOPC	Students & Teachers	2014	Functioning	
8	Provision of textbooks for Primary school and Secondary school	OOPC	Pupils and Students	2013/14	Functioning	Pry 1-6, JSS1-3 & SSS1-3

iv.) Education

There are functional primary and secondary schools in Gbelebu but government has failed to post teachers to both schools affecting attainment of qualitative education. Therefore, Sustainable Development Goals (SDGs) especially SDG 4 that is, ensures inclusive and equitable quality education and promotes lifelong learning opportunities for all is threatened.

v.) Health

The situation analysis of certain basic needs of the community populace as related to health is appalling because there is no access to qualitative healthcare. The people of the community travel long distance in search of drugs and medical treatments. The attainment of SDG 3 that it ensures healthy lives and promote well-being for all at all ages is threatened in the community. OOPC provided sanitary pavilions in both primary and secondary schools thereby improving environmental sanitation of the community, but kitchen waste is still being disposed at the backyard.

vi.) Agriculture and Household Nutrition

The farming systems in the community are principally traditional subsistence crop farming. They are characterized by small-sized farm holdings of less than one hectare per household. Cocoa is the main cash crop grown by the community and this followed by Cassava. Other crops grown for commercial purpose are plantain and maize.

vii.) Livelihood and Natural Resource Use

The traditional occupation of the people of Gbelebu is farming, which is the mainstay of the community's economy and the largest employer of labour with almost 80% engagement. This means of livelihood is practiced alongside with fishing and other gainful non-traditional economic activities such as trading and artisans.

The rich and well tapped natural resource is fertile land being used predominantly for cocoa production apart from arable food crops such as cassava. The threatened natural resource is forest and its products such as bush meat, snail, mushroom, and honey due to Okomu oil palm and rubber development. The community has a river which is only partially tapped mainly as a source of domestic water and for fishing.

6.7.6.5 Inikorogha Community

Inikorogha, which translates to “Strong personalities”, is an Ijaw speaking community with twelve (12) quarters and headed by ‘Amakosuwei’.

- i.) **Demography:** The present estimated population of Inikorogha obtained from community sources is about 10,428 persons made up of 4,316 male and 6,112 females. This is depicted in Figure 17. The ratio of in-migration to out-migration is 4:1 principally due to the presence of Okomu and associated opportunities. The immigrants are more of Akwa-Ibom, Yoruba and Kwale.

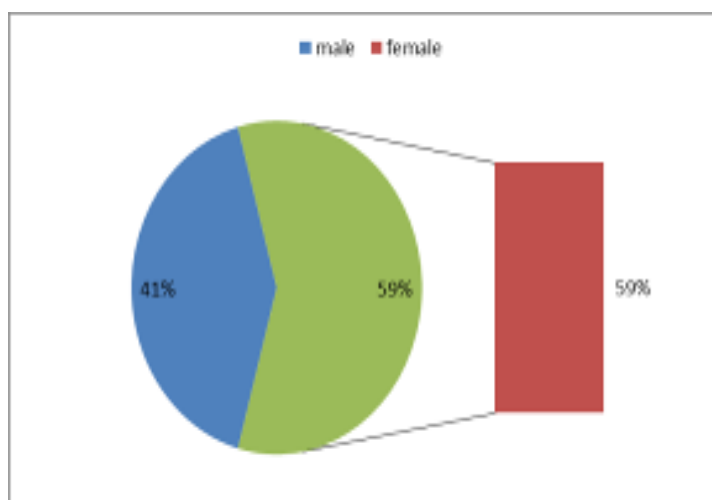


Figure 17: Inikorogha Population Structure

- ii.) **Settlement Pattern and Housing**

The settlement is generally gently slope and susceptible to flood, water, and air pollution. Inikorogha has a combination of linear and nuclear settlement patterns with different types of housing pattern in the community. Complete thatched roof account for 20% of the total houses while the remaining houses are zinc roofed.

- iii.) **Social Composition**

Inikorogha is over 80% indigenous community with the remaining less than 20% made up of other ethnic groups across the country especially Akwa-Ibom, Yoruba and Urhobo. It has seven (7) churches of various denominations, no mosque, while there are two (2) public cemeteries located on the outskirts of the community. The community is made up of over 60% Christians, 2% Muslims and less than 38% African Traditional Religionists.

The people speak Izon language and Pidgin English. The time of day and different occasions such as wedding, burial etc attract different

greetings. The formal greeting of “Good Morning”, “Good Afternoon” and “Good Evening” translates to “Eseredor/Ebeidegha”, “Doo” and “Ebuburudegha” respectively while “Ebode” and “Miemo” or “Emekame” translate to “welcome” and “Thank you.”

iv.) Social Amenities

Inikorogha has fair provision of social amenities by both the external and internal stakeholders (Government, OOPC and community inclusive) as shown in Table 6.16 below.

Table 6.16: Inikorogha Community Social Projects- Infrastructures

S/No.	Amenities/Projects	Source / Provider	Estimated Beneficiaries	Date Completed	Status	Remarks
1	Town hall building N60 14' 54.69" E50 21' 21.40" Elevation 3.8m	OOPC	Entire community	2012	Functioning	All the Facilities are Functioning
2	4Nos, boreholes: i.N60 14' 53.47" E50 21' 23.86" Elevation 2.1m ii. N60 14' 53.47" E50 21' 15.48" Elevation 1.9m iii.N60 14' 4.06" E50 21' 17.74" Elevation 7.1m iv.N60 15' 6.46" E50 21' 23.39" Elevation 1.2m	OOPC	Entire community	2013	Functioning	
3	2 Nos. Sanitary pavilions: i.N60 14' 53.47" E50 21' 15.48" Elevation 1.9m ii. N60 15' 2.94" E50 21' 22.48" Elevation	OOPC		2013	In use	
4.	Library building N60 14' 52.30" E50 21' 15.73" Elevation 2.5m	OOPC	Students	2013	In use	
5	Inikorogha Grammar school 1 No. block of 3 classroom N60 15' 3.73" E50 21' 22.48" Elevation 2m	OOPC	Students and Teachers	2014	Functioning	
6	*Staff quarter N60 15' 2.94" E50 21' 22.48" Elevation 13.4m	OOPC	Teachers		In use	
7	Market: One block of 10 shops N60 15' 0.95 E50 21' 17.65" Elevation 2m	OOPC	Women and traders		Functioning	In need of more open and lock up shops
8	Health centre: N60 14' 57.47" E50 21' 30.11" Elevation 6.5m	State Government.	Entire community		Not functioning	Need total rehabilitation

v.) *Education*

There is functional secondary school in Inikorogha, but government has failed to post teachers to the school thus affecting the attainment of qualitative education. Therefore, Sustainable Development Goals (SDGs) especially SDG 4 that is, ensure inclusive and equitable quality education and promote lifelong learning opportunities for all, is threatened.

vi.) *Health*

The health centre in the community was built by Edo State Government but it is non-functional; it needs total rehabilitation. The attainment of SDG 3 is that it ensures healthy lives and promote well-being for all at all ages is threatened in the community. OOPC provided sanitary pavilion in the secondary school and staff quarters thereby improving environmental sanitation of the community, but kitchen waste is still disposed at the backyard.

vii.) *Agriculture and Household Nutrition*

The farming systems in the community are principally traditional subsistence crop farming. They are characterized by small-sized farm holdings of less than one hectare per household. Cocoa is the main cash crop grown by the community and this followed by Cassava. Other crops grown for commercial purpose are plantain and maize.

viii.) *Livelihood and Natural Resource Use*

The traditional occupation of the people of Inikorogha is farming, which is the mainstay of the community's economy and the largest employer of labour with almost 60% engagement. This means of livelihood is practiced alongside with fishing and other gainful non-traditional economic activities such as trading and artisans.

The rich and well tapped natural resource is fertile land being used predominantly for cocoa production apart from arable food crops such as cassava. The threatened natural resource is forest and its products such as bush meat, snail, mushroom, and honey due to Okomu oil palm and rubber development. The community is blessed with a river which is partially tapped effectively for fishing and domestic water source.

6.7.6.6 Madagbayo Community

Madagbayo community was founded by Orunwense who came from Udo community many years ago. Latter other people came to settle with him; among them are Oriajogun, Eseto and Obanor. The community is made up of five (5) quarters and it has bitumen and clay deposit which are hardly tapped. The community head is called ‘Odionwere’ and he is supported by council of elders (Edion).

i.) Demography: The present estimated population of Madagbayo obtained from community sources is about 3,500 persons made up of 1,500 male and 2,000 females. The in-migration is more than out-migration principally due to the presence of Okomu and associated opportunities. The non-native is about 500 out of the estimated population of 3,500.

ii.) Settlement Pattern and Housing

The settlement is generally gentle slope susceptible to flood, water, and air pollution. Madagbayo has a combination of linear and nuclear settlement patterns with different types of housing pattern in the community. Complete thatched roof account for 20% of the total houses, while the remaining houses are zinc roofed.

iii.) Social Composition

Madagbayo is over 85% indigenous community with the remaining less than 15% made up of persons from other ethnic groups across the country. It has six (6) churches of various denominations, no mosque, while there is no public cemetery located within or around the community. The community is made up of over 80% Christians and less than 20% African Traditional Religionists.

The Madagbayo people speak Benin language and Pidgin English. The time of day and different occasions such as wedding, burial etc reflects different greetings. The formal greeting of “Good Morning”, “Good Afternoon” and “Good Evening” translates to “Obowie”, “Obavan” and “Obota” respectively.

iv.) Social Amenities

Madagbayo has a fair provision of social amenities by both the external and internal stakeholders (Government, OOPC and community inclusive) as shown in Table 6.17 below.

Table 6.17: Madagbayo Community Social Projects- Infrastructures

S/No.	Amenities/Projects	Source / Provider	Estimated beneficiaries	Date Completed	Status	Remarks
1	Madagbayo Primary Health Centre. N06 24' 39.1" E05 06' 47.1" Elevation 63m	Ovia Southwest LGA	Entire community	1993	Functioning	Needs nurses, doctors, and renovation
2	Borehole N06 24' 47.3" E05 06' 30.6" Elevation 24m	Okomu oil palm plc	Entire community	2013	Functioning	In good state
	Borehole N06 24' 38.7 E05 06' 39.8" Elevation 56m	Constituency Projects		2014		
3	Rural Electrification	State Govt.	Entire community	1994/1995	Abandoned	Need to be energized and extension to new areas
4.	Market 2 blocks of 10 Nos. open stores each N06 24' 45.8' E05 06' 25.9" Elevation 9m	Okomu oil palm plc	Entire community	2015	functioning	In need of more open and lock up stores
5	Omozaye primary school	Govt.	Entire community	1904	functioning	Needs more teachers, tables and students' desks
	2blocks of 2 classroom each and 1 block of pavilion 1 block of 3class room renovated Nos.N06 24' 37.1" E05 06 38.2" Elevation 54m	Okomu oil plc	Students & Teachers	2014		
		Govt.		2013		
6	Skill acquisition e.g., welding and fabrication	Okomu oil palm plc	Trainees and family members	2013 till date		4 youths yearly
7	Provision of bursary	Okomu oil palm plc	Tertiary students	2013 till date		2 slots yearly

v.) Education

There are functional primary and secondary schools in Madagbayo, but they lack adequate number of teachers in both schools affecting attainment of qualitative education. Therefore, Sustainable Development Goals (SDGs) especially SDG 4 that is, ensures inclusive and equitable quality education and promotes lifelong learning opportunities for all is threatened.

vi.) Health

The functional primary health Centre established in 1993 needs renovation and personnel such as nurses and drugs. The other health related issues are summarized in Table 6.18 below.

Table 6.18: Madagbayo Health and Related Issues

Issue	Subject	Objective Analysis
Health	• Level of health	Average
	• Access to clean water	Fair
	• Access to latrine	Poor
	• Hygiene behavior	Fair

**Plate 6.3: Madagbayo Primary Health Centre**

vii.) *Agriculture and Household Nutrition*

The farming systems in the community are principally traditional subsistence crop farming. They are characterized by small-sized farm holdings of less than one hectare per household. Cocoa is the main cash crop grown by the community and this followed by Cassava. Other crops grown for commercial purpose are plantain and maize.

viii.) *Livelihood and Natural Resource Use*

The traditional occupation of the people of Madagbayo is farming, which is the mainstay of the community's economy and the largest employer of labour with almost 90% engagement. This means of livelihood is practiced alongside with fishing and other gainful non-traditional economic activities such as trading, fashion designing and artisans.

The rich and well tapped natural resource is fertile land being used predominantly for cocoa production apart from arable food crops such as cassava. The rich but hardly tapped natural resource is abundant of bitumen deposit and clay which can create further economic opportunity in the community with a suitable investor.

6.7.6.7 Makilolo Community

Makilolo was founded around 1930 by Makilolo Igbo before the establishment of Okomu Oil Palm Plc in 1976. It is also called 'Coconut Camp'. The community belongs to Ijaw tribe and the head of the community is referred to as 'Amaokosuwei'.

i.) *Demography:* The present estimated population of Makilolo obtained from community sources is about 2,500 persons made up of 800 male and 1,700 females. There are more children (≤ 17 years) accounting for 1,200 or 48% of the population than the youth (18-45 years) and the adult over 46 years) who are 1,000 (40%) and 300 (12%) respectively.

ii.) *Social Composition*

Makilolo is unique because the indigenes are less than 10% of population of the community, while the non-native is over 90% made up of people from other ethnicity across the country. It has only two (2) churches which are Deeper Life Bible Church and Christ Apostolic Church. The community is made up of over 97% Christians, 2% Muslims, and about 1% African Traditional Religionists.

iii.) Social Amenities

Makilolo has been neglected in the provision of social amenities by both the external and internal stakeholders (Government, OOPC and community inclusive). There is no record or presence of any basic services in the community at present.

There is no functional formal or informal school in Makilolo which affects early child education in the community, therefore, attainment of qualitative education is costly, coupled with poverty incidence. Some parents even send their wards to relatives in nearby towns for them to have access to qualitative education. This is inimical to the attainment of Sustainable Development Goals (SDGs) especially SDG 4 that is: ensures inclusive and equitable quality education and promotes lifelong learning opportunities for all.

The situation analysis of certain basic needs of the community populace as related to health is dismal because there is no access to qualitative healthcare. The people of the community travel long distance in search of drugs and medical treatments. The attainment of SDG 3, that is, ensure healthy lives and promote well-being for all at all ages, is threatened in the community. Human waste is openly discharged into bush, so also kitchen waste is usually disposed at the backyard.

Likewise, the community is lacking as regards SDGs 6 and 7 that is, clean water & sanitation as well as affordable & clean energy, respectively.

iv.) Livelihood and Natural Resource Use

The traditional occupation of the people of Makilolo is farming, which is the mainstay of the economy and the largest employer of labour with almost 60% engagement. This livelihood is practiced alongside with fishing (40% engagement) because there is a stream at the southern part of the community. Other gainful non-traditional economic activities include trading and operation of commercial motorcycle.

The rich and well tapped natural resource is fertile land being used predominantly for plantain production apart from arable food crops such as cassava.

6.7.6.8 Maroghionba Community

Maroghionba has existed more than forty (40) years known then as “African Timber and Plywood”. The community has six (6) quarters, and it is headed by ‘Odionwere-Peter Omaregbon’.

i.) Demography: The present estimated population of Maroghionba obtained from community sources is about 3,500 persons made up of 1,500 male and 2,000 females. The in-migration is more than out-migration principally due to the presence of Okomu and associated opportunities. The non-native is about 500 out 3,500 population estimation.

ii) Settlement Pattern and Housing

The topography of the settlement is generally gentle slope and susceptible to flood, water, and air pollution. Maroghionba has a combination of linear and nuclear settlement patterns with different types of housing pattern in the community with complete thatched roof accounting for 20% of the total houses while the remaining houses are zinc roofed.

iii.) Social Composition

Maroghionba is over 85% indigenous community with the remaining less than 15% made up of persons from other ethnic groups across the country. It has six (6) churches of various denominations, no mosque, while there is no public cemetery located within or around the community. The community is made up of over 80% Christians and less than 20% African Traditional Religionists.

The Maroghionba people speak Benin language and Pidgin English. The time of day and different occasions such as wedding, burial etc attract different greetings. The formal greeting of “Good Morning”, “Good Afternoon” and “Good Evening” translates to “Obowie”, “Obavan” and “Obota” respectively.

iv.) Social Amenities

Maroghionba has a fair provision of social amenities by both the external and internal stakeholders (Government, OOPC and community inclusive) as shown in Table 6.19.

v.) Demography: The present estimated population of Maroghionba obtained from community sources is about 11,200 persons made up of 4,480 male and 6,720 females. The in-migration is more than out-migration principally due to the presence of Okomu Oil Palm PLC, and associated opportunities.

vi.) Settlement Pattern and Housing

The topography of the settlement is generally gently slope and susceptible to flood, as well as water and air pollution. Maroghionba has a combination of linear and nuclear settlement patterns with different types of housing pattern in the community. Complete thatched roof account for 3% of the total houses while the remaining 97% are zinc roofed.

vii.) Social Composition

Maroghionba is unique with 46% of its population being indigenous with the remaining 54% made up of people from other ethnic group across the country. It has five (5) churches of various denominations, and one mosque; while there is one public cemetery located in the outskirts of the community. The community is made up of over 93% Christians, 1% Muslims, and less than 6% African Traditional Religionists.

The Maroghionba people speak Benin language and Pidgin English. The time of day and different occasions such as wedding, burial etc reflects different greetings. The formal greeting of “Good Morning”, “Good Afternoon” and “Good Evening” translates to “Obowie”, “Obavan” and “Obota” respectively.

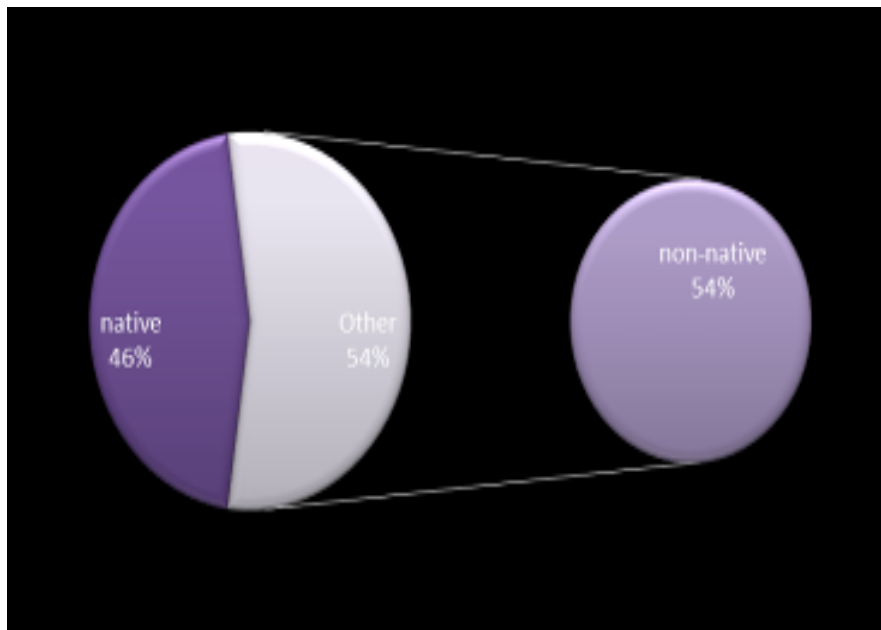


Figure 18: Maroghionba Unique Resident Composition

viii.) Social Amenities

Maroghionba has a fair provision of social amenities by both the external and internal stakeholders (Government, OOPC and community inclusive) as shown in Table 6.19 below.

Table 6.19: Maroghionba Community Social Projects- Infrastructures

S/No.	Amenities/Projects	Source / Provider	Estimated beneficiaries	Date Completed	Status	Remarks
1	4Nos. borehole i. N06 23' 47.1" E05 16' 59.9" Elevation 58m ii. N06 23' 35.4" E05 16' 57.0 Elevation 43m iii. N06 23' 44.0" E05 16' 54.7" Elevation 52m iv. N06 24' 01.4" E05 16' 52.3" Elevation 67m	Okomu Oil Palm PLC	Entire community	2010 to 2015	Only one functioning	The three boreholes need rehabilitation
2	Market *1 block of 10 open shop. N06 23' 57.8" E05 16' 55.3 Elevation 60m	Community effort OOPC		Early 90s 2015	functioning Not in use	More market structures and facilities needed
3	AT & P Primary school *3 blocks of 4 classroom each. *1No. Sanitary pavilion *2 blocks of 3 classroom each. *1 block of 3 classrooms. N06 23' 55.4" E05 16' 55.3" Elevation 59m ii. Regina Mundi catholic primary school N06 23' 35.7 E05 16' 49.6" Elevation 52m	OOPC OOPC State Govt. Local Govt. Catholic Church	Entire community	2013 2013 2012 2000 2013	In use In use In use Dilapidated In use	Needs more teachers, desks and repair of the borehole taps and renovation of dilapidated buildings etc.
4.	Generator	OOPC	Entire community	2013	Needs rewiring	Not in the community as at the day of SIA

ix.) Education

There are two (2) functional primary schools in the community, but government has failed to post teachers to the school, thereby inhibiting the attainment of qualitative education in the community. Hence, Sustainable Development Goals (SDGs) especially SDG 4 that is, ensure inclusive and equitable quality education and promote lifelong learning opportunities for all is threatened.

x.) Health

There is one private clinic in the community which members of the community regard as unaffordable, because of its charges therefore, SDG 3 that is, ensure healthy lives and promote well-being for all at all ages, is threatened in the community. Consequently, some residents resulted to self-medication and traditional herbs.

Okomu provided sanitary pavilion in the public primary school, thereby improving environmental sanitation of the community, but kitchen waste is still openly disposed at the backyards of houses. Four boreholes were provided by Okomu for the community between 2010 and 2015, ensuring partial availability and sustainable management of water and sanitation for the community in accordance with the attainment of the SDG6.

xi.) Agriculture and Household Nutrition

The farming systems in the community are principally traditional subsistence crop farming. They are characterized by small-sized farm holdings of less than one hectare per household. Cocoa is the main cash crop which the community grows, and this is followed by Cassava. Other crops grown for commercial purpose are plantain and maize. There is a local market in the community for ease of marketing farm produce and products; but the 10 open stores built by Okomu are yet to be put to use.



Plate 6.4: Open Market Stores Built by OOPC Covered with Weeds

xii.) Livelihood and Natural Resource Use

The traditional occupation of the people of Maroghionba is farming, which is the mainstay of the community's economy and the largest employer of labour with almost 90% engagement. This livelihood is practiced alongside with other gainful non-traditional economic activities such as trading and artisans.

The rich and well tapped natural resource is fertile land being used predominantly for cocoa production apart from arable food crops such as cassava. The threatened natural resource is forest and its products such as bush meat, snail, mushroom, and honey due to Okomu Oil Palm and Rubber Development. There is land pressure and land scarcity for the residents of the community forcing some to go as far as Utezi to source for farmland.

6.7.6.9 Safarogbo Community

According to history Safarogbo was founded by Odigbala in about 700BC. The community is headed by ‘Amanawei’ and it is an Ijaw community.

i.) Demography: The present estimated population of Safarogbo obtained from community sources is about 22,000 persons made up of 16,000 male and 6,000 females. Few children (≤ 17 years) are in the community accounting for 6000 or 27% of the population less than the youth (18-45 years) and the adult (over 46 years) who number about 9,000 (41%) and 7,000 (32%) respectively.

ii.) Social Composition

Safarogbo is 77% indigenous community with the remaining 23% made up of people from other ethnic groups across the country. It has ten (10) churches of various denominations. The community is made up of 70% Christians and about 30% African Traditional Religionists. There two (2) cemeteries opposite the community and they are called ‘Ebibou and Seibou’.

iii.) Social Amenities

Safarogbo has a fair provision of social amenities by both the external and internal stakeholders (Government, OOPC and community inclusive) as shown in Table 6.20. The key infrastructure not functioning in the community are electricity and health centre, while there are no market and telecommunication facility. These have made the community far from being a sustainable community according to SDG 11.

Table 6.20: Safarogbo Community Social Projects- Infrastructures

S/No.	Amenities/Projects	Source / Provider	Estimated Beneficiaries	Date Completed	Status	Remarks
1	Primary school *2 blocks of 6 classrooms. N06 14' 51.7" E05 03' 53.9" Elevation 12m *Secondary school N06 15' 11.5" E05 03' 50.3" Elevation 12m	Govt. Community effort	Entire Community	1914 2016	Dilapidated ongoing	 Needs assistance for construction of the school
2	*Health centre N06 15' 07.6" E05 03' 50.3" Elevation 7m	Edo State Government		1997	abandoned	
	Electricity *solar energy streetlight *1No. industrial plant N06 14' 52.5" E05 04' 01.4" Elevation 5m	FGN NDDC		2008 2011	Not in use Not functioning	Need to be connected. Need rehabilitation
3	Water borehole N06 14' 50.1 E05 03' 54.3" Elevation 24m	Okomu		2016	functioning	Functioning but in need of more boreholes
4	Town hall N06 14' 52.5" E05 04' 01.4" Elevation 5m					

iv.) Education

Only the primary school is functional, while the secondary school is under construction by community effort in Safarogbo; however, the primary school is dilapidated affecting attainment of qualitative education. Therefore, Sustainable Development Goals (SDGs) especially SDG 4 which is: ensures inclusive and equitable quality education and promotes lifelong learning opportunities for all is threatened.

v.) Health

The situation analysis of certain basic needs of the community populace relating to health is dismal because the only health centre started in 1997 by Edo State Government has been thereby denying the community access to qualitative health. The people of the community travel long distance in search of drugs and medical treatments. Therefore, the

attainment of SDG 3 which is, ensure healthy lives and promote well-being for all at all ages, is threatened. Okomu provided borehole only for the community, improving access to portable water for the community. Human waste is openly discharged into the bush, also kitchen waste is openly disposed at the backyard.

vi.) *Agriculture and Household Nutrition*

The farming systems in the community are principally traditional subsistence crop farming. They are characterized by small-sized farm holdings of less than one hectare per household. Cocoa is the main cash crop which the community cultivates, and this is followed by Cassava. Other crops grown for commercial purpose are plantain and maize.

vii.) *Livelihood and Natural Resource Use*

The traditional occupation of the people of Safarogbo is farming, which is the mainstay of the community's economy and the largest employer of labour with almost 70% engagement. This means of livelihood is practiced alongside with fishing (30% engagement) and other gainful non-traditional economic activities such as trading and artisans.

The rich and well tapped natural resource is fertile land being used predominantly for cocoa production apart from arable food crops such as cassava. The threatened natural resource is forest and its products such as bush meat, snail, mushroom, and honey due to Okomu oil palm and rubber development. The community is blessed with a river which is partially tapped for fishing and domestic water source.

6 Udo Community

Udo is an ancient town that has existed for many centuries. According to oral traditional account, a man named Okpe came from Nupe met a woman named Oye during the Biblical era of the Tower of Babel building and so got married after confusion in language. They migrated to Udo and settled because of the fertility of the land. They had six (6) children, five males and one female. The community is about 5 km² in-dwelling with eighteen (18) quarters.

- i.) *Demography:*** The present estimated population of Udo obtained from community sources is about 20,000 persons made up of 8,000 males and 12,000 females. The in-migration is more than out-migration principally due to the presence of OOPC and its associated opportunities.

ii.) Settlement Pattern and Housing

The topography of the settlement is generally moderate slope with a combination of linear and nuclear settlement patterns. All the buildings in the community are zinc roofed, while 80% of the building are block/cemented houses.

iii.) Social Composition

Udo is 80% an indigenous community; the remaining 20% of members of the community are made up of people from other ethnic origin across the country. It has not less than eleven (11) churches of various denominations, two (2) mosques, while there is one public cemetery located at the southern part of the community. The community is made up of over 50% Christians, 10% Muslim and less than 40% African Traditional Religion (ATR) adherents. There are seven (7) shrines and one of them is specifically for women called Aivbomero.

The Udo people speak Bini language and Pidgin English. The time of day and different occasions such as wedding, burial etc attract different greetings. The formal greeting of “Good Morning”, “Good Afternoon” and “Good Evening” translates to “Obowie”, “Obavan” and “Obota” respectively.

iv.) Social Amenities

Udo being an ancient town has a good provision of social amenities by both the external and internal stakeholders (Government, OOPC and community inclusive) as shown in Table 6.21. According to Chief Francis Iyama JP, the second in command in Udo community said “Okomu has been good to the community”.

Table 6.21: Udo Community Social Projects- Infrastructures

S/No.	Amenities/Projects	Source / Provider	Estimated Beneficiaries	Date Completed	Status	Remarks
1	Ezoti & Emokpae Primary school N06° 28' 41.9"; E05° 21' 24.7" Elevation 126m	Edo State	Whole community	1925	Functional	Sanitary pavilion provided by OOPC
	1 block of 3 classrooms for Ezoti primary school	SUBEB-Edo State Govt		2013/14	Functional	
	2 blocks of 3 classrooms each	Ovia West LGA		2011	Functional	1 for Ezoti & 1 for Emokpae
	2 blocks of 3 classrooms each	Hon. Aghedo		2016	Un-going	
2	Udo Primary school N06° 28' 32.7"; E05° 21' 02.3" Elevation 97m	Mid-Western Government	Whole community	1955	Functional	Sanitary pavilion and borehole provided by OOPC in 2013
3	Udo Mixed Secondary School N06° 28' 54.9"; E05° 21' 34.0" Elevation 106m	Bendel State Government	Whole community	1979	Functional	Library, Sanitary pavilion, and borehole provided by OOPC
4	Primary Health Centre N06° 28' 51.0"; E05° 22' 11.9" Elevation 100m	LGA	Whole community	1970s	Functional	
5	UBTH N06° 28' 22.3"; E05° 21' 14.6" Elevation 103m	FGN	Whole community	1985	Functional	
6	Market: 100 open stalls 1 block of open stall N06° 28' 34.4"; E05° 21' 12.3" Elevation 102m	LGA OOPC	Women and traders	1970s 2013	Functional	The market is as old as the community
7	Electricity with three Transformers	FGN	Whole community	1992	Functional	
8	Okomu National Park N06° 28' 28.9"; E05° 21' 59.7" Elevation 110m	FGN	Whole Nation		Intact	Its research building provided by Okomu
9	Telecommunication Masts	GLO MTN	Entire community and neighborhood	2002 2006	Functional	
10	Police Station	FGN	„		Functional	
11	Borehole with treatment plant	State government	Whole community	2011		
12	Borehole with Generator	FGN	„	2014		

13	Borehole with Generator	LGA	„	2000		
14	Borehole	OOPC	„	2003		
15	Udo lorry park with borehole		Drivers and commuters			
16	Generator house with big generator set	OOPC	Whole community	2013		



Plate 6.5: Renovated block of Emokpae Primary School, Udo



Plate 6.6: A block of classrooms built by Okomu at Secondary School, Udo

v.) Education

There are functional public primary and secondary schools in Udo apart from private schools, thereby promoting attainment of qualitative education. Therefore, Sustainable Development Goals (SDGs) especially SDG 4 that is, ensure inclusive and equitable quality education and promote lifelong learning opportunities for all is being achieved in the community.

vi.) Health

There are functional primary health centre and University of Benin Teaching Hospital (UBTH) branch at Udo promoting access to qualitative health care. Therefore, the SDG 3 that is, ensure healthy lives and promote well-being for all at all ages, is being met in the community. The community has access to portable water provided by many stakeholders including OOPC borehole. The other health related issues are summarized in Table 6.22.

Table 6.22: Udo Health and Related Issues

Issue	Subject	Objective Analysis
Health	• Level of health	Average
	• Access to clean water	Good
	• Access to latrine	Fair
	• Hygiene behavior	Fair

vii.) *Agriculture and Household Nutrition*

The farming systems in the community are moving from traditional subsistence farming to crop farming. They are characterized by farm holdings of greater than one hectare per household. Oil Palm is the main cash crop grown by the community, and this is followed by Cassava. Other crops grown for commercial purpose are plantain and Cocoa.

viii.) *Livelihood and Natural Resource Use*

The traditional occupation of the people of Udo is farming, which is the mainstay of the community's economy and the largest employer of labour with almost 70% engagement. Hunting ranks next to farming with 10% engagement. These means of livelihoods are practiced alongside with other gainful non-traditional economic activities such as trading, civil service, fashion designing and artisans.

The rich and well tapped natural resource is the fertile land being used predominantly for oil palm production apart from arable food crops such as cassava. The rich but hardly tapped natural resource is the abundant forest reserve such as the National Park.

6.7.7 Social Impact Assessment (SIA) Results

The results of the identification of social issues through participatory processes with stakeholders indicated that there are at least four (4) issues in the context of residents and three (3) social risks that are of concern and can possibly have an impact on the corporate social responsibility of OOPC. In addition, there are three (3) conditions that are inherent in nature. Conditions that are defined as inherent are pre-existing conditions that happen, not in relation to the company's presence; but have an impact on the community. These issues are presented in Table 6.23 and Table 6.24.

Table 6.23: Social Issues Identified Through the Participatory Processes

S/No.	Category	S/N	Social Issues	Remarks
1.	The presence and corporate awareness of OOPC	1	OOPC either directly or through their CLOs have a fairly well-established communications with the local government and local communities.	This is line with RSPO criterion 6.2 which OOPC effectively upholding
		2	OOPC CLOs have met the communities many times as part of their awareness campaign to inform communities of the plan for Extension One oil palm plantation expansion in the area	
2.	Changes in land use by the allocation of the land for oil palm and rubber plantations	3	All this while, Communities / camps land in Extension One has been used for cocoa and plantain production as well as local timber sources for the firewood and light construction. Hence, planting of oil palm and rubber on this land further deplete these cash crops/natural resources.	
3.	The role and contribution of the company to the local development	4	Local people have benefited from the Corporate Social Responsibility of OOPC in no small measure whether human capital development as well as infrastructural projects to certain extent. This includes yearly grading of untarred roads, sanitary pavilions, market stalls and blocks of classrooms as well as skill acquisition for youths, textbooks for pupils and students and bursary for tertiary students	Even without formal SIA, OOPC has not violated RSPO criterion 6.1

Table 6.24: Social Risks and Local Given Situation to OOPC at Extension One Estate

S/No.	Category		Issues	Remarks
	Social risks	1	There is still no agreement among communities on the issue of inter-community boundary causing some camps/tenants paying homage to two communities especially Bisi and Adeola camps.	
		2	Part of the land within the location permit has already been established with cocoa and food crop farmland.	
		3	Customary ceremonies are still being practiced during time of birth ritual, marriage ritual and death ritual though the essence is not as strong as before.	
	Given issues	1	Generally, some communities still use rivers for bathing, washing and waste disposal. Another common source of water is rainwater and few boreholes especially in landlord communities.	
		2	There are five clinics in all assessed communities but there are no trained midwives to man some of these clinics except UBTH branch at Udo community. Most communities still resorted to traditional healer to serve them on health matter.	

6.7.8 Cross Cutting Socioeconomic Issues and Challenges

The assessed communities of the main estate have certain socioeconomic issues and challenges in common as presented in Table 6.25 below.

Table 6.25: Cross Cutting Socioeconomic/Social Issues and Challenges in the Communities

Ranks of Major Constraints	Major Constraints		Constraint Subset	Priority Ranking Subset	Comments
Rank 1	Socio-Economic Infrastructural Limitations	i	Electricity	Very High	<ul style="list-style-type: none"> Only Udo has functional electricity connected to the national grid. Gbole-Uba has electricity project through community effort. Madagbayo electricity project and Safarogbo NDDC industrial plant remain uncompleted, while Ofunama rural electrification not functioning since 2002. Also, Maroghionba generator installed by OOPC 2013 needs rewiring.
		ii.	Health	Most important	<ul style="list-style-type: none"> The functional health centres in Ofunama and Madagbayo need staffing, equipment and drugs. Udo UBTH branch is functional as well as primary health centre there. The health centre at Safarogbo remains uncompleted.
		ii	Water	important	<ul style="list-style-type: none"> Seven out of the nine camps depend on rivers and streams for their domestic needs. Makilolo likewise has no access to portable water.
		iii	Education	Important	<ul style="list-style-type: none"> In spite of laudable support of Okomu to most schools in all the landlord communities, absence of qualified teachers remains the bane to qualitative education. Chief Enoch Sulubor of Gbelebu said “Government has failed in sending teachers to our schools”
Rank 2	Economic and Social Insecurity	i	Unemployment/Underemployment	Very High	<p>-Mostly among youths leading to youth restiveness / cults activity and engagement in criminal acts as recorded in Etoh (one of Gbelebu camps) leading to the loss of one youth during the SIA exercise.</p> <p>According to Chief Francis Iyama (Second in command Udo community) “<i>The number of job opportunities in OOPC is fast reducing. Services/work is being contracted</i>”</p>

					<i>out and there is fear that this might cause problem in future”</i>
		ii	Poverty	High	Attendant with its full social implication of hunger, moral decadence, violence etc.
Rank 3	Institutional Incapacities	i	Conflict resolution	Moderate	<p>-Extension One communities and camps complained that Okomu security guards are not friendly. Youths of Bisi camp said “<i>Okomu security guards denied us ease access in and out of our community through the shortest route to market to dispose our farm produce</i>”</p> <p>-Gbole-Uba said “<i>OOPC is using divide and rule technique by dealing with their tenants neglecting them during compensation for Extension One</i>”. During the FGD, the men and women said “<i>No compensation was given for our crops because we refused to remove our crop as instructed by Okomu because it’s against our tradition to remove immature crops</i>”</p>
Rank 4	Environmental Insecurity	i	Erosion and flooding	Envisaged to be high in extension1 communities	<p>-Due to the establishment of Extension One, Gbole-Uba community complained about serious erosion in the river affecting fishing activity leading to scarcity of fish and crabs. They thought that the Extension One operation might affect the source and watersheds of most of the streams and rivers in the area.</p> <p>-There is complaint of gully erosion even in Gbelebu community.</p>

6.7.9 Summary of Socioeconomic & SIA

Based on the findings, the operation of Okomu Oil Palm Company Plc Main estate shows generally positive social consequences mostly in the assessed communities. However, there are considerable adverse social impacts enumerated by community stakeholders and perceived by the study team, which require urgent attention and mitigation measures in order for Okomu Oil Palm Company Plc to achieve continuous social and harmony with the communities in the project area.

The following management and mitigation measures are proposed for adoption and implementation to address the significant potential social and environmental impacts to make the project socially acceptable and beneficial:

- Reduction of displacement of communities and people.
- Preservation of community farmlands.
- Water resources protection measures.
- Fire prevention programmes and zero or controlled burning.
- Corporate social services to communities should be intensified and be extended to camps.
- Okomu should encourage and guide each community/camp to produce bottom up 5 years community development plan (CDP) or framework.
- Public and occupational safety and health measures.
- Provision of healthcare services and HIV prevention.

6.8 Conclusion

Economic growth and prosperity are central to long-term poverty alleviation for social and environmental sustainability. The Okomu Oil Palm Company Plc's oil palm and rubber operations represent one of the most effective avenues for poverty alleviation in all the assessed communities, provided adequate and prompt mitigation measures against experienced/envisaged adverse social impacts are implemented. The project has been and also has the prospects of providing employment for thousands of unskilled and semi-skilled people, but this can only be achieved when Okomu Oil Palm Company Plc sustains the present social security already in existence in its area of operations.

CHAPTER SEVEN

7.0 Summary of Audit Findings and Recommendation

Table 7.1: Summary of Audit Findings and Recommendations

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 departments.	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 Development Agenda.
	Compliance with the Environmental Impact Assessment and Environmental Audit	Annual environmental audit reports EIA reports for new projects EMPs	The company has been in existence before the enactment of EIA Act of 1992. Annual environmental audit reports have been regularly submitted to both Federal Controller's office and Edo State Ministry of Environment and Sustainability in Benin City.	Develop a robust environmental management plan (EMP) covering all areas of company's operations.
	Housekeeping and Sanitation	Health, Safety and Environment (HSE) department in place	Housekeeping is fairly good at workplaces and has also improved at labour line quarters but poor at rubber estate.	<ul style="list-style-type: none"> - Items should be arranged properly at labour line quarters and rubber estate quarters. - Emphasize good housekeeping and sanitation during monthly sanitation exercise.
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 but acidic with pH ranges from 4.13 to 5.56 which is below the FMEnv and WHO (2004) drinking water guideline of pH 5.55-7.07.	The pH of borehole water should be raised to acceptable standards for drinking water quality (6.5-8.5) as recommended by WHO/FMEnv. Sustain the quarterly water quality monitoring on the estate.

	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. Sorting is done at the point of waste generation and at the solid waste dumpsite.	Always ensure that the solid waste dumpsite is under lock at all time.
		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.	The Waste Manifest should be up to date.
	Air pollution control measures	Initiatives to reduce Air pollution	Aside the fact that the air quality is being carried out at critical work areas on quarterly basis. the ambient air quality was also determined in-situ for critical locations during the assessment and the result shows that the concentrations of gases and particulate matter monitored were within the FMEEnv. 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	A plan to save energy is yet to be put in place.	Historical trend of energy consumption will seem to have been established as indicated in the drop in energy consumption over the last 3 years. Ensure continuous improvement.
		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.

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 (about 756.98 hectares) has been established within the plantation field. The company security apparatus in conjunction with an HSE officer designate protect the conservation areas against internal and external threats.	This practice should be sustained
	Environmental restoration	Degraded lands secured, restored and conserved	No degraded lands on the estate	No Action Required

7.1 Compliance with Legislation

7.1.1 HSE Department

A full fledged 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.

7.1.2 Submission of Records and Reports to Regulatory Bodies

The company has been submitting most of the reports and information such as environmental compliance monitoring reports (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.

7.1.3 Environmental and Other Policies

The company has developed a well written environmental and other policies. It is recommended that the company abides with the contents of the policy in its operations at all time.

7.1.4 Permits/Licenses/Approvals

Most permits, certificates and licenses have been obtained but their validity will soon expire. It is recommended that, all statutory documents be revalidated.

7.2 Environment

7.2.1 General Housekeeping and Sanitation

Housekeeping is fairly good across board but very poor at rubber estate. The estate is dirty with clothes and junks displayed indiscriminately. It is recommended to:

- ❖ Intensify good housekeeping among dwellers of this estate.
- ❖ Introduce measures to make the residents comply with any guidelines in place to making the environment look decent.

7.2.2 Solid Waste Dumpsite

The operation of the present solid waste dumpsite 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.

7.3 Pollution

Considerable provisions have been made to prevent pollution particularly noise pollution at the mill and rubber factory. It is recommended that additional provisions be made to prevent and abate the effect of pollution at other critical workplaces such as the filling station and the powerhouse.

7.3.1 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.

7.3.2 Ambient Air Quality

The in-situ determination of the gases showed that, all gaseous emissions including Suspended Particulate Matters (SPM) were within the FMENV set limits. However, it is recommended that workers inside the powerhouse, mill, rubber factory, agrochemical stores, agrochemical sprayers and filling station always use appropriate PPE especially the Nose Mask/Respirator.

7.3.3 Noise Level Measurements

The noise levels at different locations to the mill and rubber factory and other critical workplaces range from 63.2 dB(A) – 98.8 dB(A). These noise levels are within permissible limits of 90 dB(A) for 8-hours exposure except at the palm oil mill (cracking section and sterilizer area). It is recommended that workers at these locations always wear earmuffs and also routine checks be done to monitor noise levels at critical operations, especially after repairs or maintenance.

7.3.4 Energy

It is important to always monitor the energy consumption and ensure that energy consumption is efficient in relation to the size of operation. It is recommended to monitor 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.

7.3.5 Fuel Station

The arrangement and operation of the fuel station are fairly good but needs improvement which should include:

- Training of operators and attendants on fuel dispensing techniques to minimize spillage.
- Processing and obtaining the Department of Petroleum Resources (DPR) License to cover the operation of the filling station.

7.4 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 to make it effective.

7.5 Health

7.5.1 First Aid Arrangement

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

7.6 Workplace Safety

7.6.1 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.

7.6.2 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 to avoid reoccurrence.

7.6.3 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 strictly work procedures.

7.7 Safety Data Sheets (SDSs)

It is recommended to obtain SDSs for all hazardous chemicals in use and train workers on its content.

7.8 Fire Prevention and Control

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

7.9 Work Procedure

Work procedures have been written for most operations but are not displayed except at the mill and rubber factory. It is recommended that work procedures be displayed for all tasks and jobs at all workplaces.

7.10 Risks/Hazards Analysis

A comprehensive risk assessment and analysis of tasks and jobs have been done. However, the analysis should be reviewed regularly. It is also recommended to ensure that all response/control measures are very well established and functional.

7.11 Training, Communication and Reporting

The existing training and education arrangement appears good (*see Appendix E*). It is recommended to establish an in-house training structure with documented curriculum that can be reviewed regularly, and this should cut across most workplaces.

7.12 Signage

There is quite a number of signage on the plantation estates especially on major roads. It is recommended workers are educated on the importance of signage especially the message, interpretation, and compliance.

7.13 Welfare

The following recommendations are made on workers welfare:

- Provide adequate lockers for mill/rubber factory and workshop workers.
- Provide PPE for all workers.
- Make PPE a condition of work — No PPE, No work
- Repair all damaged septic tanks across board.

7.14 Industrial Labour Relations

The industrial labour relations of the company are good enough, and it is recommended to improve on it. Although harmful child labour is non-existence and there is a policy forbidden 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.

7.15 Corporate Social Responsibility

The CSR of the company would seem to be 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 EIGHT

8.0 Follow-Up Environmental Action Plans (EAPs) – 2021

Table 8.1: Follow-Up Environmental Action Plans (EAPs) – 2021

ISSUE/RECOMMENDATION	PRIORITY	FORMER TARGET	REMARKS	
			STATUS	NEW TARGET
Compliance with Legislation				
Submit all records relating to environment to Regulatory Bodies.	High	Continuous	On-going	Continuous
Release Company's HSE manual.	High	March 2019	Not Done	March 2022
Review and update status of Permits, Certificates, Licenses, etc.	High	Continuous	On-going	Regularly
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	June 2018	On-going	On-going
Waste Treatment				
Obtain statutory permit for waste treatment facilities.	High	On-going	On-going	Regularly
Pollution				
Repair all damaged septic tanks across board	High	Sept 2018	On-going	Continuously
Work Procedure				
Display work procedure for every job and task.	Medium	June 2018	Not Done	June 2021
Enforce the use of seat belts by drivers in the estates.	High	June 2018	On-going	Always

Follow-Up Environmental Action Plans (EAPs) - 2021 Cont'd

ISSUE/RECOMMENDATION	PRIORITY	FORMER TARGET	REMARKS	
			STATUS	NEW TARGET
Workplace Safety Safety education be included in encouraging the use of PPE by workers. Provide maintenance ladder and safety provisions for communication masts. Prepare HSE manual to guide workers on health and safety.	High High High	On-going December 2018 July 2015	 On-going Not Done	On-going Always March 2022
Energy Set target to achieve efficient energy use. Establish energy conservation policy for all workplaces	Medium Medium	January 2019 December 2018	Continuous On-going	December 2021 December 2021
Health Establish and document procedure for First Aid treatment. The schedule of veterinary care for the animals at the Main Estate should be developed. Provide changing room for staff club house workers	High High High	July 2018 July 2018 Sept 2018	On-going Not Done Not Done	December 2021 September 2021 December 2021
Plantation Management Periodically evaluate plantation water consumption rate	High			Periodically
Mill and Rubber Factory Operating/Monitoring Standards Set targets for reducing mill and rubber factory water consumption	High	Continuous	Continuous	Continuous
Wastewater Treatment Monitor on monthly basis the effluent quality from POME lagoon and rubber effluent. Consider using POME to produce green energy (biogas) for electricity generation	High High			Monthly As Soon As Possible

Follow-Up Environmental Action Plans (EAPs) - 2021 Cont'd

ISSUE/RECOMMENDATION	PRIORITY	FORMER TARGET	REMARKS	
			STATUS	NEW TARGET
Housekeeping and Sanitation				
Replace all damaged waste storage bins across board.	High	On-going	On-going	Continuously
Eliminate all unauthorized refuse dumps at workplaces and residences.	High	On-going	On-going	Continuously
Remove all unauthorized attachments to buildings at Labour Line.	High	Sept 2018	On-going	Continuously
Prepare Emergency Response/Contingency Plan for damaged septic tanks.	High	Sept 2018	Not Done	September 2021
Remove all attachments to residential buildings at the rubber factory quarters.	High	Sept 2018	Not Done	July 2021
Abolish cooking on the corridor at Labour Line.	Medium	July 2018	Not Done	July 2021
Arrange properly items including drums at powerhouses.	High	Continuous	On-going	Continuously
Provide toilet for the Mill and Rubber Factory Canteens	High	March 2019	On-going	September 2021
Cut the overgrown weeds around the rubber effluent pond.	High			Regularly
Discourage the use of residential buildings for commercial purposes on the estate.	Medium			July 2021
Abolish the practice of hanging unused clothes (rags) around the quarters' building.	Medium			September 2021

Follow-Up Environmental Action Plans (EAPs) - 2021 Cont'd

ISSUE/RECOMMENDATION	PRIORITY	FORMER TARGET	REMARKS	
			STATUS	NEW TARGET
Training Communication and Reporting				
Establish and document curriculum for formal training.	Medium	December 2018	On-going	July 2022
Run induction courses to cover fire safety, First Aid and Environmental Policy.	Medium	Continuous	On-going	Immediately
Signage				
Produce more signage and educate workers on understanding and compliance.	High			July 2021
Produce and erect safety warnings at and along POME Lagoon and Rubber effluent ponds.	High			July 2021
Produce and display safety education, instruction, and warning signage at workplaces.	High			September 2021
Produce and display more specific safety signage at the workshop, mill and rubber factory.	High			September 2021
Constantly maintain all the muster points and should be devoid of any obstruction	High			Continuously
Community Development				
Ensure records are maintained on all communications with the public, especially local communities.	High	Continuously	On-going	Continuous
Industrial Labour Relation				
Forbid workers from taking underage children to help them in plantation work.	High	Immediately	On-going	Continuously

8.1 Environmental Management System (EMS) and Monitoring Plan

The company has put in place an effective Environmental Management system (EMS) to ensure consistent functioning of the estate. The EMS includes the following:

- An Environmental management committee.
- Environmental Monitoring.
- Personnel Training.
- Regular Environmental audits and Correction measures.
- Documentation–Standards Operation Procedures, Environmental Management Plan and other records.

8.2 Health, Safety and Environment (HSE Department/HSE Committee)

Apart from having an Environmental Management Plan, the company also has a permanent organizational set up charged with the task of ensuring its effective implementation of mitigation measures and to conduct environmental monitoring. The major duties and responsibilities of HSE department with HSE Committee are as given below:

- To implement the environmental management plan.
- To assure regulatory compliance with all relevant rules and regulations.
- To ensure regular operation and maintenance of pollution control devices.
- To minimize environmental impact of operations as by strict adherence to the EMP.
- To initiate environmental monitoring as per approved schedule.
- Review and interpretation of monitored results and corrective measures in case monitored results are above the specified limit.
- Maintain documentation of good environmental practices and applicable environmental laws for reference.
- Maintain environmental related records.
- Coordination with regulatory agencies and external consultants
- Maintenance of log of public complaints and the action taken.

8.3 Environmental Monitoring Programme

An environmental monitoring programme is required to set out the means to determine whether or not the project operates in line with the environmental quality standards established by the FMEEnv. For this project, the monitoring programme covers a number of parameters including meteorology, ambient air quality, surface water quality, groundwater quality, effluent quality and noise levels. The monitoring programme is scheduled in Table 8.1 below.

Table 8.2: Proposed Schedule of Environmental Monitoring

Parameter	Variables	Period
Meteorology	Rainfall, temperatures and relative humidity, Wind Speed and Wind direction, Sunshine Hours	Daily
Surface water quality	pH, Sediment load, NO ₃ , Heavy metals, Oil and Grease	Quarterly
Groundwater quality	pH, BOD, COD, microbiology	Quarterly
Ambient Air Quality	CO ₂ , CO, NO _x , SO _x , VOC, Particulates	Quarterly
Noise Levels	Noise generating Facilities	Quarterly
Health	Occupational diseases and/or medical statistics	6 Months

Table 8.3: General Environmental Management Plan for Okomu Oil Palm Company Plc Activities and Operations

Identified Impact	Action that shall Be taken	Responsibility for Mitigating Action	Non-Compliance Indices	Timing & Frequency
Accidents from heavy machinery movement	a) Operators must wear PPE b) Traffic control into/out of site.	Agric/HSE Departments	Influx of machine and material movement into the site	Daily, Duration of site preparation and.
Siltation of Rivers	Creation of buffer Zone of about 100m along riverbanks	Agric/HSE departments	Non-compliance and poor plantation maintenance practices	Throughout project life span.
Water/Land Pollution from plantation maintenance.	a) Creation of buffer zone of about 100m along riverbanks.	Agric/HSE departments	Non-compliance and poor plantation maintenance practices	Throughout project life span.
Particulate emissions to the atmosphere from all point operation sources.	Particulates emission from generators shall be monitored fortnightly	HSE department	Particulates in smoke	During operation fortnightly
Disruption of natural environment along the water course.	Non application of hazardous substances to the field 100m from the buffer zone	Agric/HSE departments	Non-compliance and poor plantation maintenance practices	During operation.
Water quality and other aquatic impacts.	Quarterly analysis of borehole water and surface river.	Agric/HSE departments	Drinking water parameters such as physico-chemicals, heavy metals, and microbiological parameters.	Quarterly analysis during operations
Noise and Vibration	Site noise shall be minimized by implementing good working practices, installing acoustic mufflers in large machines. Equipment shall be maintained in good order.	Workshop/HSE departments	Excess of 90dB(A) levels at all workplaces and the powerhouse	Quarterly measurement and when desirable
Occupational Health effects on workers	The Company shall develop & implement its Occupational Health and Safety Policy to address hazards to workers	HSE Committee/HSE department	Non-compliance and poor housekeeping practices	Daily
Fire Hazards inside the plantation	Creation of fire belt along the plantation boundaries and constitution of fire surveillance team.	Agric/HSE departments	Burning activity around adjoining farms	Especially during dry season

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Annexure I
Terms of Reference (ToR)

OBJECTIVES OF ENVIRONMENTAL AUDIT

The main objective of the EAu 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 environmental audit 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 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 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 EAu 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 timeline.

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
Laboratory Analysis Results of Borehole and
Surface Water Samples

Analyst's Certificate

No: 2012111

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

Name of Sample:	Groundwater Quality	Project:	Main Estate 2020 Environmental Audit
Client:	Foremost Development Services Limited, Akute.		
	For: OKOMU Nig. PLC Benin City, Edo State.		
Submission Date:	11 December, 2020	Lab No.:	EL/W/2012/32358-32363

Methodology:

Sample of water collected from the site were analyzed using Standard methods for the examination of water and wastewater (APHA, 23rd edition) and HACH methods of analysis of water (12th edition). The parameters examined are as contained in the result Table.

Sampling Locations

S/N	Code	Description of location	Coordinates	
1	OKM _{RQ}	Rubber Estate Quarters	N06 ⁰ 21' 30.0"	E005 ⁰ 11'18.0
2	OKM _{LL}	Labour line Quarters	N06 ⁰ 24' 38.7"	E005 ⁰ 15'75.6
3	OKM _{MQ}	Management Quarters	N06 ⁰ 24' 36.4"	E005 ⁰ 16'25.1
4	OKM _{EXTQ}	Extension one Quarters	N06 ⁰ 22' 22.2"	E005 ⁰ 22'53.2
5	OKM _{IITA}	IITA Quarters	N06 ⁰ 24' 52.1"	E005 ⁰ 12'54.4
6	OKM _{MC}	Mill Complex	N06 ⁰ 24' 19.9"	E005 ⁰ 14'11.0

Result of Analysis

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

Comment

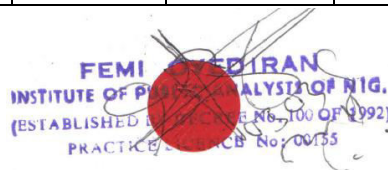
The pH of half of the samples was slightly lower than the limit. All other parameters for the samples conformed to the standard.

I, the undersigned Public Analyst, OYEDIRAN, L.O. (IPAN NO. 00155[®]), make this certification, as witnessed my hand this 21st day of December, 2020.

FEMI OYEDIRAN
INSTITUTE OF PUBLIC ANALYSTS OF NIG.
(ESTABLISHED BY DECREE NO. 100 OF 1992)
PRACTICE LICENSE No: 00155

TABLE 1: GROUNDWATER SAMPLE

PARAMETER/UNIT		NIS554: 2017	OKM _{RQ}	OKM _{LL}	OKM _{MQ}	OKM _{EXTQ}	OKM _{ITA}	OKM _{MC}
Appearance		Clear & colourless	Clear & colourless	Clear & colourless	Clear & colourless	Clear & colourless	Colourless with particles	Colourless with particles
pH @26.2°C		6.5-8.5	6.21	5.63	5.55	6.04	5.78	7.07
Temperature, °C		Ambient	29.8	28.8	26.8	28.0	26.8	28.6
Conductivity, µS/cm		1000	18.49	16.76	19.46	20.5	24.9	16.74
Colour, Pt-Co		15	3	3	3	<1	1	2
Turbidity, NTU		5	0.2	0.2	0.2	0.5	0.2	3
Total Solids, mg/L		-	10.2	9.4	10.7	11.3	17.3	14.4
Total Dissolved solids, mg/L		500	9.24	8.38	9.73	10.3	12.3	8.36
Total Suspended Solids, mg/L		-	1	1	1	1	5	6
Total Hardness, mg/L		150	4	4	4	7.3	7.4	7.3
Total Alkalinity, mg/L		-	20	10	20	20	20	20
Total acidity, mg/L		-	40	40	20	20	20	20
Calcium, mg/L		-	1	1	1	1.6	1.6	1.6
Magnesium, mg/L		20	0.37	0.37	0.37	0.8	0.8	0.8
Chloride, mg/L		250	1.6	1.7	1.8	1.8	1.8	1.8
Nitrate, mg/L		50	<0.1	0.1	<0.1	0.3	0.1	0.2
Nitrite, mg/L		0.2	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Sulphate, mg/L		100	1.4	1.5	1.6	2.0	1.5	1.2
Phosphate, mg/L		-	0.06	0.02	0.03	0.02	<0.01	0.2
Iron (total), mg/L		0.3	0.02	0.02	<0.01	<0.01	<0.01	0.02
Fluoride, mg/L		1.5	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Lead, mg/L		0.01	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
Arsenic, mg/L		0.01	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
Manganese, mg/L		0.2	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
Copper, mg/L		1.0	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
Cadmium, mg/L		0.03	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
Chromium, mg/L		0.05	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
Hydrogen Sulphide, mg/L		0.05	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Total coliform count, CFU/mL		10	0	0	0	3	0	0
Faecal coliform, E.coli),	CFU/100 mL	0	0	0	0	0	0	0
Clostridium perfringens,		0	0	0	0	0	0	0
Salmonella/Shigella sp.,		0	0	0	0	0	0	0
Staphylococcus sp. ,		0	13	0	0	0	0	0
Pseudomonas aureus,		0	0	0	0	0	0	0
Fungi,		0	8	0	8	0	0	0
Total plate count,		10 ²	43	0	32	32	21	0



Analyst's Certificate

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

No: 2012114

Name of Sample:	Surface Water	Project:	Main Estate
Client:	Foremost Development Services Limited, Akute.		
	For: OKOMU Nig. Plc Benin City, Edo State.		
Submission date:	11 December, 2020	Lab No.:	EL/W/2012/32370-32375.

A. Methodology:

Sample of water collected from the site was analyzed using Standard methods for the examination of water and wastewater (APHA 23rd edition) and HACH methods of analysis of water (12th edition). The parameters examined are as contained in the result Table.

B. Sampling Locations

S/N	Code	Description	Coordinate	
1.	OKM ₃	Mgt Quarter Stream Outlet	N06°22'50.0"	E005°15'40.9"
2.	OKM ₅	Oil Mill Stream Outlet	N06°22'34.9"	E005°14'20.3"
3.	OKM ₇	Palm/Rubber Boundary Stream Outlet	N06°20'19.1"	E005°11'23.3"
4.	OKM ₉	Stream 4 [Outlet] [Not accessible]	N06°22'43.1"	E005°09'02.9"
5.	OKM ₁	Okomu River –Inlet	N06°23'14.6"	E005°21'34.8"
6.	OKM ₁₁	Madoti Stream Outlet	N06°22'42.1"	E005°09'02.8"
7.	OKM _{ARKH3}	Arakhuan Stream Outlet	N06°18'29.7"	E005°22'4.06"

C. Result of Analysis

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

• Comments:

The quality of the samples conformed to the standard.

I, the undersigned Public Analyst, OYEDIRAN, L.O. (IPAN NO. 00155[®]), make this certification, as witnessed my hand this 21st day of December, 2020.

FEMI OYEDIRAN
INSTITUTE OF PUBLIC ANALYSTS OF NIG.
(ESTABLISHED BY DECREE NO. 100 OF 1992)
PRACTICE NO. 00155

Table 1: Result of analysis of water samples

PARAMETER/UNIT	METHOD APHA, 23 Ed	FME _{env} .	OKM ₃	OKM ₅	OKM ₇	OKM ₁	OKM ₁₁	OKM _{ARKH3}
Appearance	Visual	Clear & colourless	Turbid with Particles					
pH	4500-B	6-9	6.24	6.28	6.13	6.34	6.40	6.25
Temperature, °C	2550-B	Ambient	26.0	26.0	26.9	26.3	27.1	27.3
Conductivity, µS/cm	2510-B	2000	18.30	16.88	14.84	14.58	13.89	13.52
Colour, Pt-Co	2120-C	7.0	6	29	8	45	35	62
Turbidity, NTU	2130-B	10	1.2	3	1	3	2	4
Total Solids, mg/L	2540-B	-	44.2	39.4	11.9	12.3	43.9	43.3
Total Dissolved solids, mg/L	2540-C	1000	9.16	8.44	6.90	7.25	6.92	7.28
Total Suspended Solids, mg/L	2540-D	30	35	31	5	5	37	36
Total Alkalinity, mg/L	2320-B	-	20	20	20	20	20	20
Total acidity, mg/L	2310-B	-	20	20	20	20	20	20
Total Hardness, mg/L	2340-C	-	7	7	4	7	6	6
Calcium, mg/L as Ca	3500-B	-	1.6	1.2	1.3	1.6	1.2	1.4
Magnesium, mg/L as Mg	3500-B	-	0.8	1	0.23	0.8	0.8	0.5
Salinity as Chloride, mg/L	4500-B	200	1.8	1.0	1.0	1.0	0.8	0.8
Nitrate, mg/L	4500-NO ₃ -B	50	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Nitrite, mg/L	4500-NO ₂ -B	0.3	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Sulphate, mg/L	4500-E	250	1.3	1.3	2.1	3.0	3.0	1.0
Phosphate, mg/L	4500-C	-	0.4	0.5	0.4	0.5	0.6	0.5
Iron (total), mg/L	3500-B	20	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Lead, mg/L	3500 -Pb-B	<1.0	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
Copper, mg/L	3500 -Cu-B	<1.0	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
Manganese, mg/L	3500 -Mn-B	0.10	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
Cadmium, mg/L	3500 -Cd-B	<1.0	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Nickel, mg/L	3500 -Ni-B	<1.0	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Cobalt, mg/L	3500 -Co-B	<1.0	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Arsenic, mg/L	3500 -As-B	<1.0	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Chemical Oxygen Demand, mg/L	5220-D	80	10.9	9.3	7.9	<1	<1	5.9
Biochem. Oxygen Demand, mg/L	5210-B	30	4	<1	2	<1	<1	<1
Dissolved Oxygen, mg/L	4500-G	>2.0	7.9	8.0	7.5	7.2	8.0	6.8
Total Hydrocarbon, mg/L	Spec.		<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Pesticides, mg/L	Screening		<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Total coliform count, MPN/mL	9225-D	10 ²	4	2	0	2	1	5
Faecal coliform, E.coli; CFU/mL	9222-D	-	1	0	0	0	0	2
Total plate count, CFU/mL	9215-B	10 ⁴	108	12	6	48	20	160

Analyst's Certificate

No:2012112

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

Name of Sample:	Monitoring well	Project: Main Estate
Client:	Foremost Development Services Limited, Akute, Lagos state. For: OKOMU Nig. Plc Benin City, Edo State.	
Submission Date:	11 December, 2020	Lab No.: EL/W/2012/32364-32365

Methodology:

Sample of water collected from the site were analyzed using Standard methods of water and wastewater analysis (APHA, 23rd edition) and HACH methods of analysis of water (12th edition). The parameters examined are as contained in the result Table.

Sampling Location

S/N	Code	Description of Location	Coordinates	
			N	E
1	OKM _{REMW}	Rubber Effluent Monitoring Well	N06°21'37.7"	E005°11'29.8"
2	OKM _{MEMW}	Mill Effluent Monitoring Well	N06°24'15.8"	E005°12'43.4"

Result of Analysis

The result of analysis conducted on the sample is presented in Table 1.

Comments

The colour, turbidity and total suspended solids differ from the standard. All other parameters had results that were within their respective limits.

I, the undersigned Public Analyst, OYEDIRAN, L.O. (IPAN NO. 00155[®]), make this certification, as witnessed my hand this 21st day of December, 2020.

FEMI OYEDIRAN
 INSTITUTE OF PUBLIC ANALYSTS OF NIG.
 (ESTABLISHED BY DECREE NO. 100 OF 1992)
 PRACTICE CERTIFICATE No: 00155

Table 1: Result of analysis of water from the monitoring wells

PARAMETER/UNIT	METHOD APHA (23 Ed)	OKM _{REMW}	OKM _{MEMW}	FME Limit
Appearance	Visual	Clear	Turbid with Particles	Clear & colourless
Odour	Sensory	Unobjectionable	objectionable	Unobjectionable
pH	4500-HB	6.49	6.73	6-9
Temperature, °C	2550B	28.3	29.0	Ambient
Conductivity, µS/cm	2510-B	80.5	879	
Colour, Pt-Co	2120-C	36	950	7.0
Turbidity, NTU	2130-B	4	76	10
Total solids, mg/L	2540B	143	543	-
Total Suspended Solids, mg/L	2540-C	103	95	30
Total dissolved solids, mg/L	2540-D	40.3	448	2000
Total Hardness, mg/L	2340-C	80	140	-
Total Alkalinity, mg/L	2320-B	80	180	-
Total acidity, mg/L	2310-B	20	60	-
Calcium, mg/L as Ca	3500-B	16	32	-
Magnesium, mg/L as Mg	3500-B	9.7	14.6	-
Salinity as Chloride, mg/L	4500-B	10	70	200
Nitrate, mg/L	4500-NO ₃ ⁻ -E	1.2	3.7	50
Nitrite, mg/L	4500-NO ₂ ⁻ -B	<0.01	0.05	0.3
Sulphate, mg/L	4500-SO ₄ -E	2	5	250
Phosphate, mg/L	4500-E	1.0	1.4	-
Dissolved oxygen, mg/L	4500-OC	7.2	6.5	>2.0
Chemical oxygen demand, mg/L	5220-D	<1	25	80
Biochemical oxygen demand, mg/L	5210-B	<1	15	30
Iron (total), mg/L	3500-B	<0.01	<0.01	10
Lead, mg/L	3500 -Pb-B	<0.01	<0.01	<1.0
Copper, mg/L	3500 -Cu-B	<0.01	<0.01	<1.0
Manganese, mg/L	3500 -Mn-B	<0.01	<0.01	0.10
Cadmium, mg/L	3500 -Cd-B	<0.01	<0.01	<1.0
Nickel, mg/L	3500 -Ni-B	<0.01	<0.01	<1.0
Cobalt, mg/L	3500 -Co-B	<0.01	<0.01	<1.0
Arsenic, mg/L	3500 -As-B	<0.001	<0.001	<1.0
Oil & grease, mg/L	5520-B	<1.0	<1.0	10
Total Hydrocarbon, mg/L	6200-C	<1.0	<1.0	<0.01
Total coliform count, MPN/mL	9225-D	2	8	10 ²
Faecal coliform (E.coli), CFU/100mL	9222-D	0	0	-
Total plate count, CFU/mL	9215-B	20	80	10 ⁴



Analyst's Certificate

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

No:2012113

Name of Sample:	Effluent samples	Project:	Main Estate
Client:	Foremost Development Services Limited, Akute. For: OKOMU Nig. Plc Benin City, Edo State.		
Submission Date:	11 December, 2020	Lab No.:	EL/W/2012/32366-32369

Methodology:

Sample of water collected from the site was analyzed using Standard methods for the examination of water and wastewater (APHA 23rd edition) and HACH methods of analysis of water (12th edition). The parameters examined are as contained in the result Table.

Sampling Location

S/N	Code	Description of Location	Coordinates	
			N	E
1	OKM _{RET}	Rubber Effluent – Treated	N06°21.21.4'	E005°11.09.7'
2	OKM _{RER}	Rubber Effluent – Raw	N06°21.22.9'	E005°11.04.3'
3	OKM _{PMT}	Palm Oil Mill Effluent – Treated	N06°24.15.8'	E005°12.89.5'
4	OKM _{PMR}	Palm Oil Mill Effluent – Raw	N06°24.20.7'	E005°14.07.6'

Result of Analysis

The result of analysis conducted on the sample is presented in Table 1.

Comments

The overall quality of the samples differs from the Standard though some of the parameters fell within their respective limits.

I, the undersigned Public Analyst, OYEDIRAN, L.O. (IPAN NO. 00155[®]), make this certification, as witnessed my hand this 21st day of December, 2020.

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(ESTABLISHED BY DECREE NO. 100 OF 1992)
PRACTICE CERTIFICATE No: 00155

Table 1: Result of Analysis of effluent samples from the estate.

PARAMETER/UNIT	METHOD APHA, 23Ed	FME Limit for Land Application	OKM _{REB}	OKM _{RET}	OKM _{PMT}	OKM _{PMR}
Appearance	Visual	Clear & colourless	Turbid with Particles		Black with Particles	Brown with Particles
Odour	Sensory	Unobjectionable	Objectionable			
pH @ 25°C	4500-HB	6-9	6.99	6.78	9.32	6.25
Temperature, °C	2550B	Ambient	28.9	29.1	29.0	28.5
Conductivity, µS/cm	2510-B	-	1980	1744	7490	11,420
Colour, Pt-Co	2120-C	-	>500	>500	>500	>500
Turbidity, NTU	2130-B	10	109	90	230	>800
Total solids, mg/L	2540B	-	1172	980	4274	7673
Total dissolved solids, mg/L	2540-D	2000	975	853	4040	5824
Total Suspended Solids, mg/L	2540-C	-	197	127	234	1849
Total Alkalinity, mg/L	2320-B	-	780	600	2700	625
Total acidity, mg/L	2310-B	-	100	100	100	4,750
Total Hardness, mg/L	2340-C	-	160	80	1400	800
Calcium, mg/L as Ca	3500-B	-	32	16	400	160
Magnesium, mg/L [Mg]	3500-B	-	19	10	97	97
Salinity as Chloride, mg/L	4500-B	200	30	90	1702	3,829
Nitrate, mg/L	4500-NO ₃ ⁻ -E	-	7.5	3.2	4.5	7.9
Nitrite, mg/L	4500-NO ₂ ⁻ -B	0.3	0.03	0.01	0.02	0.1
Sulphate, mg/L	4500-SO ₄ ⁻ -E	1000	7	8	126	359
Phosphate, mg/L	4500-E	10	1.3	1.0	1.1	1.3
Dissolved oxygen, mg/L	4500-OC	>2.0	<1.0	<1.0	<1.0	<1.0
Chemical oxygen demand, mg/L	5220-D	-	225	96	160	348
Biochemical oxygen demand, mg/L	5210-B	50	166	75	126	275
Iron (total), mg/L	3500-B	-	0.27	0.06	1.21	1.53
Lead, mg/L	3500-Pb-B	-	<0.01	<0.01	<0.01	<0.01
Copper, mg/L	3500-Cu-B	-	<0.01	<0.01	<0.01	<0.01
Manganese, mg/L	3500-Mn-B	-	<0.01	<0.01	<0.01	<0.01
Cadmium, mg/L	3500 -Cd-B	-	<0.01	<0.01	<0.01	<0.01
Nickel, mg/L	3500- Ni-B	-	<0.01	<0.01	<0.01	<0.01
Cobalt, mg/L	3500 -Co-B	<1.0	<0.01	<0.01	<0.01	<0.01
Arsenic, mg/L	3500- As-B	-	<0.001	<0.001	<0.001	<0.001
Oil & grease, mg/L	5520-B	20	<1.0	2.5	15.7	23.6
Total Hydrocarbon, mg/L	6200-C	<0.01	<0.01	<0.01	<0.01	<0.01
Total coliform count, CFU/mL	9225-D	10 ²	12	4	3	16
Faecal coliform (E.coli), CFU/100mL	9222-D	-	1	0	0	2
Total plate count, CFU/mL	9215-B	10 ⁴	Numerous	1.2 x 10 ²	1.8 x 10 ²	Numerous

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PRACTICE NO. 00/55

APPENDIX B

Full Results and Methodology of Ambient Air Quality & Noise Measurements

Analyst's Certificate

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

No: AQ/2012071

Name of Sample	MAIN ESTATE Air Quality
Client	Foremost Development Services Limited
	For: OKOMU Oil Palm Company PLC, Benin City, Edo State.
Sampling Date	7 December 2020
	Project: Main Estate 2020 Environmental Audit

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 Mattheson Model IQ 1000 Gas Analyzer to measure the concentration of carbon monoxide (CO), carbon dioxide (CO₂), Sulphur dioxide (SO₂), oxygen, hydrogen sulphide (H₂S) and volatile organic compounds (HNU-PID Monitor). Nitric oxide, NO_x, was determined using BWT gas alert meter. Handheld Aerosol Monitor PPM1055 was used for the measurement of suspended particulate matter while noise level was determined using digital sound level meter (Quest 2500 Sound Level Meter) within and around the facility.

Result and Comments.

The result of on-site measurements carried out on the ambient air at the facility is presented in Table 1. Table 2 contains the result of noise level assessment at critical locations.

Result of all the measurements conducted around the facility showed that:

- The ambient air quality was within the standard.
- The ambient noise level around the facility was also within the limit except the generator houses that had higher values the limit.
- The noise level at critical locations was within the limit except at Sterilizer area and Cracking section where the values slightly exceeded 90 dB(A).

I, the undersigned Public Analyst, OYEDIRAN, L.O. (IPAN NO. 00155[®]), make this certification, as witnessed my hand this 8th day of December 2020.

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PRACTICE/ACCREDITATION No: 00155

Table 1: Result of air quality measurement and noise level within the Main Estate.

Location	Main Powerhouse (1100, 1100 & 1650kVA)	Oil Mill Powerhouse 500kVA	Rubber Factory Hall	Management Quarters	FMEnv. Limit
Coordinate	N06°024.462'	N06°024.314'	N06°021'25.4"	N06°024' 364"	
	E005°015.653'	E005°014.128'	E005°011'04.6	E005°016'251"	
Elevation (m)	61	72	72		
Noise, dB(A)	94.2	101.6	70.3	42.8	90
SPM ($\mu\text{g}/\text{m}^3$)	120	140	150	120	250
Humidity (%)	90.3	91.1	75.7	85.7	Ambient
Temperature ($^{\circ}\text{C}$)	24.8	25.6	29.3	26.8	Ambient
Carbon monoxide, ppm	<1.0	<1.0	<1.0	<1.0	10-20
Carbon dioxide, %	0.60	0.56	0.38	0.36	Ambient
Hydrogen Sulphide, ppm	<0.1	<0.1	<0.1	<0.1	-
Hydrocarbon, %	<0.1	<0.1	<0.1	<0.1	-
Oxygen, %	21.0	21.0	21.0	21.0	21.0
Sulphur dioxide, ppm	<0.01	<0.01	<0.01	<0.01	0.01
Nitrogen oxides, ppm	<0.01	<0.01	<0.01	<0.01	0.04 – 0.06
VOC, ppm	<0.01	<0.01	<0.01	<0.01	

VOC = Volatile organic compounds; SPM = Suspended particulate matter.



Table 2: Result of noise quality assessment at critical areas within the Main Estate.

S/N	Location	Noise Level, dB(A)
1.	MAIN POWERHOUSE (1650, 1100kVA & 1500 kVA)	
a)	Nearest Residential Block	80.9
b)	Powerhouse office	80.1
c)	Dispensing Station	87.4
d)	Security Post	63.2
e)	Welding Unit	88.8
f)	Gas Depot	76.6
2.	OIL MILL	
a)	Workshop:	75.2
b)	Boiler	87.5
c)	Cloak Room:	70.8
d)	Sterilizer Area:	90.2
e)	Ramp:	70.1
f)	Weighbridge	68.4
g)	Laboratory/Office	71.8
h)	Cracking Section	98.8
i)	Palm Kernel Oil Factory	85.9
j)		
3.	RUBBER FACTORY HALL	
a)	Slab Cutter	68.4
b)	Pre-breaker	69.3
c)	Pelletizer	67.6
d)	Dryer	77.6
e)	Bailing Section	70.4
NESREA Standard (8-hour)		90


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APPENDIX C

Waste Management Plan (WMP) & Emergency Response/ Contingency Plan

EMERGENCY RESPONSE/CONTINGENCY PLAN FOR FIRE, SECURITY THREATS, MEDICAL, CHEMICAL SPILL, AND ELECTRIC SHOCK

1.0 Purpose/Scope

This procedure defines the framework for preparing for and responding to emergencies involving fire, security threats, chemical spill, medical emergency and electric shock.

2.0 Workplace/Activities Affected

All workplace and departments

3.0 Definitions

3.1 Fire and Chemical spill are defined as materials which when released into the environment, or because of their properties and the way they are used, could cause harm to workers, from fires and explosions. Dangerous substances include petrol (PMS), liquefied natural gas (LPG), paints, chemicals and solvents.

3.2 Security threat is defined as any incident or confrontation that jeopardizes property and lives, which includes, but not limited to: militants and civil unrest.

3.3 Emergency Response-actions taken by personnel within the work area in an effort to mitigate the impact of an incident on the public and the environment.

3.4 TOC-Tactical Operations Centre: a communication Centre that coordinate all crisis activities.

3.5 Electric shock is defined as a sudden discharge of electricity through a part of the human body.

4.0 Exclusions

None

5.0 Procedures

In the circumstances:

5.1 For fire and security threats:

- The Person who has observed any danger must alert employees by sounding appropriate alarms. The alarm must be heard, seen or otherwise perceived by everyone in the workplace.
- The person must notify security/TOC on the emergency numbers posted in various locations in the work place, inform TOC of the situation fire/incident. If it's a fire, inform TOC of the location, injuries, potential fire hazards and risk (oil drums, paints, banga product, rubber, chemicals and gas bottles etc). TOC will brief fire service. If it is an incident, inform TOC of the type of incident, location description of suspect(s) type of weapon (if it involves a weapon) and any injuries at the scene.
- TOC will dispatch the appropriate authority to the scene, along with medical staff, if safe to do so, at the time.
- HSE representatives, will assist with evacuation of the worker(s) from the building.
- All workers must report to their muster point.
- HSE representatives will assist personnel with special needs or disabilities who may need help evacuating and assign one or more people, including backup personnel, to help them.
- Staff should ensure all windows and doors are closed, and all electrical appliances are switched off and unplugged before evacuating the building
- HSE representatives will do a head count to verify if anyone is missing, with the assistance of a contractor for their workers, if any are in that department.
- HSE representatives should ensure that no body returns to the factory/building until it is cleared by the appropriate authority.

5.2 For chemical spill:

For small spill:

- First person to observe a spill must use the appropriate spill kit to control the spill.

For large spill:

- The first person to observe the spill must contact their supervisor, who will notify HSE to dispatch the Spill Response team, to see a perimeter to contain the spill.
- The supervisor must notify TOC, for emergency assistance (if needed).
- HSE will notify The Federal Ministry of Environment.
- The Federal Ministry of Environment will assist in the disposal of waste and,
- Decontaminate the area and affected place.

5.3 For medical emergency;

- The person who has observed any emergency must notify TOC on the emergency numbers posted in various locations in the work place, inform TOC of the type of Emergency.
- TOC will notify and dispatch medical staff and ambulance to the scene.

5.4 For electric shock;

- First person to observe a shock situation should turn off the source of electricity, if possible, if not, notify the Estate department and contact TOC to dispatch the appropriate authority.
- Keep the shocked person warm, lying down, and still until the ambulance arrives.


6 Emergency numbers

0813 463 1183 (TOC) – 24hrs

7 Record of Approval

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



	Document title	Revision: 4
	OKOMU OIL PALM COMPANY PLC	Date: 05/05/20
	WASTE AND POLLUTION MANAGEMENT	Page 1 of 17
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Action	Name	Function	Date	Signature
Prepared by	Mikle George	HSE Manager		
Verified by	Mikle George	HSE Manager		
Approved by	Graham Hefer	Managing Director		



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1. INTRODUCTION

This procedure seeks to ensure the appropriate handling, storage and disposal of waste generated at OOPC. It is aimed at waste avoidance and minimization which are achieved with the following objectives:

- identification of the types and quantities of waste that would be generated and the areas in which waste will be stored prior to removal;
- standards and performance measures for dealing with this waste;

Based on federal, state and local regulations, waste is classified into three main categories:

- non-hazardous waste: does not pose any danger to humans and environment (e.g. household garbage);
- hazardous waste: waste of this type either contains leachable toxic components or has common hazardous properties such as reactivity or ignitability;
- Special waste: wastes of this type vary in their properties and are regulated with specific guidelines (example includes medical and radioactive wastes).

The bulk of waste generated by OOPC is organic waste which is non-hazardous in nature. Others include empty agrochemical containers, spent oil, used batteries (hazardous), glass, plastic, plantation polythene bags, mixed paper, and medical waste. 100% of solid waste generated by OOPC is disposed at the dump site with the exception of medical waste which is regarded as a special waste and thus handled separately.


1.1. WASTE STREAMS AT OOPC

1.1.1 SOLID WASTE

This includes household waste (domestic waste) generated from OOPC residential areas. This waste is mostly non-hazardous in nature. Others include glasses, plastics, plantation polythene bags, mixed papers, and medical waste.

1.1.2 HAZARDOUS SUBSTANCES

OOPC generates quantities of hazardous waste. Most of these wastes are generated by the plantation, workshop, estate department and quality control laboratories. Although the types of waste vary, the most common include empty agrochemical containers, spent oil, batteries containing lithium, nickel and sulphuric acid (H₂SO₄). Where there are expired agro-chemicals and laboratory chemicals, expert advice about their disposal must be from the relevant state and federal regulatory authorities, and/or companies that manufacture these items.

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1.1.3 MEDICAL WASTE (SPECIAL WASTE)

These are wastes produced by the Clinic (needles, syringes and pathological waste). The clinic disposes these wastes by burning them inside the boiler at the oil mill.

1.1.4 NON-SOLID WASTE

These include liquid and gaseous wastes that are produced from Oil mill, Rubber factory processes and septic tank waste.

2. SCOPE

This waste management plan describes how OOPC manages all its wastes and ensure compliance to necessary requirements of ISO and RSPO


3. ABBREVIATIONS

MD	Managing Director
HSEM	Health, Safety & Environment Manager
OOPC	Okomu Oil Palm Company
COD	Chemical Oxygen Demand
BOD	Biochemical Oxygen Demand
PM	Particulate Matter
POME	Palm Oil Mill Effluent
NESREA	National Environmental Standards & Regulations Enforcement Agency
RSPO	Roundtable on Sustainable Palm Oil
ISO	International Organization for Standardization

4. DEFINITIONS

Roundtable on Sustainable Palm Oil (RSPO): an international not-for-profit association founded in April 2004. It is a membership organization, open to all major players along the supply chain. The RSPO came as a timely intervention to negate the undue concerns on palm oil cultivation in a sustainable way to meet the growing demand for vegetable oil, especially against the background of the growing concerns by environmentalists and consumers, amongst other groups, on the negative impact of the oil palm industry on the environment. OOPC has declared its willingness to be part of the platform to drive the processes for the implementation and interpretation of the RSPO Principles and Criteria.

pH: measure of how acidic/basic a liquid is. The range varies between 0 - 14, with 7 being neutral. A pH of less than 7 indicates acidic whilst a pH of greater than 7 indicates a basic environment.

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5. LEGAL REQUIREMENTS

The National legislation applicable to this procedure includes:

- The National Policy On Environment, 1999
- National Guidelines and Standards for Environmental pollution Control in Nigeria, 1991
- National Effluent Limitations Regulations S.I.8, 1991
- National guidelines for Environmental Audit in Nigeria. 1999
- National Guidelines on Environmental Management System in Nigeria 1999
- National Environmental Standards and Regulations Enforcement Agency (NESREA 2007) - National Environmental Regulations, 2009. S.I No. 28, 29, 17, 20, and 23.
- Waste Management and Hazardous Waste Regulations S.I.15, 1991
- National Policy on Renewable Energy Development

6. RESPONSIBILITIES

- Estate Department is responsible for moving solid waste from disposal points to the dumpsites.
- HSEM shall monitor compliance with this procedure and continuously assess methods of effective waste/pollution management.


7. PROCEDURE

7.1. Basic Principles Of Waste & Pollution Management

In order to achieve its waste avoidance and minimization objectives, OOPC encourages its employees to follow the hierarchy below of waste management principles in all aspects of their operations:

- Reduce
- Reuse
- Recycle/ Reprocess
- Recover
- Refuse

Thoughtful use of all materials and using the basic principle of waste and pollution management is good for the environment and good for business. If an item can be used more than once, it will be used as such and if a used item can be put to another use, it will be recycled. OOPC developed a system to record waste types and quantities for all waste streams. This will help demonstrate a step towards better waste management, as it will allow the establishment of standard/normal waste levels. Records of waste quantities will allow OOPC to assess the performance of its operations to avoid and minimize waste. The avoidance of printing of unnecessary documents/emails and reusing the reverse side of paper are prime examples of our commitment to avoiding and minimizing waste.

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7.2. Waste & Pollution Prevention And Control

Good waste and pollution prevention and control practices in the industry focus on the following main areas:

- Reduction of product losses through strong and active production controls, including continuous sampling and measuring of key production parameters allowing production losses to be identified and reduced, thus reducing the waste load.
- Maintain a clean workplace, recover product, and control air emissions.
- By-products recycling and sale (see below).
- Re-use of materials (e.g. empty fertilizer bags).

7.3. Waste Disposal & Duty of Care

OOPC has a duty of care to take all reasonable measures to:

- Ensure that all waste is stored and disposed of responsibly.
- Ensure that waste is only handled or dealt with by individuals or departments that are authorized to deal with it.
- Ensure that the use of fire to dispose waste is avoided.


7.4. Waste Generation & Disposal

7.4.1 SOLID WASTE

The main solid wastes generated and the methods of disposal are as follows:

- Used oil filters (excess oil drained off before disposal). Collected by a government approved collector/organization.



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- Empty fruit bunches (EFB). Returned to the plantation and used as a mulch.
- Fibre: Used as boiler fuel and in the field.
- Shell: Used as boiler fuel.
- Clinker/Boiler ash: Used in the field.
- Calyx/Leaf from FFB conveyor: Used in the field
- Tricanter Waste: Used in the field
- Scrap metal: Stored at designated locations and sold to dealers for recycling. The sale will be handled by internal audit Unit.
- Empty fertilizer bags/Cellophane: Triple rinsed and then reused for harvesting operations.
- Empty agrochemical containers are triple rinsed, punched and then sent to the allocated area at the dumpsite awaiting final evacuation by the suppliers/manufactures. Bigger agrochemical containers are used as temporary receptacles during spraying activities.
- Used tyres: Stored at designated locations and sold to dealers for recycling.
- Expired batteries. Stored at designated locations and sold to dealers for recycling.
- Photocopier Toner and Printer ink cartridges: Stored at designated locations and sold to dealers for recycling.
- Redundant Electronics: Stored at designated locations and sold for reuse.
- Used spill kits: Collected by government approved collector/organization
- Solid waste: Collected on a routine basis and disposed of at designated dumping sites. A bulldozer or pay loader will be used from time to time at dumping sites to push waste inwards for more space at the discharge point.
- Electric bulbs/fluorescent tubes: Stored at designated locations (dumpsite) and sold to approved collectors.
- Saw dusts: reused as spill kit and collected by approve waste collector.
- Biohazards and medical sharps from Clinic: disposed of in the incinerator.
- Waste papers: stored in the dumpsite.
- Glass and bottles: Stored at designated locations at dumpsite and sold to approved dealers for recycling.

The location of designated dumping sites was carefully chosen to ensure that it is not near a residential area and not near any water courses or bodies of water. Designated dumping sites are clearly demarcated and access restricted for designated staff only.

7.4.2 LIQUID WASTE

The main liquid waste generated is the palm oil mill effluent (POME) generated by the processing of fresh fruit bunches. Liquid process wastes are passed through sludge tanks and fat traps to recover oil before being discharged into an effluent lagoon for final biological degradation of the remaining waste load. POME will be analyzed on a quarterly basis for the following parameters, for which the NESREA (see legal requirements) limits are indicated:

- pH (range at final discharge 6.0 -9.0)
- BOD (maximum at final discharge 30 mg/l)
- COD (maximum at final discharge 80 mg/l)

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- Suspended solids (maximum at final discharge 30 mg/l)
- Oil & grease (maximum at final discharge 10 mg/l)

Monitoring data will be analyzed and reviewed at regular intervals and compared with the operating standards so that any necessary corrective actions can be taken. Records of monitoring results are kept in file. The results will be reported to the responsible authorities and relevant parties, as required.

Used oil from vehicles and maintenance activities is stored in tanks and drums in a specified area to be sold to dealers for appropriate recycling and disposal.

7.4.3 GASEOUS WASTE

The main sources of air emissions are from the flue gases from the boilers, machineries, vehicles, and heavy duty machines and Generator sets. These contain amount of carbon monoxide, carbon dioxide and nitrogen oxides. There is also particulate matter.

Boilers are built with equipment used to remove as much unburned particulate matter as possible.


Emissions guidelines

Emissions levels for the design and operation of each project will be established through the environmental assessment (EA) process on the basis of national legislation. The guidelines below present emissions levels acceptable to the World Bank. Concentrations of contaminants emitted from the stacks of large boilers, furnaces, incinerators, and electrical generating equipment should not exceed the following limits (milligrams per normal cubic meter) as per National Air Pollution Standards 1991. This will be monitored quarterly.

Pollutants	Ambient Limits	Limit from stationary sources(for 24 hrs)
Particulates	250 mg/m ³ (Daily average of daily values 1 hour)	0.15-0.5 mg/m ³
Sulphur dioxides (SO ₂)	250 mg/m ³ (Daily average of daily values 1 hour)	0.15-0.5 mg/m ³
Carbon monoxide	10 ppm (11.4 mg/m ³)- 20 ppm (22.8mg/m ³) (Daily average of hourly values 8-hours)	1.0 – 5.0 mg/m ³
Nitrogen dioxides (NO ₂)	0.04 ppm - 0.06 ppm (75.0– 113 mg/m ³) Daily average of 1-hourly values (range)	0.004 – 0.1 mg/m ³

7.4.4 LITTER

In order to reduce litter being dropped in public and working areas, litter bins are put in place. The litter bins will be emptied and litter disposed on a scheduled basis

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(see days of waste collection in OOPC pamphlet). Weight of the litter will be taken to estimate the total amount going to the dumpsite and calculated annually for total waste disposed at the dump site. The weight estimation shall be conducted at the weighbridge and the documented weight shall be kept for record keeping at HSE department.

7.4.5 DUST

Dust from roads may present an environmental hazard, particularly to those working or living near busy roads. Mitigation measures include:

- Enforcing speed limits (20 kph in residential areas and industrial).
- Diverting traffic to avoid residential and industrial areas.
- Sealing roads in residential and industrial areas.
- Watering of main roads during the dry season.

7.4.6 ODOR

Odor from operations can usually be prevented through good housekeeping. When planning the location of residential sites, odor from operations should be considered. Thus, the dumpsites are located at least 500m from existing residential areas. The rubber factory effluent pond is about 500m from the rubber estate while the oil mill's effluent lagoon is approximately 1000m from the nearest residential quarters.


7.4.7 NOISE

Noise from operations may present an environmental hazard, particularly for those working/living near noise generating machinery and equipment. Mitigation measures include:

- Installing noise reducing equipment such as silencers and mufflers.
- Maintaining machinery and equipment to minimize noise levels.
- Putting noisy machinery and equipment inside a purpose-built building that reduces the effects of the noise.
- Redesigning noisy machinery and equipment to reduce noise.
- Ear plugs.

7.5. Waste Tracking System

OOPC currently tracks wastes that are of dire consequences to the environment and safety of its personnel. To this end, chemical containers used at plantation are tracked from the time it leaves the store to the dumpsite. ALL containers that leave the store should be returned to the store handler after use who must immediately record the total number given out and received (See Appendix III). All used chemical containers must be triple rinsed and the containers returned to the store handler after perforating. Finally, the chemical containers are taken to the dumpsite awaiting collection by the suppliers. The water from the washed containers is poured into the knapsack for spraying. The store handler must then

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record the amount of containers sent to the dumpsite which must correspond to the amount entered by the dumpsite attendant after receipt by him at the dumpsite.

Effluent volume is monitored daily with the aid of a flow meter installed at the discharge point at the Oil mill and rubber factory for monitoring the amount of effluent released to the lagoon or pond. A monthly data sheet is generated (See Appendix III).

Scheduled waste such as Used Oil Filters, Used Oil, Biohazardous materials, used batteries, tyres, toners etc must be inventoried departmentally on a monthly basis on OOPC/Form 2.6 and record sent to HSE Manager for collation.

8. RECORDS


- Quarterly Inspection Report
- OOPC/Form 2.1
- OOPC/Form 2.5
- OOPC/Form 2.6
- Weighbridge Ticket
- Environmental Policy

9. REFERENCE


- RSPO Criteria 7.2, 7.3 and 7.8
- FSC Criteria 6.7
- IFC (2012) Performance Standard 3: Resource Efficiency and Pollution Prevention
- ISO 14001:2015 Clause 5.2

10. REVISION STATUS

Rev.	Date	Details
0	09/02/16	Initial Release
1	06/04/17	Addition in Section 8 – Records Change ISO “14001:2004 Clause 4.2” to ISO 14001:2015 Clause 5.2
2	10/05/18	Addition of sentences in §7.4.1, §7.4.4 and §7.5
3	13/07/19	Addition in 7.4.1 Waste generation and disposal. “final biological degradation of the remaining waste load” replaced “treatment and ultimate reuse in plantation” in §7.4.2 Addition in 7.4.3 Gaseous Waste Addition in Appendix I and III


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4	17/06/20	<p>Addition in §1.1.4</p> <p>Added RSPO & ISO in §3- Abbreviation</p> <p>Changed project to procedure in §5- Legal Requirement</p> <p>Addition in §7.1</p> <p>Changed shall to should in §7.4.6</p> <p>Addition in §7.4.7 & §7.5</p> <p>Added Environmental Policy in §8- Records</p> <p>Changed RSPO Criteria 4.6 and 5.3 to RSPO 2018 P&C 7.2, 7.3 and 7.8 in §9- Reference</p>


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APPENDIX I: WASTE MANAGEMENT PLANS AT OKOMU OIL PALM COMPANY


S/No.	TYPE OF WASTE	STORAGE SYSTEM	VOLUME GENERATED	TRANSPORTATION / REMOVAL RATE	FINAL DISPOSAL	REMARKS
1.	Household Organic waste: <ul style="list-style-type: none"> Left- over Food Organic residue (garden waste) 	<ul style="list-style-type: none"> Waste bins 	<ul style="list-style-type: none"> Waste inventory necessary for quantity generated 	<ul style="list-style-type: none"> Tractor / Daily 	<ul style="list-style-type: none"> Solid waste dumpsite Plantation field 	
	Household Inorganic Waste: <ul style="list-style-type: none"> Plastic Polythene bags e.g. pure water sachets Glass wares Empty cans Paper trash 	<ul style="list-style-type: none"> Waste bins (Sorting necessary) 	<ul style="list-style-type: none"> Waste inventory necessary for quantity generated 	<ul style="list-style-type: none"> Tractor / Twice weekly 	<ul style="list-style-type: none"> Solid waste dumpsite 	
2.	Plantation Organic waste: <ul style="list-style-type: none"> Palm and rubber leaves, shrubs, weeds 	<ul style="list-style-type: none"> None 	N/A	<ul style="list-style-type: none"> Ad hoc 	<ul style="list-style-type: none"> Plantation field 	
	Plantation Inorganic waste: <ul style="list-style-type: none"> Polythene bags Damaged latex cups 	<ul style="list-style-type: none"> Kept in the store. 	<ul style="list-style-type: none"> Waste inventory necessary for quantity 	<ul style="list-style-type: none"> Tractor / As required 	<ul style="list-style-type: none"> Dump site (To be reused or sold) 	
	Plantation Hazardous waste: <ul style="list-style-type: none"> Empty agrochemical containers. Fertilizer bags Expired agrochemicals 	<ul style="list-style-type: none"> Collected and kept in the store 	<ul style="list-style-type: none"> Waste inventory necessary for quantity generated 	<ul style="list-style-type: none"> As required 	<ul style="list-style-type: none"> Taken to dumpsite and taken away by the supplier Fertilizer bags are reused 	

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3.	Palm Oil Mill (POM) waste: <ul style="list-style-type: none"> • Palm Oil Mill Effluent • Sludge • Empty Fruit Bunches (EFB) • Fibres • Kernel shell • Boiler ash • Damaged/Faulty banga plastic containers 	<ul style="list-style-type: none"> • Palm Oil Mill premises • The damaged/faulty plastic containers are kept in the store 	<ul style="list-style-type: none"> • Waste inventory necessary for quantity generated 	<ul style="list-style-type: none"> • Pipe lines for the POME / simultaneously with production • Tractor for EFB, fibres, boiler ash, kernel shell and sludge / As required 	<ul style="list-style-type: none"> • Effluent Lagoon for the POME • EFB as mulch in the field • Fibres and Kernel shell used to fire the boiler. • Damaged banga container returned to supplier. • Boiler Ash used for road maintenance 	
4.	Rubber Factory waste: <ul style="list-style-type: none"> • Rubber Effluent • Rubber sludge • Low quality crump rubber • Polythene bags • Damaged pellets 	<ul style="list-style-type: none"> • No storage • Decantation pit • Different bins for different rubber waste • Damaged pellets and polythene bags are stored in the factory 	<ul style="list-style-type: none"> • Waste inventory necessary for quantity generated 	<ul style="list-style-type: none"> • Pipe line for the rubber effluent simultaneously with production • None for low quality rubber and damaged pellets 	<ul style="list-style-type: none"> • Effluent pond • Low quality rubber is recycled • Rubber sludge is taken to the plantation field as manure 	

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5.	Laboratory waste (Hazardous): <ul style="list-style-type: none"> • Used chemicals • Empty chemical containers • Glassware 	<ul style="list-style-type: none"> • Used chemicals are channeled to a specially designed soak away pit • Empty chemical containers and expired ones are well secured waiting for evacuation 	<ul style="list-style-type: none"> • Waste inventory necessary for quantity generated 	<ul style="list-style-type: none"> • Tractor / As required 	<ul style="list-style-type: none"> • Dumpsite and taken away by the supplier • Glassware taken to the solid dumpsite 	
6.	Workshop Hazardous waste: <ul style="list-style-type: none"> • Spent oil • Used oil filters • Empty paint containers • Condemn batteries 	<ul style="list-style-type: none"> • Spent oil is kept in drums inside the workshop (special mgt system in place) 	<ul style="list-style-type: none"> • Waste inventory necessary for quantity generated 	<ul style="list-style-type: none"> • Tractors taking the drums from different locations / As required 	<ul style="list-style-type: none"> • Used oil filters and spent oil are sold • Empty paint cans are collected by supplier and reused 	
	Non-hazardous waste: <ul style="list-style-type: none"> • Scrap metals • Metal chips • Tyres • Paper 	<ul style="list-style-type: none"> • Scrap yard for scrap metals including tyres, batteries 	<ul style="list-style-type: none"> • Waste inventory necessary for quantity generated 	<ul style="list-style-type: none"> • Tractor 	<ul style="list-style-type: none"> • Scraps are sold • Tyres are sold • Paper to the dumpsite 	
7.	Medical waste: <ul style="list-style-type: none"> • Needles and syringes • Pathological waste 	<ul style="list-style-type: none"> • Pedal waste bin 	<ul style="list-style-type: none"> • Waste inventory necessary for quantity generated 	<ul style="list-style-type: none"> • Clinic van 	<ul style="list-style-type: none"> • Boiler 	<ul style="list-style-type: none"> • Medical wastes are classified as special waste that requires special

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8.	Office waste: <ul style="list-style-type: none"> • Paper • Computer hardware and accessories • Plastic bottles • Polythene bags and wrappers 	<ul style="list-style-type: none"> • Different waste bins. (Sorting is necessary) 	<ul style="list-style-type: none"> • Waste inventory necessary for quantity generated 	<ul style="list-style-type: none"> • Tractor/ Everyday 	<ul style="list-style-type: none"> • Solid dumpsite 	<ul style="list-style-type: none"> • Computer hardware and accessories are hazardous wastes
9.	Estate Waste: <ul style="list-style-type: none"> • Bulbs and fluorescent tube • Construction wastes and trash(empty paint cans) • Saw dust • Metal and plastic scraps (machines, air conditions, fridge etc) 	<ul style="list-style-type: none"> • Waste bin • Spill kit bins • Scrap yard 	<ul style="list-style-type: none"> • Waste inventory necessary for quantity generated 	<ul style="list-style-type: none"> • Tractor / Twice weekly • Collected by various departments for reuse • Tractor / Twice weekly 	<ul style="list-style-type: none"> • Solid dumpsite • Collected by various departments for reuse • Dumpsite and scrap yard 	<ul style="list-style-type: none"> • Bulbs and fluorescent tube are hazardous waste • Saw dusts are reusable material. • AC/Fridges sold to staff and others for reuse.

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APPENDIX II

WASTE TREATMENT FACILITIES

1. Solid waste dumpsite
2. Effluent treatment lagoon and pond
3. Scrap yard
4. Boiler
5. Plantation field

MEANS OF WASTE STORAGE AND COLLECTION


1. Waste bins
2. Collection points
3. Tractor
4. Pipe lines
5. Clinic Van

ENERGY REQUIREMENTS

1. AGO
2. Electricity

OCCUPATIONAL HEALTH REQUIREMENTS (PPE)

1. Waste collectors and Waste managers

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APPENDIX III: WASTE INVENTORY AND TRACKING SYSTEM

1. EMPTY CHEMICAL CONTAINERS (See OOPC/Form 2.1):

All chemical containers are been tracked using the table below:

Date	No of Containers Out of store	No of Containers returned to store handler after washing	No of Containers to Dumpsite	Dumpsite Attendant Sign

2. Palm Oil Mill Effluent (POME) and Rubber Effluent

MONTH		MONTH		MONTH		MONTH	
DATE	READING	DATE	READING	DATE	READING	DATE	READING

3. Scheduled Waste Inventory Form OOPC/Form 2.6

Department:

Month/Year:/.....

To be filled in and submitted to HSE department every month

Type of waste material	Unit	Quantity generated		Quantity disposed off		Site of disposal and remarks if any.
		This month	To-date	This month	To-date	
Used Oil Filters						
Used Oil/Lubricants						
Medical Sharps						
Bio hazardous materials/Clinical waste						
Empty Paint Containers						
Condemned Vehicle Batteries						
Used Alkaline Batteries (small types)						
E-waste (Electronics Waste)						
Expired Chemicals/Pesticides						
Tyres						
Toners/Ink Cartridges						
Scrap Metals						
Empty fertilizer/Nursery Bags						

APPENDIX D

Corporate Social Responsibility (CSR) for 2018-2020

Lagos Office:

Tel: 01-84446337

E-mail: lagosoffice@okomunigeria.com

Okomu – Udo, Ovia South West L.G.A

P.M.B. 1449, Benin City.

Edo State, Nigeria.

E-Mail: info@okomunigeria.com, compsec@okomunigeria.comWeb: www.okomunigeria.com

24th November 2017

The Amakosiwe
Inikrogha Community
Ovia SW LGA
Edo State

Dear Sir,

PROJECTS BY OKOMU OIL PALM COMPANY PLC IN 2018 IN YOUR COMMUNITY

Based upon our ongoing corporate social responsibility (CSR) programme and in line with our Free, Prior and Informed (FPIC) commitments with your community, we are pleased to confirm that the following projects requested by your community will be erected by our company as follows:

1. Grading of your road, the distance to be graded to be determined solely by the OOPC Engineer and subject to the availability of the grader in the 1st quarter (Jan – Mar);
2. Skills development for one year at a Training Centre for 4 youths (chosen strictly according to the guidelines issued by the Company to your Committee);
3. The issuance of 2 bursaries valued at ₦90,000.00 each (as per the guidelines issued to your Committee by our Company previously);
4. One garri grinding machine, as determined by the OOPC Engineer alone, in the 2nd quarter (Apr – Jun);

My Community Liaison Officer and Projects personnel will liaise with you on the relevant projects stated herein.

Please acknowledge receipt of, and acceptance of, the terms and conditions stated in this letter on behalf of your Committee & Community by signing the enclosed duplicate copy and returning it to my office.

Kind regards,

Dr G. Hefer
Managing Director

Cc; HRM, Projects Engineer, HSE Manager, CLO, Media Officer, Estate Superintendent

Lagos Office:

Tel: 01-84446337

E-mail: lagosoffice@okomunigeria.com

Okomu – Udo, Ovia South West L.G.A

P.M.B. 1449, Benin City.

Edo State, Nigeria.

E-Mail: info@okomunigeria.com, compsec@okomunigeria.com

Web: www.okomunigeria.com

14 December 2017

The Amakosiwe
Ofunama Community
Ovia SW LGA
Edo State

Dear Sir,

PROJECTS BY OKOMU OIL PALM COMPANY PLC IN 2017 IN YOUR COMMUNITY


Based upon our ongoing corporate social responsibility (CSR) programme with your community, and subject to confirmation of the renewal of your CDA with the relevant LGA authority for 2017, we are pleased to confirm that the following projects requested by your community through your CDA will be erected by our company as follows:

1. Grading of the Ofunama, Ojakarama and Jamagie roads, as determined by the OOPC engineer alone – 1st quarter 2017 (Jan – Mar);
2. Completion of the guest house, as determined by the OOPC engineer alone – 1st quarter 2017 (Jan – Mar);
3. The issuance of 3 bursaries valued at ₦90,000.00 each (as per the guidelines issued to your Committee by our Company previously);
4. Skills development for one year at a Training Centre for 4 youths (chosen as per the guidelines issued by the Company to your Committee previously);

My Community Liaison Officer and Projects personnel will liaise with you on the relevant projects stated herein.

Please acknowledge receipt of, and acceptance of, the terms and conditions stated in this letter on behalf of your Committee & Community by signing the enclosed duplicate copy and returning it to my office.

Kind regards,



Dr G. Hefer
Managing Director

cc: HRM, Projects Engineer, HSE Manager, CLO, Media Officer

Lagos Office:

Tel: 01-84446337

E-mail: lagosoffice@okomunigeria.com

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Edo State, Nigeria.

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Web: www.okomunigeria.com

24th November 2017

The Chairman
Agbede Community
Ocia SW LGA
Edo State

Dear Sir,

PROJECTS BY OKOMU OIL PALM COMPANY PLC IN 2018 IN YOUR COMMUNITY

Based upon our ongoing corporate social responsibility (CSR) programme and in line with our Free, Prior and Informed (FPIC) commitments with your community, we are pleased to confirm that the following projects requested by your community will be erected by our company as follows:

1. The issuance of 2 bursaries valued at ₦90,000.00 each (strictly chosen according to the guidelines issued to your Committee by our Company);
2. Skills development for one year at a Training Centre for 2 youths (chosen strictly according to the guidelines issued by the Company to your Committee);
3. One borehole, as determined by the OOPC Engineer alone, in the 2nd quarter (Apr – Jun);

My Community Liaison Officer and Projects personnel will liaise with you on the relevant projects stated herein.

Please acknowledge receipt of, and acceptance of, the terms and conditions stated in this letter on behalf of your Committee & Community by signing the enclosed duplicate copy and returning it to my office.

Kind regards,



Dr G. Hefer
Managing Director

Cc; HRC, Projects Engineer, HSE Manager, CLO, Media Officer, Estate Superintendent

Lagos Office:
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Edo State, Nigeria.
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Web: www.okomunigeria.com

24th November 2017

The Odionwere
Maghionba Community
Ovia SW LGA
Edo State

Dear Sir,

PROJECTS BY OKOMU OIL PALM COMPANY PLC IN 2018 IN YOUR COMMUNITY

Based upon our ongoing corporate social responsibility (CSR) programme and in line with our Free, Prior and Informed (FPIC) commitments with your community, we are pleased to confirm that the following projects requested by your community will be erected by our company as follows:

1. Grading of certain roads, the duration and amount to be graded to be determined solely by the OOPC Engineer and subject to the availability of the grader;
2. Skills development for one year at a Training Centre for 2 youths (chosen strictly according to the guidelines issued by the Company to your Committee);
3. One community hall, as determined by the OOPC Engineer alone, in the 2nd quarter (Apr – Jun);

My Community Liaison Officer and Projects personnel will liaise with you on the relevant projects stated herein.

Please acknowledge receipt of, and acceptance of, the terms and conditions stated in this letter on behalf of your Committee & Community by signing the enclosed duplicate copy and returning it to my office.

Kind regards,



Dr. G. Hefer
Managing Director

Cc; HRM, Projects Engineer, HSE Manager, CLO, Media Officer, Estate Superintendent

Lagos Office:

Tel: 01-84446337

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Edo State, Nigeria.

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Web: www.okomunigeria.com

23 November 2017

The Chairman
Gbole-Uba Community
Ovia SW LGA
Edo State

Dear Sir,

PROJECTS BY OKOMU OIL PALM COMPANY PLC IN 2018 IN YOUR COMMUNITY

Based upon our ongoing corporate social responsibility (CSR) programme and in line with our Free, Prior and Informed (FPIC) commitments with your community, we are pleased to confirm that the following projects requested by your community will be erected by our company as follows:

1. A community guest house/corpers lodge as determined by the OOPC engineer alone – 2nd quarter 2018 (Apr - Jun);
2. A borehole, as determined by the OOPC engineer alone – 3rd quarter 2018 (Jul – Sep);
3. The issuance of 2 bursaries valued at ₦90,000.00 each (as per the guidelines issued to your Committee by our Company previously);
4. Skills development for one year at a Training Centre for 3 youths (chosen as per the guidelines issued by the Company to your Committee previously);
5. Grading of the road, as stipulated by the OOPC engineer alone;

My Community Liaison Officer and Projects personnel will liaise with you on the relevant projects stated herein.

Please acknowledge receipt of, and acceptance of, the terms and conditions stated in this letter on behalf of your Committee & Community by signing the enclosed duplicate copy and returning it to my office.

Kind regards,



Dr G. Hefer
Managing Director

cc: HRM, Projects Engineer, HSE Manager, CLO, Media Officer, Estate Superintendent

Lagos Office:

Tel: 01-84446337

E-mail: lagosoffice@okomunigeria.com

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Edo State, Nigeria.

E-Mail: info@okomunigeria.com, compsec@okomunigeria.com

Web: www.okomunigeria.com

23 November 2017

The Chairman
Madagbayo Community
Ovia SW LGA
Edo State

Dear Sir,

PROJECTS BY OKOMU OIL PALM COMPANY PLC IN 2018 IN YOUR COMMUNITY

Based upon our ongoing corporate social responsibility (CSR) programme and in line with our Free, Prior and Informed (FPIC) commitments with your community, we are pleased to confirm that the following projects requested by your community will be erected by our company as follows:

1. A community hall to the value and size as determined by the OOPC engineer alone – 1st quarter 2017 (Jan – Mar);
2. The drilling of one borehole as determined by the OOPC engineer alone – 4th quarter 2017.
3. The issuance of 2 bursaries valued at ₦90,000.00 each (as per the guidelines issued to your Committee by our Company previously);
4. Skills development for one year at a Training Centre for 3 youths (chosen as per the guidelines issued by the Company to your Committee);
5. Grading of road, the distance and manner of grading to be determined by the OOPC Engineer alone;

My Community Liaison Officer and Projects personnel will liaise with you on the relevant projects stated herein.

Please acknowledge receipt of, and acceptance of, the terms and conditions stated in this letter on behalf of your Committee & Community by signing the enclosed duplicate copy and returning it to my office.

Kind regards,



Dr G. Hefer
Managing Director

cc: HRM, Projects Engineer, HSE Manager, CLO, Media Officer, Estates Superintendent

Lagos Office:
Tel: 01-84446337
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23 November 2017

The Chairman
Gbelebu Community
Ovia SW LGA
Edo State

Dear Sir,

PROJECTS BY OKOMU OIL PALM COMPANY PLC IN 2018 IN YOUR COMMUNITY

Based upon our ongoing corporate social responsibility (CSR) programme and in line with our Free, Prior and Informed (FPIC) commitments with your community, we are pleased to confirm that the following projects requested by your community will be erected by our company as follows:

1. The sinking of 3 boreholes, as determined by the OOPC engineer alone – a borehole in the 1st quarter 2018 (Jan – Mar), 3rd quarter (Jul – Sep) and 4th quarter (Oct – Dec);
2. The issuance of 2 bursaries valued at ~~N~~90,000.00 each (as per the guidelines issued to your Committee by our Company previously);
3. Skills development for one year at a Training Centre for 5 youths (chosen as per the guidelines issued by the Company to your Committee previously);
4. Grading of road, the distance and manner of grading as determined by the OOPC Engineer alone;

My Community Liaison Officer and Projects personnel will liaise with you on the relevant projects stated herein.

Please acknowledge receipt of, and acceptance of, the terms and conditions stated in this letter on behalf of your Committee & Community by signing the enclosed duplicate copy and returning it to my office.

Kind regards,



Dr. G. Hefer
Managing Director

cc: HRM, Projects Engineer, HSE Manager, CLO, Media Officer, Estate Superintendent

Lagos Office:

Tel: 01-84446337

E-mail: lagosoffice@okomunigeria.com

Okomu – Udo, Ovia South West L.G.A

P.M.B. 1449, Benin City.

Edo State, Nigeria.

E-Mail: info@okomunigeria.com, compsec@okomunigeria.com

Web: www.okomunigeria.com

24th November 2017

The Chairman

Uhierie

Ovia NE LGA

Edo State

Dear Sir,

PROJECTS BY OKOMU OIL PALM COMPANY PLC IN 2018 IN YOUR COMMUNITY

Based upon our ongoing corporate social responsibility (CSR) programme and in line with our Free, Prior and Informed (FPIC) commitments with your community, we are pleased to confirm that the following projects requested by your community will be erected by our company as follows:

1. The issuance of 1 bursary valued at ₦90,000.00 each (as per the guidelines issued to your Committee by our Company previously);
2. Grading of road, the distance and manner of grading as determined by the OOPC Engineer alone – 2nd quarter (Apr – Jun);
3. Skills development for one year at a Training Centre for 2 youths (chosen as per the guidelines issued by the Company to your Committee previously);
4. Repair of current borehole, as stipulated by the OOPC engineer in the 1st quarter (Jan – Mar),
5. Renovation of 12 room teacher staff quarters, as stipulated by the OOPC engineer alone in the 3rd quarter (Jul – Sep);
6. A new borehole, as stipulated by the OOPC engineer alone in the 4th quarter (Oct – Dec);

My Community Liaison Officer and Projects personnel will liaise with you on the relevant projects stated herein.

Please acknowledge receipt of, and acceptance of, the terms and conditions stated in this letter on behalf of your Committee & Community by signing the enclosed duplicate copy and returning it to my office.

Kind regards,



Dr G. Hefer
Managing Director

Cc: HRC, Projects Engineer, HSE Manager, CLO, Media Officer, Estate Superintendent

Lagos Office:
Tel: 01-84446337
E-mail: lagosoffice@okomunigeria.com

Okomu – Udo, Ovia South West L.G.A
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Edo State, Nigeria.
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Web: www.okomunigeria.com

24th November 2017

The Chairman
Agbinikaka
Ovia NE LGA
Edo State

Dear Sir,

PROJECTS BY OKOMU OIL PALM COMPANY PLC IN 2018 IN YOUR COMMUNITY

Based upon our ongoing corporate social responsibility (CSR) programme and in line with our Free, Prior and Informed (FPIC) commitments with your community, we are pleased to confirm that the following projects requested by your community will be erected by our company as follows:

1. The issuance of 1 bursary valued at ₦90,000.00 each (as per the guidelines issued to your Committee by our Company previously);
2. Skills development for one year at a Training Centre for 2 youths (chosen as per the guidelines issued by the Company to your Committee previously);
3. One semi industrial borehole, as stipulated by the OOPC engineer alone in the 1st quarter (Jan – Mar);
4. 1 by 5 market stalls, as stipulated by the OOPC engineer alone in the 2nd quarter 2017 (Apr – Jun);
5. Construction of Odionwere's palace (Phase 1), as stipulated by the OOPC engineer alone in the 3rd quarter (Jul – Sep);

My Community Liaison Officer and Projects personnel will liaise with you on the relevant projects stated herein.

Please acknowledge receipt of, and acceptance of, the terms and conditions stated in this letter on behalf of your Committee & Community by signing the enclosed duplicate copy and returning it to my office.

Kind regards,



Dr G. Hefer
Managing Director

Cc: HRM, Projects Engineer, HSE Manager, CLO, Media Officer, Estate Superintendent

Lagos Office:

Tel: 01-84446337

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Edo State, Nigeria.

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Web: www.okomunigeria.com

24th November 2017

The Chairman
Odiguetue
Ovia NE LGA
Edo State

Dear Sir,

PROJECTS BY OKOMU OIL PALM COMPANY PLC IN 2018 IN YOUR COMMUNITY

Based upon our ongoing corporate social responsibility (CSR) programme and in line with our Free, Prior and Informed (FPIC) commitments with your community, we are pleased to confirm that the following projects requested by your community will be erected by our company as follows:

1. The issuance of 1 bursary valued at ₦90,000.00 each (as per the guidelines issued to your Committee by our Company previously);
2. Grading of road, the distance and manner of grading as determined by the OOPC Engineer alone in the 1st quarter (Jan – Mar);
3. Skills development for one year at a Training Centre for 2 youths (chosen as per the guidelines issued by the Company to your Committee previously);
4. Drilling of one borehole, as stipulated alone by the OOPC engineer in the 4th quarter (Oct – Dec);
5. Renovation of 2nd in command's house, as stipulated alone by the OOPC engineer in the 3rd quarter (Jul – Sep);
6. Provision of a cassava grinding machine, as stipulated alone by the OOPC engineer in the 2nd quarter (Apr – Jun);

My Community Liaison Officer and Projects personnel will liaise with you on the relevant projects stated herein.

Please acknowledge receipt of, and acceptance of, the terms and conditions stated in this letter on behalf of your Committee & Community by signing the enclosed duplicate copy and returning it to my office.

Kind regards,



Dr G. Hefer
Managing Director

Cc; HRC, Projects Engineer, HSE Manager, CLO; Media Officer, Estate Superintendent

Lagos Office:

Tel: 01-84446337

E-mail: lagosoffice@okomunigeria.com

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Edo State, Nigeria.

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Web: www.okomunigeria.com

24th November 2017

The Chairman
Owan
Ovia NE LGA
Edo State

Dear Sir,

PROJECTS BY OKOMU OIL PALM COMPANY PLC IN 2018 IN YOUR COMMUNITY

Based upon our ongoing corporate social responsibility (CSR) programme and in line with our Free, Prior and Informed (FPIC) commitments with your community, we are pleased to confirm that the following projects requested by your community will be erected by our company as follows:

1. The issuance of 1 bursary valued at ₦90,000.00 each (as per the guidelines issued to your Committee by our Company previously);
2. Skills development for one year at a Training Centre for 2 youths (chosen as per the guidelines issued by the Company to your Committee previously);
3. Erection of a town hall, as stipulated by the OOPC engineer alone in the 2nd quarter (Apr – Jun);
4. A cassava grinding machine, as stipulated by the OOPC engineer alone in the 1st quarter (Jan – Mar);

My Community Liaison Officer and Projects personnel will liaise with you on the relevant projects stated herein.

Please acknowledge receipt of, and acceptance of, the terms and conditions stated in this letter on behalf of your Committee & Community by signing the enclosed duplicate copy and returning it to my office.

Kind regards,



Dr G. Hefer
Managing Director

Cc: HRM, Projects Engineer, HSE Manager, CLO, Media Officer, Estate Superintendent

Lagos Office:
Tel: 01-84446337
E-mail: lagsoffice@okomunigeria.com

Okomu – Udo, Ovia South West L.G.A
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Edo State, Nigeria.
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Web: www.okomunigeria.com

24th November 2017

The Chairman
Odighi
Ovia NE LGA
Edo State

Dear Sir,

PROJECTS BY OKOMU OIL PALM COMPANY PLC IN 2018 IN YOUR COMMUNITY

Based upon our ongoing corporate social responsibility (CSR) programme and in line with our Free, Prior and Informed (FPIC) commitments with your community, we are pleased to confirm that the following projects requested by your community will be erected by our company as follows:

1. The issuance of 1 bursary valued at ₦90,000.00 each (as per the guidelines issued to your Committee by our Company previously);
2. Grading of road, the distance and manner of grading as determined by the OOPC Engineer alone – 1st quarter (Jan – Mar);
3. Skills development for one year at a Training Centre for 2 youths (chosen as per the guidelines issued by the Company to your Committee previously);
4. Completion of a town hall, as determined by the OOPC engineer alone – 3rd quarter (Jul – Sep);
5. Fencing of the Enogie's Palace – 2nd quarter (Apr – Jun);

My Community Liaison Officer and Projects personnel will liaise with you on the relevant projects stated herein.

Please acknowledge receipt of, and acceptance of, the terms and conditions stated in this letter on behalf of your Committee & Community by signing the enclosed duplicate copy and returning it to my office.

Kind regards,



Dr G. Hefer
Managing Director

Cc: HRM, Projects Engineer, HSE Manager, CLO, Media Officer, Estate Superintendent

Lagos Office:
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Web: www.okomunigeria.com

23 November 2017

The Chairman
Udo Community Relations Committee
Ovia SW LGA
Edo State

Dear Sir,

PROJECTS BY OKOMU OIL PALM COMPANY PLC IN 2018 IN YOUR COMMUNITY

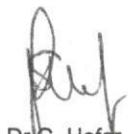
Based upon our ongoing corporate social responsibility (CSR) programme and in line with our Free, Prior and Informed (FPIC) commitments with your community, we are pleased to confirm that the following projects requested by your community will be erected by our company as follows:

1. The issuance of 5 bursaries valued at **N90,000.00** each (as per the guidelines issued to your Committee by our Company previously);
2. Skills development for one year at a Training Centre for 7 youths (chosen as per the guidelines issued by the Company to your Committee previously);
3. Grading of road, the time and manner of grading, as determined by the OOPC Engineer alone – 1st Quarter 2017 (Jan – Mar);
4. Canopies & chairs as determined by the OOPC Engineer alone – 1st Quarter 2017 (Jan – Mar);
5. 2 x 5 market stalls as determined by the OOPC Engineer alone – 2nd Quarter 2017 (Apr – Jun);
6. 4 household boreholes as determined by the OOPC Engineer alone – 1st Quarter 2018 (Jan – Mar); 2nd Quarter 2018 (Apr – Jun); 3rd Quarter 2018 (Jul – Sep) & 4th Quarter 2018 (Oct – Dec);

My Community Liaison Officer and Projects personnel will liaise with you on the relevant projects stated herein.

Please acknowledge receipt of, and acceptance of, the terms and conditions stated in this letter on behalf of your Committee & Community by signing the enclosed duplicate copy and returning it to my office.

Kind regards,



Dr. G. Hefer
Managing Director

cc: HRM, Projects Engineer, HSE Manager, CLO, Media Officer; Estate Superintendent

Lagos Office:

Tel: 01-84446337

E-mail: lagosoffice@okomunigeria.com

Okomu – Udo, Ovia South West L.G.A

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Edo State, Nigeria.

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Web: www.okomunigeria.com

4th January 2019

The Chairman
Owan
Ovia NE LGA
Edo State.

Dear Sir,

PROJECTS BY OKOMU OIL PALM COMPANY PLC IN 2019 IN YOUR COMMUNITY

Based upon our ongoing corporate social responsibility (CSR) programme and in line with our Free, Prior and Informed (FPIC) commitments with your community, we are pleased to confirm that the following projects requested by your community will be erected by our company as follows:

1. The issuance of 1 bursary valued at ₦90,000.00 each (as per the guidelines issued to your Committee by our Company previously);
2. Skills development for one year at a Training Centre for 2 youths (chosen as per the guidelines issued by the Company to your Committee previously);
3. The drilling of a semi industrial borehole as determined by OOPC engineer alone-3rd quarter 2019(Jul-Sept.);

My Community Liaison Officer and Projects personnel will liaise with you on the relevant projects stated herein.

Please acknowledge receipt of, and acceptance of, the terms and conditions stated in this letter on behalf of your Committee & Community by signing the enclosed duplicate copy and returning it to my office.

Kind regards,



Dr G. Hefer
Managing Director

Cc: HRM, Projects Engineer, HSE Manager, CLO, Media Officer, Estate Superintendent

Lagos Office:

Tel: 01-84446337

E-mail: lagosoffice@okomunigeria.com

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Edo State, Nigeria.

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Web: www.okomunigeria.com

4th January 2019

The Chairman
Agbanikaka
Ovia NE LGA
Edo State

Dear Sir,

PROJECTS BY OKOMU OIL PALM COMPANY PLC IN 2019 IN YOUR COMMUNITY

Based upon our ongoing corporate social responsibility (CSR) programme and in line with our Free, Prior and Informed (FPIC) commitments with your community, we are pleased to confirm that the following projects requested by your community will be erected by our company as follows:

1. The issuance of 1 bursary valued at ₦90,000.00 each (as per the guidelines issued to your Committee by our Company previously);
2. Skills development for one year at a Training Centre for 2 youths (chosen as per the guidelines issued by the Company to your Committee previously);
3. The drilling of semi industrial borehole as determined by OOPC engineer alone-2nd quarter 2019(Apr-Jun.);
4. A market stores as determined by OOPC engineer alone-4th (Oct-Dec);

My Community Liaison Officer and Projects personnel will liaise with you on the relevant projects stated herein.

Please acknowledge receipt of, and acceptance of, the terms and conditions stated in this letter on behalf of your Committee & Community by signing the enclosed duplicate copy and returning it to my office.

Kind regards,



Dr G. Hefer
Managing Director

Cc: HRM, Projects Engineer, HSE Manager, CLO, Media Officer, Estate Superintendent

Lagos Office:

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E-mail: lagosoffice@okomunigeria.com

Okomu – Udo, Ovia South West L.G.A

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Edo State, Nigeria.

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Web: www.okomunigeria.com

4th January 2019

The Chairman
Ekpan Community
Uhunmwode LGA
Edo State.

Dear Sir,

PROJECTS BY OKOMU OIL PALM COMPANY PLC IN 2019 IN YOUR COMMUNITY

Based upon our ongoing corporate social responsibility (CSR) programme and in line with our Free, Prior and Informed (FPIC) commitments with your community, we are pleased to confirm that the following projects requested by your community will be erected by our company as follows:

1. The issuance of 1 bursary valued at ₦90,000.00 each (as per the guidelines issued to your Committee by our Company previously);
2. Skills development for one year at a Training Centre for 2 youths (chosen as per the guidelines issued by the Company to your Committee previously);
3. A construction of corper's lodge (2018) 2nd phase as determined by OOPC engineer alone-2nd quarter 2019(Apr-Jun.);

My Community Liaison Officer and Projects personnel will liaise with you on the relevant projects stated herein.

Please acknowledge receipt of, and acceptance of, the terms and conditions stated in this letter on behalf of your Committee & Community by signing the enclosed duplicate copy and returning it to my office.

Kind regards,



Dr. G. Hefer
Managing Director

Cc: HRM, Projects Engineer, HSE Manager, CLO, Media Officer, Estate Superintendent

Lagos Office:

Tel: 01-84446337

E-mail: lagosoffice@okomunigeria.com

Okomu – Udo, Ovia South West L.G.A

P.M.B. 1449, Benin City.

Edo State, Nigeria.

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Web: www.okomunigeria.com

4th January 2019

The Chairman
Odighi
Ovia NE LGA
Edo State.

Dear Sir,

PROJECTS BY OKOMU OIL PALM COMPANY PLC IN 2019 IN YOUR COMMUNITY


Based upon our ongoing corporate social responsibility (CSR) programme and in line with our Free, Prior and Informed (FPIC) commitments with your community, we are pleased to confirm that the following projects requested by your community will be erected by our company as follows:

1. The issuance of 2 bursaries valued at ₦90,000.00 each (as per the guidelines issued to your Committee by our Company previously);
2. Skills development for one year at a Training Centre for 2 youths (chosen as per the guidelines issued by the Company to your Committee previously);
3. A borehole as determined by OOPC engineer alone-2nd quarter 2019(Apr-Jun.);
4. A lock-up market stalls as determined by OOPC engineer alone-4th quarter 2019(Oct-Dec);

My Community Liaison Officer and Projects personnel will liaise with you on the relevant projects stated herein.

Please acknowledge receipt of, and acceptance of, the terms and conditions stated in this letter on behalf of your Committee & Community by signing the enclosed duplicate copy and returning it to my office.

Kind regards,



Dr G. Hefer
Managing Director

Cc: HRM, Projects Engineer, HSE Manager, CLO, Media Officer, Estate Superintendent

Lagos Office:
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E-mail: lagosoffice@okomunigeria.com

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Edo State, Nigeria.
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Web: www.okomunigeria.com

4th January 2019

The Chairman
Irhue Community
Uhunmwode LGA
Edo State.

Dear Sir,

PROJECTS BY OKOMU OIL PALM COMPANY PLC IN 2019 IN YOUR COMMUNITY

Based upon our ongoing corporate social responsibility (CSR) programme and in line with our Free, Prior and Informed (FPIC) commitments with your community, we are pleased to confirm that the following projects requested by your community will be erected by our company as follows:

1. The issuance of 1 bursary valued at ₦90,000.00 each (as per the guidelines issued to your Committee by our Company previously);
2. Skills development for one year at a Training Centre for 2 youths (chosen as per the guidelines issued by the Company to your Committee previously);
3. The drilling of a semi industrial borehole as determined by OOPC engineer alone-2nd quarter 2019(Apr-Jun.);

My Community Liaison Officer and Projects personnel will liaise with you on the relevant projects stated herein.

Please acknowledge receipt of, and acceptance of, the terms and conditions stated in this letter on behalf of your Committee & Community by signing the enclosed duplicate copy and returning it to my office.

Kind regards,



Dr G. Hefer
Managing Director

Cc: HRM, Projects Engineer, HSE Manager, CLO, Media Officer, Estate Superintendent

Lagos Office:

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Okomu – Udo, Ovia South West L.G.A

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Edo State, Nigeria.

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Web: www.okomunigeria.com

4th January 2019

The Chairman
Udo Community Relations Committee
Ovia SW LGA
Edo State

Dear Sir,

PROJECTS BY OKOMU OIL PALM COMPANY PLC IN 2019 IN YOUR COMMUNITY

Based upon our ongoing corporate social responsibility (CSR) programme and in line with our Free, Prior and Informed (FPIC) commitments with your community, we are pleased to confirm that the following projects requested by your community will be erected by our company as follows:

1. The issuance of 5 bursaries valued at ₦90,000.00 each (as per the guidelines issued to your Committee by our Company previously);
2. Skills development for one year at a Training Centre for 7 youths (chosen as per the guidelines issued by the Company to your Committee previously);
3. Grading of road, the distance and manner of grading as determined by the OOPC Engineer alone-1st quarter 2019(Jan-Mar);
4. A community town hall to the value size as determined by OOPC engineer alone-2nd quarter 2019(Apr-Jun);

My Community Liaison Officer and Projects personnel will liaise with you on the relevant projects stated herein.

Please acknowledge receipt of, and acceptance of, the terms and conditions stated in this letter on behalf of your Committee & Community by signing the enclosed duplicate copy and returning it to my office.

Kind regards,



Dr G. Hefer
Managing Director

Cc: HRM, Projects Engineer, HSE Manager, CLO, Media Officer, Estate Superintendent

Lagos Office:

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E-mail: lagosoffice@okomunigeria.com

Okomu – Udo, Ovia South West L.G.A

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Edo State, Nigeria.

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Web: www.okomunigeria.com

4th January 2019

The Chairman
Gbole-Uba Community
Ovia SW LGA
Edo State

Dear Sir,

PROJECTS BY OKOMU OIL PALM COMPANY PLC IN 2019 IN YOUR COMMUNITY

Based upon our ongoing corporate social responsibility (CSR) programme and in line with our Free, Prior and Informed (FPIC) commitments with your community, we are pleased to confirm that the following projects requested by your community will be erected by our company as follows:

1. The issuance of 2 bursaries valued at ₦90,000.00 each (as per the guidelines issued to your Committee by our Company previously);
2. Grading of road, the distance and manner of grading as determined by the OOPC Engineer alone-1st quarter 2019(Jan-Mar);
3. The drilling of two boreholes as determined by OOPC engineer alone-2nd quarter 2019(Apr-Jun) and 3rd quarter 2019(Jul-Sept.);
4. The furnishing of the newly built-modern town hall as determined by the OOPC Engineer alone-4th quarter(Oct-Dec.);

My Community Liaison Officer and Projects personnel will liaise with you on the relevant projects stated herein.

Please acknowledge receipt of, and acceptance of, the terms and conditions stated in this letter on behalf of your Committee & Community by signing the enclosed duplicate copy and returning it to my office.

Kind regards,



Dr G. Hefer
Managing Director

Cc: HRM, Projects Engineer, HSE Manager, CLO, Media Officer, Estate Superintendent

Lagos Office:

Tel: 01-84446337

E-mail: lagosoffice@okomunigeria.com

Okomu – Udo, Ovia South West L.G.A

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Edo State, Nigeria.

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Web: www.okomunigeria.com

4th January 2019

The Chairman
Gbelebu Community
Ovia SW LGA
Edo State.

Dear Sir,

PROJECTS BY OKOMU OIL PALM COMPANY PLC IN 2019 IN YOUR COMMUNITY

Based upon our ongoing corporate social responsibility (CSR) programme and in line with our Free, Prior and Informed (FPIC) commitments with your community, we are pleased to confirm that the following projects requested by your community will be erected by our company as follows:

1. The issuance of 2 bursaries valued at ₦90,000.00 each (as per the guidelines issued to your Committee by our Company previously);
2. Skills development for one year at a Training Centre for 5 youths (chosen as per the guidelines issued by the Company to your Committee previously);
3. A market stalls as determined by OOPC engineer alone-2nd quarter 2019(Apr-Jun);
4. A borehole for community town hall as determined by OOPC engineer alone-4th quarter 2019(Oct-Dec);

My Community Liaison Officer and Projects personnel will liaise with you on the relevant projects stated herein.

Please acknowledge receipt of, and acceptance of, the terms and conditions stated in this letter on behalf of your Committee & Community by signing the enclosed duplicate copy and returning it to my office.

Kind regards,



Dr G. Hefer
Managing Director

Cc: HRM, Projects Engineer, HSE Manager, CLO, Media Officer, Estate Superintendent



RC: 30894-

Web: www.okomunigeria.com

E-mail: lagosoffice@okomunigeria.com

29th November, 2019

The Chairman
Thru: Community Liaison Officer (CLO),
Madagbayo Community
Ovia SW LGA
Edo State.

Dear Sir,

PROJECTS BY OKOMU OIL PALM COMPANY PLC IN 2020 IN YOUR COMMUNITY

Based upon our ongoing corporate social responsibility (CSR) programme and in line with our Free, Prior and Informed (FPIC) commitments with your community, we are pleased to confirm that the following projects requested by your community will be erected by our company as follows:

1. The issuance of 2 bursaries valued at ₦90,000.00 each (as per the guidelines issued to your Committee by our Company previously);
2. Skills development for one year at a Training Centre for 3 youths (chosen as per the guidelines issued by the Company to your Committee previously);
3. The replacement of light bulbs (20 in number) (1st quarter);
4. Replacement of 7.5Kva genset (2nd quarter);

My Community Liaison Officer and Projects personnel will liaise with you on the relevant projects stated herein and what will be done on each of the projects.

Please acknowledge receipt of, and acceptance of, the terms and conditions stated in this letter on behalf of your Committee & Community by signing the enclosed duplicate copy and returning it to my office.

Kind regards,

Dr G. Hefner
Managing Director

Cc: HRM, Projects Engineer, HSE Manager, CLO, Media Officer, Estate Superintendent

Lagos Office:

Tel: 01-84446337

E-mail: lagosoffice@okomunigeria.com

Okomu – Udo, Ovia South West L.G.A

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Edo State, Nigeria.

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Web: www.okomunigeria.com

29th November, 2019

The Chairman
Thru: Community Liaison Officer (CLO),
Gbelebu Community
Ovia SW LGA
Edo State.

Dear Sir,

PROJECTS BY OKOMU OIL PALM COMPANY PLC IN 2020 IN YOUR COMMUNITY

Based upon our ongoing corporate social responsibility (CSR) programme and in line with our Free, Prior and Informed (FPIC) commitments with your community, we are pleased to confirm that the following projects requested by your community will be erected by our company as follows:

1. The issuance of 2 bursaries valued at ₦90,000.00 each (as per the guidelines issued to your Committee by our Company previously);
2. Skills development for one year at a Training Centre for 5 youths (chosen as per the guidelines issued by the Company to your Committee previously);
3. Furnishing of town hall as per the directives of the Project personnel (2nd quarter);
4. One new domestic borehole at Eto Camp (3rd quarter);
5. Refurbishment of 4 boreholes as per the directives of the Projects personnel (1st quarter to 4th quarter);

My Community Liaison Officer and Projects personnel will liaise with you on the relevant projects stated herein and the details for each of the projects.

Please acknowledge receipt of, and acceptance of, the terms and conditions stated in this letter on behalf of your Committee & Community by signing the enclosed duplicate copy and returning it to my office.

Kind regards,



Dr. G. Hefer
Managing Director

Cc: HRM, Projects Engineer, HSE Manager, CLO, Media Officer, Estate Superintendent

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Edo State, Nigeria.

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Web: www.okomunigeria.com

23rd July, 2019

The Chairman
Thru: Community Liaison Officer (CLO),
Umopke Community
Uhunmwode LGA
Edo State

Dear Sir,

PROJECTS BY OKOMU OIL PALM COMPANY PLC IN 2020 IN YOUR COMMUNITY

Based upon our ongoing corporate social responsibility (CSR) programme and in line with our Free, Prior and Informed (FPIC) commitments with your community, we are pleased to inform you that our company is ready to partner you once again in 2020.

As we have done in the past, we request that your committee sends to us a letter requesting the areas and projects that they think our company can assist your community with in 2020. We also suggest that in 2020 your committee looks at the refurbishment and/or maintenance of some of the previously erected projects completed by Okomu in previous years which may now in need of an overhaul to bring them back to their former glory again. In this regard, Mr Kunle and Mr Alex will be coming to your community to discuss with you what formerly completed projects they feel could be refurbished by our company again. Once consensus has been reached, then you can include these refurbishments in your request list for next year and I will revert back to confirm what we can do for your community with both new and old projects in 2020.

Once your community has drawn up their list of projects, both old and new, please ensure that your completed list reaches me on or before 30th August, 2019 through the Community Liaison Officer assigned to your community.

Please acknowledge receipt of, and acceptance of, the terms and conditions stated in this letter on behalf of your Committee & Community by signing the enclosed duplicate copy and returning it to my office.

Kind regards,



Dr G. Hefer
Managing Director

Cc: HRM, Projects Engineer, HSE Manager, Communications Officer, Estate Superintendent

Lagos Office:

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E-mail: lagosoffice@okomunigeria.com

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E-Mail: info@okomunigeria.com, compsec@okomunigeria.com

Web: www.okomunigeria.com

23rd July, 2019

The Chairman
Thru: Community Liaison Officer (CLO) Ext. 2
Oke-Irhue Community
Uhunmwode LGA
Edo State.

Dear Sir,

PROJECTS BY OKOMU OIL PALM COMPANY PLC IN 2020 IN YOUR COMMUNITY

Based upon our ongoing corporate social responsibility (CSR) programme and in line with our Free, Prior and Informed (FPIC) commitments with your community, we are pleased to inform you that our company is ready to partner you once again in 2020.

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Please acknowledge receipt of, and acceptance of, the terms and conditions stated in this letter on behalf of your Committee & Community by signing the enclosed duplicate copy and returning it to my office.

Kind regards,


Dr G. Hefer
Managing Director

Cc: HRM, Projects Engineer, HSE Manager, Communications Officer, Estate Superintendent

Lagos Office:

Tel: 01-84446337

E-mail: lagosoffice@okomunigeria.com

Okomu – Udo, Ovia South West L.G.A

P.M.B. 1449, Benin City.

Edo State, Nigeria.

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Web: www.okomunigeria.com

23rd July, 2019

The Chairman

Thru: Community Liaison Officer (CLO) Ext. 2

Owan Community

Ovia NE LGA

Edo State.

Dear Sir,

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P.M.B. 1449, Benin City.

Edo State, Nigeria.

E-Mail: info@okomunigeria.com, compsec@okomunigeria.comWeb: www.okomunigeria.com23rd July, 2019

The Chairman
Thru: Community Liaison Officer (CLO),
Uhiere Community
Ovia NE LGA
Edo State.

Dear Sir,

PROJECTS BY OKOMU OIL PALM COMPANY PLC IN 2020 IN YOUR COMMUNITY

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Kind regards,



Dr G. Hefer
Managing Director

Cc: HRM, Projects Engineer, HSE Manager, Communications Officer, Estate Superintendent

ODIGHI COMMUNITY

Along Benin / Akure Road, Uhiere Ward, Ovia-North East L.G.A.,
Via Benin City, Edo State.

25 – 01 – 2019

Dr. Graham Hefer
Managing Director
Okomu Oil Palm Com (PLC)
Okomu – Udo

Dear Sir,

PROJECTS BY OKOMU OIL PALM COMPANY PLC IN 2019 IN ODIGHI COMMUNITY

Your letter dated 4th January 2019 about the above heading was received by us on the 17th January 2019. All the contents therein were understood. We thank you for the promises kept by your company.

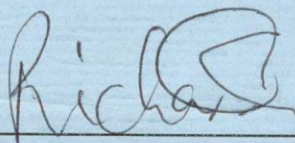
Please, we wish to bring to your notice that mention was not made about our Community Town Hall that is already ongoing as Phase One Renovation Project by your company.

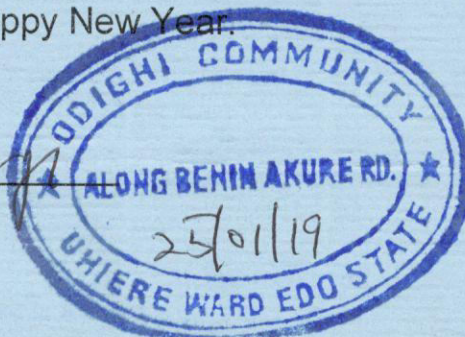
We are pleading that the Town Hall should please be completed before any other new project for the year 2019 is embarked upon by your company.

Your co-operation and understanding is highly solicited.

Our Best Regards

Once again we say Happy New Year.


Mr. Richard Amayo
Projects Chairman



Cc HRM, Projects Engineer, HSE Manager, CLO, Media officer, Estate Superintendent

Lagos Office:

Tel: 01-84446337

E-mail: lagosoffice@okomunigeria.com

Okomu – Udo, Ovia South West L.G.A

P.M.B. 1449, Benin City.

Edo State, Nigeria.

E-Mail: info@okomunigeria.com, compsec@okomunigeria.comWeb: www.okomunigeria.com23rd July, 2019

The Chairman
Thru: Community Liaison Officer (CLO) Ext. 2
Odiguetue Community
Ovia NE LGA
Edo State.

Dear Sir,

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Kind regards,


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Managing Director

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Lagos Office:

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Edo State, Nigeria.

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23rd July, 2019

The Chairman
Thru: Community Liaison Officer (CLO) Ext. 2
Irhue Community
Ovia NE LGA
Edo State.

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Edo State, Nigeria.

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Web: www.okomunigeria.com

23rd July, 2019

The Chairman
Thru: Community Liaison Officer (CLO) Ext. 2
Orhua Community
Uhunmwode LGA
Edo State.

Dear Sir

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Edo State, Nigeria.

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Web: www.okomunigeria.com

23rd July, 2019

The Chairman
Thru: Community Liaison Officer (CLO) Ext. 2
Agbinikaka Community
Ovia NE LGA
Edo State.

Dear Sir,

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Managing Director

Cc: HRM, Projects Engineer, HSE Manager, Communications Officer, Estate Superintendent

Lagos Office:

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P.M.B. 1449, Benin City.

Edo State, Nigeria.

E-Mail: info@okomunigeria.com, compsec@okomunigeria.com

Web: www.okomunigeria.com

23rd July 2019

The Chairman
Thru: Community Liaison Officer (CLO),
Gbelebu Community
Ovia SW LGA
Edo State

Dear Sir,

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Managing Director

Cc: HRM, Projects Engineer, HSE Manager, Communications Officer, Estate Superintendent

Lagos Office:

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Okomu – Udo, Ovia South West L.G.A

P.M.B. 1449, Benin City.

Edo State, Nigeria.

E-Mail: info@okomunigeria.com, compsec@okomunigeria.com

Web: www.okomunigeria.com

23rd July, 2019

The Chairman
Thru: Community Liaison Officer (CLO),
Udo Community Relations Committee
Ovia SW LGA
Edo State

Dear Sir,

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23rd July, 2019

The Chairman
Thru: Community Liaison Officer (CLO),
Inikorogha Community
Ovia SW LGA
Edo State.

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23rd July, 2019

The Amakosiwe
Thru: Community Liaison Officer (CLO),
Ofunama Community
Ovia SW LGA
Edo State.

Dear Sir,

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P.M.B. 1449, Benin City.**

Edo State, Nigeria.

E-Mail: info@okomunigeria.com, compsec@okomunigeria.com

Web: www.okomunigeria.com

23rd July, 2019

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Thru: Community Liaison Officer (CLO) Ext. 2
Ekpan Community
Uhunmwode LGA
Edo State.

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23rd July, 2019

The Chairman
Thru: Community Liaison Officer (CLO),
Madagbayo Community
Ovia SW LGA
Edo State.

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APPENDIX E

Staff Training and Development Planning


		Revision: 0
	FORM TRAINING PROGRAMME	Date: 06/06/2017
	Reference TRP – ADM 09.1	Page 1 of 2

IN-PLANT TRAINING PROGRAMMES FOR 2019

S/N	Course Title	Organizer	Duration	Date	Place	No of Batches	Status
1	The Community, Forest and Sustainability	Okomu	1 day	April 3	Okomu	1	Done
2	RSPO (Contractors / Staff)	HSE	1 day	April 1 - 19	Okomu	15	Done
3	Works ethics, Attitudinal change and Time Management	M. Y. Kachichi	1 day	April 29 – June	Okomu	30	Done
4	Successful Retirement Course	ITF	1 day	June 10	Okomu	1	Done
5	Issues in Gender Policies	UNIBEN	1 days	June 11	Okomu	1	Done
6	Perkins 4000 Series Control / Application Engineers training	ITF	2 days	June 12 - 13	Okomu	1	Done
7	Supervisory Management skill	Freeman Integrated Services Ltd	2 days	June 17 - 20	Okomu	2	Done
8	Advanced Chemical / Oil Spill Management	Safety Consult Ltd	2 days	June 24 - 27	Okomu	2	Done
9	First Aid Training	Red Cross	1 days	July 2	Okomu	1	
10	ISO 45001: 2018 Training	HSE	1 day		Okomu	1	
11	Workplace Safety Training	HSE	1 day	July 3 - 23	Okomu	15	
12	Supply Chain and Traceability	HSE	1 day	-	Okomu	-	Done
13	Training On Electrical Controls / Wiring on Wheel loader / Grader (Toyota Hilix) – Toyota / Mitsubishi electronic troubleshooting	Mandillas	2 days	July 24 - 5	Okomu	1	Done
14	Labor Laws and Human Rights	Bar. Osazee	2 days	July 29 – Aug. 1	Okomu	2	Done
15	Boiler and Turbine Handling Techniques	Hodskey Consultants	2 days	Aug. 3 – 4 (Weekend)	Okomu	1	Done
16	Advanced Excel Training	Freeman Integrated Services Ltd	2 days	Aug. 5 - 13	Okomu	3	Done


		Revision: 0
	FORM TRAINING PROGRAMME	Date: 06/06/2017
	Reference TRP – ADM 09.1	Page 2 of 2

17	Project Monitoring & Evaluation & AutoCAD 3D & Software in Map Creation	Freeman Integrated Services Ltd	2 days	Aug. 14 - 17	Okomu	2	Done
18	Training on Tractor General Operation and Safety (Tractor Operators)	ITF	2 days	Aug. 19 - 22	Okomu	2	Done
19	Maintenance / Repair of Modern Air Conditioner (Package Unit) and Refrigerator	Ampo Tech.	2 days	Aug. 26 - 27	Okomu	1	Done
20	Overhead H/T Line & Substation Maintenance (BEDC)	The Real Fep and Co. Nig. Ltd	4 days	Sept. 2 - 5	Okomu	2	Done
21	Principles of Operating Machine, Unsafe act and unsafe condition	Safety Consult Ltd	2 days	Sept. 9 - 17		3	Done
22	Electrical Control Programming on PLC and its trouble Shooting (Mill Electrician)	Hodskey Consultant	2 days	Sept. 14 – 15 (Weekend)	Okomu	1	Done
23	The Community, Forest and Sustainability	Okomu	1 day	Nov. 27	Okomu	1	Done
	<u>Extension 2</u>						
24	Time & Priority Management	M. Y. Kachichi	2 days	Sept. 9 - 12	Ext. 2	2	Done
25	Supervisory Skills Training	M. Y. Kachichi	2 days	Sept. 16 - 19	Ext. 2	2	Done


			Revision: 0
	FORM TRAINING PROGRAMME		Date: 06/06/2017
			Page 1 of 3
Reference	TRP – ADM 09.1		

IN-PLANT TRAINING PROGRAMMES FOR 2020

S/N	Course Title	Organizer	Duration	Date	Place	No of Batches	Status
1	The Land Use Act:- Allocation and re-dress	Okomu	1 day	February 28	Okomu	1	Done
2	Montessori Training for Teachers	Axiom Learning Solution Ltd.	2 days	August 11 - 12	Okomu	1	Done
3	First Aid Training	Red Cross	1 day	May 20	Okomu	1	Done
4	Successful Retirement Course	Aibangbee Chambers	2 days	May 21 - 22	Okomu	1	
5	Issues in Gender Policies	Prof. Edosomwan UNIBEN	1 day	June 16	Okomu	1	
6	Supervisory Management Skill	M. Y. Kachichi	2 days	July 16 - 23	Okomu	3	Done
7	Chemical / Oil Spill Management	Safety Consult Ltd	2 days	Aug 31 – 3 Sept	Okomu	2	Done
8	Advanced Excel Training	Freeman Integrated Services Ltd	2 days	June 2 - 9	Okomu	3	Done
9	Project Monitoring & Evaluation & AutoCAD 3D & Software in Map Creation	Freeman Integrated Services Ltd	2 days	June 10 - 11	Okomu	1	Done
10	Industrial Safety and Accident Prevention (Road Safety for Drivers)	Notek Business Resource	2 days	July 7 - 10	Okomu	2	Done
11	Bearing Maintenance, monitoring Machine Dismounting.	Applied Eng. Tech. Initiative Ltd.	2 days	June 6 – 7 (Weekend)	Okomu	1	Done
12	Operation and Principles of Hydraulic Tools	ITF	2 days	June 13 – 14 (Weekend)	Okomu	1	
13	Pump Maintenance & Repairs Operations	Applied Eng. Tech. Initiative Ltd.	2 days	June 20 – 21 (Weekend)	Okomu	1	Done
14	Role of Internal Audit in Corporate Governance	Atu Omimi-Ejour Osaretin & Co. (Chartered Acct)	2 days	July 9 - 10	Okomu	1	Done
15	Industrial Electronics Practical demonstration of repairs of Panel, A/C Inverters, Current transmitter and Electronic modulating valves	Hodskey Consultant	2 days	August 29 – 30 (Weekend)	Okomu	1	Done
16	Turbine Principles and Operations Steam/Boiler	Hodskey Consultant	2 days	August 22 – 23 (Weekend)	Okomu	1	Done

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17	Welding and Fabrication and Arc and Gas Welding	ITF	2 days	July 13 – 14 (Weekend)	Okomu	1	
18	Training on Toyota Hilux – Toyota Mitsubishi electronic troubleshooting	Mandilas	2 days	July 27 - 28	Okomu	1	
19	Training on Calibration and Programming “SIS” & Hydraulics	Sam. O.	2 days	August 6 - 7	Okomu	1	Done
20	Safety and Abuse of Machines	Sam. O.	2 days	Aug. 4 – 13	Okomu	4	
21	Training on Tractor General Operation and Safety & including hitching and care implements	ITF	2 days	Aug. 17 - 18	Okomu	2	
22	Training on Maintenance / Repair of Inverter Air Conditioner (Package Unit) and Froze free Refrigerator repair/maintenance	Ampo Tech.	2 days	Aug. 4 - 5	Okomu	1	Done
23	Overhead H/T Line & Substation Maintenance and Transformer testing.	Ese Tech. Nig.	4 days	Aug. 18 - 21	Okomu	1	Done
24	Modern Furniture Technique	Red Oak	2 days	Aug. 18 – 19	Okomu	1	Done
25	Numerical Competence	M. Y. Kachichi	2 days	Sept. 3 - 10	Okomu	3	
26	Emergency Plan and Exercise	HSE	1 day		Okomu	-	Done
27	Chemical Handling + Mixing	All Workers (HSE)	1 day	-	Okomu		Done
28	Personal Protective Equipment PPE Waste Management Safe Workplace Induction Training on RSPO standards Training on standards and certificates (ISO, OHSAS,...) excluding RPSO Fire Training Environmental sensitization Development & Assessment of Key Performer Indicator training	Department		-	Okomu		Done
29	Prunning Fertilizer Training	Department	1 day	-	Okomu		Done

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	Pest Control Phytosanitary						
30	Employee Code of Conduct Labor Laws and Human Rights Communication	HRD	1 day		Okomu		Done
31	Health Sensitization	Clinic	1 day		Okomu		
32	Practical Training on Mill / Factory Operation	Department	1 day		Okomu		Done
33	Review and recap of SOP	Department	1 day		Okomu		Done
34	The Land Use Act:- Allocation and re-dress	Ojo Chambers	1 day	November	Okomu	1	
	Extension 2						
35	Supervisory Training	M. Y. Kachichi	2 days	Sept. 21 - 24	Ext. 2	2	Done

APPENDIX F

Policies

1.0 Policy Statement

OkomuOilPalm 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 and related issues; and encourage their participation and cooperation to minimize adverse impact and protect the environment;
- Support our joint venture partners and small holders to adopt and implement these principles; and
- Periodically review this Environmental Policy to ensure it remains relevant and applicable to our business.
- Implementation of our GHG Emission Reduction Policy.

4.0 Record of Approval

Task	Name/signature	Job title	Date
Approved by	Dr. Graham Hefer	Managing Director	10 JUL 2020 DR. G. HEFER



All drivers/operators must always take note of the following:

1. The maximum speed limit on all of Okomu's plantation roads and those connecting Okomu to Extension 1 is **40km/h** for vehicles and **30km/h** for lorries.
2. Speed limits for vehicles within residential houses is **10km/h** and school areas is **5km/h**
3. This speed limit can be seen on warning signs displayed on these roads.
4. Drivers/operators are also to obey all traffic laws applicable in Nigeria, including wearing seat belts whether or not they are on public or private Okomu roads.
5. In addition, the speed limiter which is fitted according to Nigerian law on vehicles is set at this speed (between **45km/h** to **100km/hr**) to comply with these standard regulations.
6. Drivers/operators are not permitted to tamper with, disconnect/connect the speed limiters at any time at the risk of a serious sanction or even termination/removal from the company and/or charges for any damages incurred.
7. Only the Workshop Manager is permitted to alter the speed of the speed limiter. Consequently, drivers/operators should contact their direct superior authority for permission in this regard.
8. Any person captured on satellite camera over speeding will face serious sanction by Management.
9. All drivers/operators shall have valid driver's licenses.
10. All drivers/operators shall sign off that they have read and understood OOPC Vehicle SOP and all applicable rules pertaining to driving OOPC vehicles as contained in the Vehicle SOP.

Task	Name	Job title	Signature/Date
Authorized by	Dr. Graham Hefer	Managing Director	 DR. G. HEFER 09 JUL 2020

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.
- 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, 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
- Regular monitoring of PPE compliance and safety hazardous within the workplace.
- Commitment to consultation and participation of workers.

This policy is to be read in conjunction with the:

- High Risk Assessment- GP08
- Environmental Policy
- Incident and Hazard Reporting- GP18
- Safe Work Permit- GP20
- Boiler Room Operation- GP29 (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
Approved by	Dr. Graham Hefer	Managing Director



	Document title	Revision: 1
	OKOMU OIL PALM COMPANY PLC	Date: 01/04/2020
	CHILD LABOUR POLICY	Page 1 of 1

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.
- 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 Protection Act of Nigeria (2004), 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.
- OOPC shall ensure proper implementation and monitoring this policy (as per OOPC's Child Labour Procedure).
- 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	<div> <p>MANAGING DIRECTOR OOPC 09 JUL 2020 DR. G. HEFER</p> </div>

1.0 Policy Statement

The Okomu Oil Palm Company (OOPC) is committed to demonstrating the highest level of regard for business ethics, environmental practices, and full compliance with all applicable laws pertaining to them.

2.0 Scope

This policy is applicable to all stakeholders doing business with, or who are on the premises of OOPC at any time.

3.0 Definition

Code of ethics: A written set of guidelines issued by an organization to its staff, management and stakeholders to help them conduct their actions in accordance with its primary values and ethical standards.

4.0 Guidelines

OOPC is committed to:

- Complying with all international and national legislation, regulations, and OOPC's own policies in conducting its business.
- Timely, accurate and truthful disclosure of reports and documents filed with or submitted to regulators, and in other public communications made by OOPC.
- Using its funds and assets for lawful corporate purposes only, and to maintain OOPC's financial integrity.
- Prohibiting all forms of corruption, bribery and fraudulent use of funds and resources among all parties working for or on behalf of OOPC.
- OOPC complies with the United Nations Convention against Corruption, Article 12, which prevents corruption involving the private sector.
- Prohibiting the employment of all forms of involuntary or underage labour in the production of goods and services.
- Fair and appropriate disciplinary practices and recognition of the entitlement of all individuals to be treated equitably with dignity and respect.
- Advocate the right of its employees' to freedom of association and to maintain a workplace free from discrimination, physical or verbal abuse, threats, intimidation and harassment, whilst embracing diversity and respecting the personal dignity, rights and privacy of every employee.
- Provide a safe and healthy work environment for its employees and managers and encourage adherence to environmental, safety and health rules (as per OOPC Environmental and Safety Aspect procedure GP08).
- Protect its assets and ensure their efficient use by all persons working for or on behalf of OOPC.
- Discourage its employees from participating in any decision in which they may be unable to maintain professional objectivity due to conflicts of interest.
- Engage only in fair and open competition, by treating competitors, suppliers, customers, and colleagues with integrity.
- Encourage its employees to maintain the confidentiality of information entrusted to them, except when disclosure is authorized by the MD or required by laws or regulations as contained in the Freedom of Information Act 2011 Laws of the Federation of Nigeria.
- Corporate/ promotional gifts and hospitality on acceptance by staff & Management valued N20, 000 and above must be declared through the HOD/MD.
- OOPC do not make Political contributions of any form whilst carrying out its business operations with individuals, government agencies, NGOs, etc.
- OOPC will give charitable donations and sponsorships in line with its Procedure GP35 Corporate Social Responsibility
- OOPC do not comply any form of unethical conduct such as charging fees to workers, recovering cost of recruitment and transportation against workers' wages, receiving gifts and commissions from labour intermediaries, contractors, suppliers or other interested parties.
- In resolving conflicts, OOPC will avoid escalation of conflicts and prohibiting the usage of dogs and paramilitary in the organization.
- Communicated to all persons working for or on behalf of OOPC (as per OOPC communication procedure GP10) and enforce its strict compliance.


The HSE Manager shall implement, monitor and document the provisions of this code.

The Managing Director confirms the commitment and support, along with that of all stakeholders, employees and those working on behalf of the company, to the above policy statement and the effective application and continual compliance with this code of ethics.

5.0 Record of Approval

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



	Document title	Revision: 2
	OKOMU OIL PALM COMPANY PLC	Date: 13/08/20
	DRUG AND ALCOHOL POLICY	Page 1 of 1

1.0 Policy Statement

OOPC is committed to providing a safe and healthy drug, alcohol and substance free workplace that enables OOPC staff, contractors, sub-contractors and third party contractors (defined as stakeholders) to perform at their most productive levels. Consistent with that commitment, the company has developed this policy statement regarding drug and alcohol use, and the testing thereof, to minimise its effects in the workplace.

2.0 Objective

The policy is designed to maintain a work place free from drugs and alcohol. The drug and alcohol policy covers illegal or illicit drugs, alcohol and other controlled substances. These will be referred to as prohibited substances within OOPC's work environment. The goal is to establish and maintain a work environment that is free from all drugs, alcohol and/or other controlled substances.

3.0 Scope

This policy is applicable to all stakeholders doing business with OOPC, during business hours.

Stakeholders shall be obliged to undergo random drug/alcohol tests at any time that OOPC requests them to do so. Refusal to undergo any test will lead to the immediate termination or loss of contract by the stakeholder(s) concerned.

4.0 Legislation

Driving

0.00% is maintained for **ALL** driving activities within OOPC concessions during working hours. However as regards the Nigerian Highway Code section 2.6f, maximum permissible blood alcohol level for driving on the highway **ONLY** is 0.5gms per liter or 0.05% of Blood Alcohol Concentration (BAC)

5.0 Definitions

5.1 **Alcohol Dependence** is defined as: The habitual drinking of intoxicating liquor by a stakeholder, whereby the stakeholder's ability to perform his/her duties are impaired, and/or his/her attendance at work is negatively affected, and/or they endanger the safety of others.

5.2 **Drug Dependence** is defined as: The habitual taking of drugs by a stakeholder other than a drug prescribed as medication, resulting in a stakeholder's ability to perform his/her duties being impaired, and/or their attendance at work is negatively affected, and/or they endanger the safety of others.

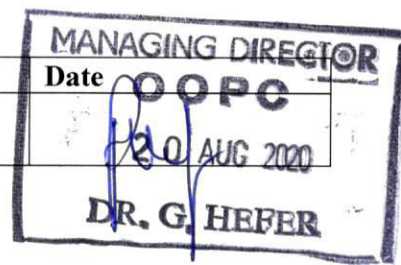
6.0 Guidelines

Any stakeholder, who violates this policy, may be subjected to one or all of the following measures:

- Disciplinary action, including termination of employment or contract.
- Violation by contractors or third party contractors will result in their removal from the workplace and their contract terminated.
- In the absence of a contractor's written policy, OOPC will administer appropriate elements of this policy as deemed necessary.
- This policy will be communicated to all stakeholders involved in any way with OOPC, as per OOPC Communication Procedure-GP 10.

7.0 Record of Approval

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



EMERGENCY RESPONSE/CONTINGENCY PLAN FOR FIRE, SECURITY THREATS, MEDICAL, CHEMICAL SPILL, AND ELECTRIC SHOCK

1.0 Purpose/Scope

This procedure defines the framework for preparing for and responding to emergencies involving fire, security threats, chemical spill, medical emergency and electric shock.

2.0 Workplace/Activities Affected

All workplace and departments

3.0 Definitions

3.1 Fire and Chemical spill are defined as materials which when released into the environment, or because of their properties and the way they are used, could cause harm to workers, from fires and explosions. Dangerous substances include petrol (PMS), liquefied natural gas (LPG), paints, chemicals and solvents.

3.2 Security threat is defined as any incident or confrontation that jeopardizes property and lives, which includes, but not limited to: militants and civil unrest.

3.3 Emergency Response-actions taken by personnel within the work area in an effort to mitigate the impact of an incident on the public and the environment.

3.4 TOC-Tactical Operations Centre: a communication Centre that coordinate all crisis activities.

3.5 Electric shock is defined as a sudden discharge of electricity through a part of the human body.

4.0 Exclusions

None

5.0 Procedures

In the circumstances:

5.1 For fire and security threats:

- The Person who has observed any danger must alert employees by sounding appropriate alarms. The alarm must be heard, seen or otherwise perceived by everyone in the workplace.
- The person must notify security/TOC on the emergency numbers posted in various locations in the work place, inform TOC of the situation fire/incident. If it's a fire, inform TOC of the location, injuries, potential fire hazards and risk (oil drums, paints, banga product, rubber, chemicals and gas bottles etc). TOC will brief fire service. If it is an incident, inform TOC of the type of incident, location description of suspect(s) type of weapon (if it involves a weapon) and any injuries at the scene.
- TOC will dispatch the appropriate authority to the scene, along with medical staff, if safe to do so, at the time.
- HSE representatives, will assist with evacuation of the worker(s) from the building.
- All workers must report to their muster point.
- HSE representatives will assist personnel with special needs or disabilities who may need help evacuating and assign one or more people, including backup personnel, to help them.
- Staff should ensure all windows and doors are closed, and all electrical appliances are switched off and unplugged before evacuating the building
- HSE representatives will do a head count to verify if anyone is missing, with the assistance of a contractor for their workers, if any are in that department.
- HSE representatives should ensure that no body returns to the factory/building until it is cleared by the appropriate authority.

5.2 For chemical spill:

For small spill:

- First person to observe a spill must use the appropriate spill kit to control the spill.

For large spill:

- The first person to observe the spill must contact their supervisor, who will notify HSE to dispatch the Spill Response team, to see a perimeter to contain the spill.
- The supervisor must notify TOC, for emergency assistance (if needed).
- HSE will notify The Federal Ministry of Environment.
- The Federal Ministry of Environment will assist in the disposal of waste and,
- Decontaminate the area and affected place.

5.3 For medical emergency;

- The person who has observed any emergency must notify TOC on the emergency numbers posted in various locations in the work place, inform TOC of the type of Emergency.
- TOC will notify and dispatch medical staff and ambulance to the scene.

5.4 For electric shock;

- First person to observe a shock situation should turn off the source of electricity, if possible, if not, notify the Estate department and contact TOC to dispatch the appropriate authority.
- Keep the shocked person warm, lying down, and still until the ambulance arrives.

6 Emergency numbers

0813 463 1183 (TOC) – 24hrs

7 Record of Approval

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



	Document title	Revision: 1
	OKOMU OIL PALM COMPANY PLC	Date: 11/06/2020
	FIRE PREVENTION AND MANAGEMENT	Page 1 of 1

1.0 Policy Statement

The prime purpose of this policy is to ensure maximum fire prevention within OOPC concessions and around its border lines.

2.0 Scope

The policy is applicable to all OOPC concessions, including those subsidiaries and third party suppliers.

3.0 Definitions

3.1 Dry Season-Period at the time of the year with little or no amount of rain fall.

3.2 TOC-Tactical Operation Centre

4.0 Guidelines

- OOPC has taken on an active role in mitigating the occurrence of haze in the region, through our commitment to no deforestation.
- This policy is supplemented with community education and awareness campaigns, as well as multi-stakeholder partnership to entrench sustainable practices throughout the industry.

NO DEFORESTATION

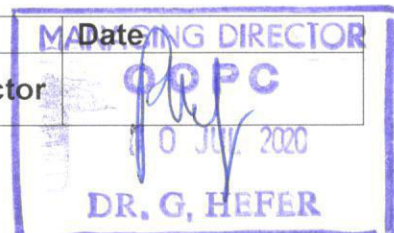
- One of the key tenets of the No Deforestation pillar is a strict Zero Burning Policy.
- We do not tolerate the use of fire in land preparation or development.
- Mechanical methods are employed in land development and wood debris is left to decompose. This returns nutrients back into the land and reduces the need for inorganic fertilisers, thereby also reducing the greenhouse gas footprint.


ACTIVE FIRE MONITORING AND RAPID RESPONSE

- TOC (TOC 2 for Extension 2) is notified of any sign/fire sighted within OOPC concession and boundary areas through the emergency number.
- OOPC has a 24/7 fire monitoring system in place during dry season to alert us of fires in and around our concessions.
- OOPC has a well-established fire prevention and suppression programme to minimise the incident and impact of fire and haze.
- All OOPC concession is equipped with fire-fighting infrastructure and equipment, and staffed with an on-site fire brigade.
- Fire service personnel are trained to be vigilant and prepare to respond to fire incidences quickly and decisively.
- Regular meetings are conducted with neighbouring communities to inform and educate on fire prevention techniques.
- Fire extinguishers are located in various locations within OOPC concession.
- OOPC staff members are educated on the use of fire extinguisher annually.
- Regular audit is conducted with State Fire Service for proper inspection of fire-fighting equipment.
- HSE Manager is responsible for managing the fire brigade and this policy.

5.0 Record of Approval

Task	Name/signature	Job title	Date
Approved by	Dr. Graham Hefer	Managing Director	10 JUL 2020



	Document title	Revision: 1
	OKOMU OIL PALM COMPANY PLC	Date: 15/04/20
	GENDER POLICY	Page 1 of 2

1.0 Policy Statement

The Okomu Oil Company PLC (OOPC) is committed to maintaining a positive climate at work, in which individuals can work together in an environment free of all forms of violence, harassment, and discrimination on the basis of gender. OOPC strongly believes and supports gender equality and opposes any form of gender discrimination and violence at the workplace. The Company is therefore obligated in providing a safe work environment which is free from any kind of bias and harassment. The organization draws its source by upholding the constitutional mandate (section 17, 34, 35, Nigeria Constitution) and (Nigeria Labour Act 2004 section 73) to ensure the human rights of the people that are under its jurisdiction.

2.0 Scope

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

3.0 Policy Requirement

The Gender Committee at OOPC has been set up with an objective of providing men & women an appropriate complaint mechanism against any inequality issue or unwelcome behavior in any manner. The policy suggests mechanisms that are accessible and will ensure confidentiality. It also serves as a system to ensure the fair, accountable and representative procedures for redressal and resolution. This Policy also defines the Physical, Psychological and Emotional harassment, physical or verbal form) by any gender and the mechanisms of redressal through the Committee by looking at the specific structures, needs and imperatives in OOPC. However, for female members, Sexual harassment is guided by the definition of Sexual Harassment given by the Nigeria law.

4.0 Objective

Okomu Oil Palm Company (OOPC) aims to fulfill its obligations under this policy by removing any barriers that prevent women from achieving equality and seek to protect the reproductive rights of women.


5.0 Scope

The policy applies to employees and contractors (including temporary contractors) of OOPC. This policy does not form part of any employee's contract of employment or contractor's services.

6.0 Definitions

Gender equality" means the equal rights, obligations, opportunities and liability of men and women in professional life, upon acquisition of education and participation other areas of social life; Equal treatment for men and women" means that there Shall be no discrimination whatsoever based on sex, either directly or indirectly;

- Direct discrimination based on sex" occurs where one person is treated less favorably on grounds of sex than another is, has been or would be treated in a comparable situation. Direct discrimination based on sex also means the less favorable treatment of a person in connection with pregnancy and childbirth, parenting, performance of family obligations or other circumstances related to gender, and sexual harassment;
- indirect discrimination based on sex" occurs where an apparently neutral provision, criterion or practice would put persons of one sex at a particular disadvantage compared with persons of the other sex unless that provision, criterion or practice is objectively justified by a legitimate aim, and the means of achieving that aim are appropriate and necessary;
- Harassment has been defined under the categories of Psychological Physical and emotional. The following shall constitute Harassment
 - When unwelcome acts like any visual, verbal or physical conduct such loaded comments, remarks or jokes, emails, letters, phone calls, text messages, gestures, physical contact, stalking, display of a derogatory nature or creating an intimidating, hostile or offensive environment.

	Document title	Revision: 1
	OKOMU OIL PALM COMPANY PLC	Date: 15/04/20
	GENDER POLICY	Page 2 of 2

- Any unwelcome sexual advances, requests for sexual favors or any conduct of a sexual nature (Verbal or nonverbal conduct)
- Any action or comment/s (racial, ethnic, religious etc) which has the purpose or effect of substantially interfering with an individual's work performance or creating an intimidating, hostile, or offensive working environment.

7.0 Guidelines

- To espouse the cause of the right to gender equality and right to dignified livelihood.
- To foster a social, physical and psychological environment that will enable employees to work productively.
- Capacity building for gender sensitization: We will organize workshops, training programs and discussions for promoting and enabling a gender sensitive work culture. Also, regular trainings will be conducted on awareness and confidence building of field staff, with special focus on women staff.
- Building skills and capacities on gender perspectives to enable greater participation of all sections of community in our programs will be one of our objectives in all programs.
- This policy would implement the sexual harassment, child labour and female reproductive policies of the Company.

8.0 Role of the Gender Committee

The Committee's role will include of following:

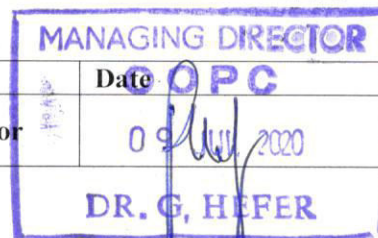
- To play a preventive role by making efforts towards sensitization of the staff on gender issues by conducting periodic programs and in house workshops/gathering.
- To take cognizance of complaints about Harassment, conduct proper enquiries, provide assistance and redressal to the victims, recommend penalties and action against harasser, if required.
- Ensure Safety and equality at all levels at the workplace.
- To recommend arrangements for appropriate emotional, psychological and physical support (in form of counseling and other assistance), if desired by the victim.
- Child care facilities to be provided by the growers and millers.
- Ensure vehicles are provided to breastfeeding mothers to take them to child care facilities to breastfeed their babies
- Women to be given specific break times to enable effective breastfeeding.
- The policy shall be reviewed annually.

9.0 Procedures of Registering Complaints

To follow OOPC procedure GP 27 (Grievance Procedure) attached.

10.0 Record of Approval

Task	Name/signature	Job title	Date
Approved by	Dr. Graham Hefer	Managing Director	09 JUL 2020



1.0 Policy Statement

OOPC monitors its greenhouse gas (GHG) emission and is constantly seeking for ways to reduce its carbon footprint in our plantation and industrial operations. We constantly strive to adopt best practices to reduce emission of carbon compounds in our palm plantations and oil mills. This is demonstrated in our optimal use of electricity from the national grid, and the use of the fresh fruiting bunch (FFB) fibre/kernel shells in our boilers. Further innovations to lower our carbon footprint include the installation of a steam turbine, which, together, enable the company to reach all of the GHG emissions reduction objectives, targets and timelines that have been adopted.

2.0 Scope

This policy applies to every area of our operations.

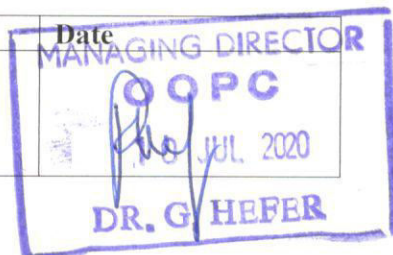
3.0 Guidelines

OOPC commits to:

- Constituting periodic green energy meetings aimed at reducing the use of fossil fuel in our operations.
- Identifying areas of significant GHG emissions and implementing plans to reduce or minimize them.
- Supporting the reduction of emissions from deforestation and forest degradation through the maintenance and protection of our forests.
- Conserving high carbon stock (HCS) forests and high conservation value (HCV) areas, and enhancing them where necessary.
- Minimizing the utilization of generation sets.
- Establishing a monitoring system to annually report our progress in reducing significant pollutants and emissions from our plantation and mill operations using palm GHG calculation from RSPO.
- Optimizing the use of FFB fibre/kernel shells in our boiler and increasing the use of the steam turbine as a priority over other alternative energy sources available to the company.
- Implementing our 'zero burning policy'.
- Reducing, recycling, reusing waste and disposing of waste, in an environmentally and socially responsible manner.
- Replacing regular light bulbs with more eco-friendly, compact fluorescent lights (CFL) in offices/production sites.
- Regular maintenance of all company's vehicles, road upkeep and to create shorter routes to mill and plantation fields thereby using less fossil fuels.
- Quarterly testing of ambient air quality.
- Reforestation of required areas in riparian areas which will be extracted from monitoring records.
- Since fertilizer is an important source of carbon, the plantation department will ensure fertilizer application is based on results of Annual foliar analysis and once in 5 years soil analysis results
- Setting Key Performance Indicator (KPI) for turbine use.

4.0 Record of Approval

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



1.0 Policy Statement

OOPC will provide a positive and supportive environment for all of its employees, visitors, contractors, third parties contractor and stakeholders, and as such will take every step to resolve issues within the workplace, and communities/stakeholders as quickly and efficiently, at the lowest possible level.

2.0 Scope

This policy is applicable to all stakeholders associated with OOPC.

3.0 Definitions

Grievance Management: is defined as a concern or complaint raised by an individual or group, in relation to activities undertaken by OOPC.

4.0 Guidelines

The following commitments will apply to OOPC's grievance management activities.

- In resolving conflicts, OOPC will avoid escalation of conflicts and prohibiting the usage of dogs and paramilitary in the organization.
- OOPC shall set up a process for recording and addressing external and internal grievances that are culturally appropriate (see OOPC grievance management procedure GP 27).
- OOPC shall establish and monitor a grievance management plan communicated in a way that it is accessible to all stakeholders.
- OOPC must commit to assess how grievances are received and responded to, based on the principles of transparency and accountability for all stakeholders.
- All stakeholders will be able to raise grievances without fear of reprisals, costs or retribution.
- OOPC will treat all matters with due confidentiality; individuals may report a grievance anonymously, although this blocks the access to engage them on a dialog in order to resolve or clarify the grievance.
- Grievances can be submitted through the Community Liaison Officer, Communication Officer or the following channels:

By email: hsesec@okomunigeria.com

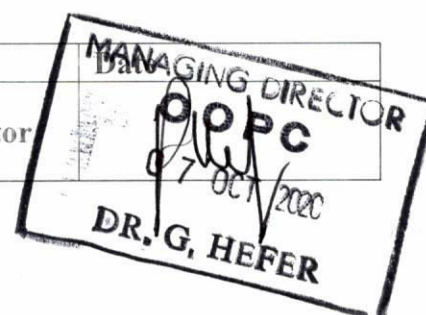
By telephone: 08068774161

In writing to: Okomu-Udo Ovia South West LGA. P.M.B 1449, Benin City, Edo State
Nigeria Attention: HSE Department (Grievance section)

- All grievances will be responded to within 15 days, either with a resolution or an update on progress if a resolution has not been found. All grievances should be resolved within 30 days or brought to the attention of the MD.
- OOPC shall decide and announce to the stakeholders the schedule for the periodic reporting on the management of the grievances received.
- This policy will be communicated to all stakeholders as per OOPC communication procedure GP 10.
- The HSE Manager shall control, monitor and manage all grievances on behalf of OOPC.

5.0 Record of Approval

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



1.0 Policy Statement

Respect for human rights is a fundamental value of OOPC. We strive to respect and promote human rights in accordance with the UN Guiding Principles on business and human rights in our relationships with our employees, suppliers and stakeholders. Our aim is to help increase the enjoyment of human rights within the communities in which we operate. This Human Rights policy elaborates on the requirement within our code of ethics policy to treat everyone at OOPC - and everyone with whom we come into contact - with fairness, respect and dignity. OOPC is committed to protecting individuals and their reports, complaints or disclosures filed in good faith. We also recognize that Human rights defenders work to promote transparent and accountable governments, clean and safe environments, fair working conditions, and equitable societies. They play a critical role in fostering corporate transparency and respect for human rights, such as monitoring of supply chains, exposing corruption, and protecting our shared environment. Based on this, we provide access to reliable channels to report wrongdoing; robust protection from all forms of retaliation; and mechanisms for reporting that promote reforms that correct legislative, policy or procedural inadequacies and prevent future wrongdoing. We also prohibit intimidation and harassment, including from security services/forces. This Policy is guided by the Universal Declaration of Human Rights, including those contained within the international Bill of rights and international labour organization's 1998 Declaration on Fundamental principles and rights at work, United Nations declaration on Human Rights Defenders, The International Covenant on Civil and Political Rights (explicitly referencing the protection of whistleblowing as an aspect of freedom of expression under Article 19), The International Covenant on Economic, Social and Cultural Rights; Convention on the Elimination of All Forms of Discrimination against Women (CEDAW); The International Labour Organisation's (ILO) Declaration on Fundamental Principles and rights to work; and RSPO Policy on the Protection of Human Rights Defenders, Whistleblowers, Complainants and Community Spokespersons.

2.0 Scope

This policy applies to all OOPC employees, contractors, service providers, and third party workers. It also covers the Human rights defenders (HRD), Environmental human rights defenders, whistleblowers and complainants within our stakeholders group, including community spoke persons. In implementing this Policy, we are subject to the laws of Nigeria and we are committed to complying with all such applicable laws. Our principle is that where national law and international human rights standards differ, we will follow the higher standard; where they are in conflict, we will adhere to national law, while seeking ways to respect international human rights to the greatest extent possible. Where local laws prohibit us from upholding certain aspects of this policy, we will comply with these local laws while continually seeking to respect and protect human rights. OOPC strives to prioritize the management of the human rights impacts of our business activities based on the operational context, our leverage and business relationships. As a result, we concentrate on our own operations and contractors/suppliers, most specifically on human rights related to labour conditions. OOPC, however, recognizes that other human rights may become greater priorities over time and we will regularly review our focus areas.

3.0 Definitions

Adequate: Capable of leading to the identification and punishment of those responsible

Environmental Human Right Defenders: Individuals and/or groups who, in their personal or professional capacity and in a peaceful manner strive to protect and promote human rights relating to the environment, including water, air, land, flora and fauna. They are characterized through their actions to protect environmental and land rights. Although they may work as journalists, activists or lawyers who expose and oppose environmental destruction or land grabbing, in many cases they are indigenous leaders or community members who defend their traditional lands against the harms of large -scale development projects.

Human Rights Defenders (HRD's): Individuals, groups or associations who promote and protect universally recognised Human Rights and contribute to the elimination of all forms of violations and fundamental freedoms of individuals and peoples. This definition does not include those individuals who commit or propagate violence.

Impartial and independent: Those responsible for carrying out the investigation must fair and not reliant only on the parties involved in the events under investigation;

Prompt: The investigation must be commenced swiftly and be completed within a reasonable time;

Reasonable belief: is defined as when a person could reasonably suspect wrongdoing in light of available evidence.

Thorough: Comprehensive in scope and – among other things – capable of identifying any systematic failures that led to the violation;

Whistleblower: Is anyone who exposes (reports) fraud, extortion, or sabotage to the relevant authority.

	Document title	Revision: 2
	OKOMU OIL PALM COMPANY PLC	Date: 02/10/20
	HUMAN RIGHTS POLICY	Page 2 of 2

4.0 Guidelines

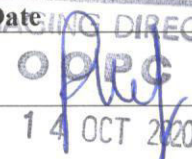
OOPC commits to:

- Recognize and respect the rights of all workers, including the workers of contractors, temporary workers or migrant workers. Our commitment is further manifested in policies such as the Code of Ethics Policy, Sexual Harassment Policy, Child Labour Policy, HIV/AIDS Policy, Safety and Healthy Workforce policy, Forced labour and Human Trafficking policy and amongst others.
- Conduct our business in a manner that respects the rights and dignity of all people whilst complying with all legal requirements.
- Treat everyone who works for OOPC fairly and without discrimination. Our employees, contractor staff and suppliers are entitled to work in an environment and under conditions that respect their rights and dignity.
- Respect freedom of association and ensure no forced, trafficked or bonded labour. Where our employees wish to be represented by workers unions, we will cooperate in good faith with the bodies that our employees collectively choose to represent them within the appropriate national legal frameworks.
- Recognize and respect the rights of local and indigenous communities by respecting their cultures, customs, values and land tenure rights. We commit to obtaining Free, Prior and Informed Consent from local communities before commencing new operations and commit to open, transparent, fair and equitable conflict resolution.
- Respect the rights of people in communities impacted by our activities and maintain a transparent and open dialogue with them. We will seek to identify adverse human rights impacts and take appropriate steps to avoid, minimize and/or mitigate them.
- Seek to make contractual commitments with contractors/suppliers that encourage them to adhere to the same principles.
- Ensure the provision of security is consistent with laws of Nigeria, using security services only where necessary and requiring the use of force only when necessary and proportionate to the threat.
- Continue to build the awareness and knowledge of our management, employees and contractors/suppliers on labour rights and this policy and encouraging them to speak up, without retribution, about any concerns they may have.
- Place importance on the provision of effective company-based grievance mechanism which is applicable to all stakeholders to ensure remediation of potential abuses. Any stakeholder with concerns regarding the human rights impacts of OOPC's activities may raise these through the grievance management process.
- Continue increasing the capacity of our management to effectively identify and respond to concerns.
- Grant protection for reports made by HRD with a **reasonable belief** that the information is true at the time it is disclosed.
- Protect individuals to safeguard the individuals' physical and psychological integrity and that of their family group, their property and working conditions; against violence, threats, all forms of retaliation, direct or indirect, pressure or any other arbitrary action as a consequence of the individual's legitimate exercise of their fundamental human rights in the course of their engagement with OOPC or as a result of their report against violation of human rights.
- Protect individuals from all forms of retaliation, disadvantage or discrimination (all types of harm, including but not limited to: dismissal, probation and other job sanctions; punitive transfers; harassment; reduced duties or hours; withholding of promotions or training; loss of status and benefits; and threats of such action) in workplace linked or resulting from HRD activities. OOPC seek to preserve the individual's confidentiality. The identity of the individual may not be disclosed without the individual's explicit informed consent.
- Ensure employees and workers have the right to decline to participate in corrupt, illegal or fraudulent acts.
- Provide protection against threat to individuals who have disclosed information anonymously including those who subsequently have been identified without their explicit consent.
- Ensure that any investigation is **adequate, thorough, impartial, independent and prompt**; and a sufficient element of transparency of the investigation or its result to ensure accountability.
- Ensure full range of remedies, covering all direct, indirect and future consequences of any reprisals.

The Human Resource 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	14 OCT 2020

MANAGING DIRECTOR

 OOPC
 14 OCT 2020
 DR. G. HEFER

1.0 Policy Statement

The **OKOMU OIL PALM COMPANY PLC** is determined to achieve sustained success by meeting the needs and expectations of our customers and other interested parties, over the long term and in a balanced way.

To that end, OOPC is committed to:

- Providing customers with high quality products and services which meet requirements and are fit for their purpose.
- Understanding, satisfying and taking into account the current and future needs and expectations of the customers and other interested parties; to build with them mutually beneficial relations on the basis of a balance of interests and achievement of the goals in accordance with the company's development strategy.
- Maintaining existing and developing new markets for production and services, to adapt to new requirements in order to ensure competitive advantages.
- Taking into account the external and internal factors of the business environment and to manage risks and opportunities in accordance with the Risk Management Policy of the company.
- Complying with all international, national laws and the company's own health, safety, quality and environmental legislations, laws, regulations and other requirements related to our activities, products and services.
- Enhancing the skills of management and staff through review and actively pursuing an on-going training policy, the objective of which is to prepare staff to perform their work more effectively.
- Advocating the adoption of prudent health, safety, environmental and quality principles to our vendors, suppliers, and customers and prevention of the supply of unsatisfactory quality products and services, workplace health and safety hazards and environmental pollution.
- Reduce and eliminate the generation of waste and emissions at the source, prevent pollution, conserve natural resources, sustainable resource use, protection of biodiversity & ecosystem and make all efforts to recycle when practical.
- Integrating health and safety considerations into decision making at all levels to prevent injury and ill health risks to our people and ensuring the participation and consultation of all employees and their representatives in the occupational health and safety management system.
- Involving all employees in improvement and innovation and generating awareness amongst all concerned for their roles and responsibilities in ensuring effective quality, environment, and health & safety management systems.
- Providing all the resources of equipment, human, technical and any other requirements to promote the Integrated Management System.
- Promoting the Integrated Management System and continually improving its effectiveness through the use of the IMS policy, targets and objectives, audit results, monitoring and measurement, analysis of data, corrective and preventive actions and management review.
- Communicating this policy to all persons working for or on behalf of the organization and its stakeholders and making it available to any interested party.
- Reviewing of this policy annually or following significant changes to our business practices.

The Managing Director confirms the commitment and support, along with that of all employees and those working on behalf of the company, to the above policy statement and the effective application and continual improvement of the Integrated Management System.

2.0 Record of Approval

Task	Name/signature	Job title	Date
Approved by	Dr. Graham Hefer	Managing Director	03/08/2020

MANAGING DIRECTOR
OOPC
03/08/2020
DR. G. HEFER

	Document title	Revision: 1
	OKOMU OIL PALM COMPANY PLC	Date: 11/06/2020
	MANAGEMENT REVIEW POLICY	Page 1 of 1

1. SCOPE

- This policy applies to all the activities within the scope of OOPC's Quality Management System (QMS), Environmental Management System (EMS), Occupational Health and Safety Management System (OH&SMS), Roundtable on Sustainable Palm Oil (RSPO) and Supply Chain Certification Standards (SCCS).

2. PURPOSE

- To ensure that top management systematically reviews the QMS, EMS, OH&SMS, RSPO and SCCS performance, in accordance with the established operating procedures.
- To review the adequacy, suitability, and effectiveness of previous corrective and preventive actions including those related to outsourced service and supplier performance.
- To identify strengths and opportunities for improvement and make recommendations for continual improvement.

3. DEFINITIONS

- Management Review (MR): Cross-functional review by an organization's top management which takes place at regular intervals aimed to assess the organization success at achieving set objectives established thus ensuring its continued suitability, adequacy and effectiveness and to take action to correct it when necessary.
- HSE Manager: Health, Safety and Environment Manager.
- H.O.D: Head of Department
- Objective: A statement to describe what should be achieved within the time frame and available resources. It shall be consistent with the evidence-based practice and the visions that the organization creates itself to achieve.
- Audit: A systematic, independent and documented process for obtaining audit evidence (records, statements of fact or other information which are relevant and verifiable) and evaluating it objectively to determine the extent to which the audit criteria (set of standards, policies, procedures or requirements) are fulfilled.

4. RESPONSIBILITY AND AUTHORITY

The following will be responsible for the process of preparing for the Management Review Meeting:

4.1 Managing Director (MD)

- Assures the implementation of the policy

4.2 HSE Manager

- Coordinates with the MD on the date and time of the meeting
- Assures the implementation of the MR policy
- Chair the MR meeting
- Invite members of the top management to the meeting
- Invite other categories of staff as and when required
- Communicate the relevant output of management reviews to HSE representatives of various departments.
- Prepare and present the agenda of the meeting
- Take the list of attendance
- Make minutes of the meeting that include discussion points raised along with the suggestions as well as the decisions that are made during the output session
- Follow-up on the decisions that have been taken during the output discussion
- Follow upon the implementation of this MR Policy.

4.3 H.O.D

- Give feedback of the management system and comply with recommendation from the management review.
- Communicate relevant outputs of the management reviews to workers.

5. PROCEDURE

- All Managers and Head of Units or its representative are mandated to be in attendance in every management review and absence needs to be justified.
- Top management shall review the organization's QMS, EMS, OH&SMS, RSPO and SCCS annually, to ensure its continuing suitability, adequacy and effectiveness.
- The management review shall include consideration of:
 - The status of actions from previous management reviews
 - Changes in any updates of the management systems
 - The extent to which objectives have been achieved
 - Information on the organization's performance
 - Adequacy of resources
 - Relevant communication(s) from interested parties, including complaints
 - Opportunities for continual improvement

6. REFERENCE DOCUMENTS

- IMS Manual
- Procedure for Internal Audit
- Procedure for Correction & Corrective Action
- ISO 9001:2015, ISO 14001:2015, ISO 45001:2018, RSPO and SCCS Standards

7. RECORDS:

Records of the review will be maintained by the HSE department and kept in the ISO folder for all HOD to view. Records will include:

- Attendance
- Minutes of Meeting
- PowerPoint Slide for presentation
- Training Power Point slide if needed
- Other supporting records (Forms, operational records, permits, photos etc.)

8. RECORD OF APPROVAL

Task	Name/signature	Job title	Date
Approved by	Dr. Graham Hefer	MANAGING DIRECTOR Managing Director 17 JUL 2020 DR. G. HEFER	

	Document title	Revision: 2
	INTEGRATED MANAGEMENT SYSTEM POLICY	Date: 03/08/20
	Reference IMSP	Page 1 of 1

1.0 Policy Statement

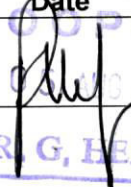
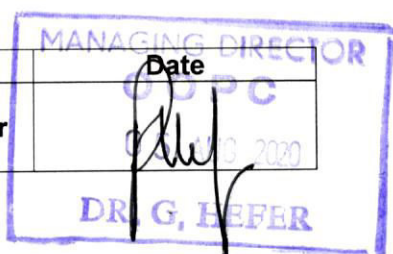
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2.0 Record of Approval

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

	Document title	Revision: 1
	OKOMU OIL PALM COMPANY PLC	Date: 11/06/2020
	MANAGEMENT REVIEW POLICY	Page 1 of 1

1. SCOPE

- This policy applies to all the activities within the scope of OOPC's Quality Management System (QMS), Environmental Management System (EMS), Occupational Health and Safety Management System (OH&SMS), Roundtable on Sustainable Palm Oil (RSPO) and Supply Chain Certification Standards (SCCS).

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- Give feedback of the management system and comply with recommendation from the management review.
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5. PROCEDURE

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 - The status of actions from previous management reviews
 - Changes in any updates of the management systems
 - The extent to which objectives have been achieved
 - Information on the organization's performance
 - Adequacy of resources
 - Relevant communication(s) from interested parties, including complaints
 - Opportunities for continual improvement

6. REFERENCE DOCUMENTS

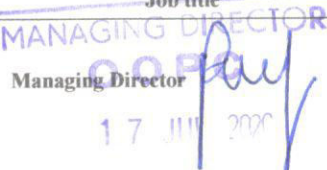
- IMS Manual
- Procedure for Internal Audit
- Procedure for Correction & Corrective Action
- ISO 9001:2015, ISO 14001:2015, ISO 45001:2018, RSPO and SCCS Standards

7. RECORDS:

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- Attendance
- Minutes of Meeting
- PowerPoint Slide for presentation
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8. RECORD OF APPROVAL

Task	Name/signature	Job title	Date
Approved by	Dr. Graham Hefer	 MANAGING DIRECTOR Managing Director 17 JUL 2020 DR. G. HEFER	

	Document title	Revision: 4
	OKOMU OIL PALM COMPANY PLC	Date: 11/06/2020
	PROTECTION OF REPRODUCTIVE RIGHTS POLICY	Page 1 of 1

1.0 Policy Statement

OOPC has a strong guiding principle that the appropriate way to ensure equality in the workplace is to respect the reproductive rights of all, especially women.

2.0 Objective

Okomu Oil Palm Company (OOPC) aims to fulfill its obligations under this policy by removing any barriers that prevent women from achieving equality and seek to protect the reproductive rights of women.

3.0 Scope

The policy applies to employees and contractors (including temporary contractors) of OOPC. This policy does not form part of any employee's contract of employment or contractor's services.

4.0 Definitions

4.1 **Reproductive rights:** legal rights and freedom relating to reproduction and reproductive health.

4.2 **Woman:** any member of the female sex irrespective of age or status.

5.0 Guidelines


OOPC has devised the following measures to protect the reproductive rights of women and promote gender equality at work.

- Constitute a gender committee, which will include representatives from all departments of OOPC specifically to address areas of reproductive concern to women.
- Workplace consultation regarding issues relating to equal opportunity for all staff, contract workers and third party workers.
- Sensitization and awareness for women about their reproductive rights.
- Ensure that no work with pesticides is undertaken by pregnant or breast feeding women.
- Adequate space and paid breaks will be provided to enable mothers with infants 24 months or younger to breastfeed or express and store breast milk with privacy.
- OOPC shall comply with the Labour Act of Nigeria (2004), as amended, which ensures the rights of women to maternity protection and prohibits dismissal from work on account of her pregnancy status. OOPC also subscribes to the minimum standards of the International Labour Organization (ILO) Maternity Protection Convention (Revised), 1952 (No. 103), and the Maternity Protection Recommendation, 1952 (No. 95), stipulating that no woman shall be discriminated against on grounds of pregnancy and childbirth and women bearing a child shall be protected from dismissal on such grounds during the entire period of pregnancy and maternity leave. They shall have the right to resume their employment without loss of acquired rights.
- Pregnancy testing is not conducted as a discriminatory measure and is only permissible when it is legally mandated. However, where an employee has hinted her superior of her pregnancy on account of stress resulting from the pregnancy, the supervisor should communicate it to the manager who will then refer her to the company's doctor for a pregnancy test to be conducted. If confirmed that such employee is actually pregnant, a lighter alternative equivalent employment is offered to her without alteration of her pay.
- OOPC shall comply with the National Labour Act, allowing a woman employee (on medical certificate to take her confinement 6 weeks prior to delivery and to remain on confinement following delivery; protecting a pregnant woman from night work.
- The Grievance Management Procedure (GP27) should be followed if any of the above rights are perceived to have been violated.
- The HRD shall manage, monitor and oversee this policy.

6.0 Record of Approval

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



	Document title	Revision: 2
	OKOMU OIL PALM COMPANY PLC	Date: 07/07/20
	RECRUITMENT POLICY	Page 1 of 2

1.0 Policy Statement

The Company's current recruitment policy is performed on a competitive interview and equal opportunity basis, regardless of sex, race, ethnicity, religion or political persuasion solely on merit, relevant qualifications and/or experience in collaboration with or on behalf of OOPC through certified labour brokers.

2.0 Scope

This policy is applicable to certified labour brokers for all recruitment processes on behalf of OOPC where the company requires the services of any person on a secondment basis. Where independent contractors and/or third parties require the recruitment of labour or staff, either directly or indirectly through labour brokers, then the contents of this policy are also applicable to them.


3.0 Definitions

- (i) **Direct Employment:** This is no longer an option in OOPC, but current employees who are employed as a staff of the company on this basis, are, as per their terms and conditions of employment, which includes confirmation after probation until the employment relationship is severed through resignation, retirement, redundancy, termination, dismissal or death.
- (ii) **Seconded Employees:** OOPC currently utilizes the services of Federal Government Ministry of Labour certified brokers to source an employee or a group of employees on behalf of OOPC under similar terms and conditions, to those stated in Clause 1.0 herein, and whom are, once chosen, then assigned to work for OOPC under similar terms and conditions to those employees denoted in Clause 3.0 (i). On expiry of the secondment term, for any of the reasons stated in Clause 3.0 (i) herein above, the employee (the 'seconded') will then return to their original employer (the 'Broker').
- (iii) **Temporary staff:** A person is designated a temporary staff when he /she is employed on a short-term basis, such as NYSC and Industrial Attachment (a maximum of 12 months at any given time). The company's terms and conditions of service are not applicable to temporary staff.

4.0 Recruitment Procedures

The procedure for employment into any of the above (i-iii) categories of staff shall be as follows:

- I. There must be a vacancy before a department could request for additional staff.
- II. The department wanting to fill a vacancy or requesting for additional staff, shall fill an employee's job requisition form stating reasons for the request, the job description and the required specification (Qualification)
- III. The department sends the completed job requisition form to the HR for processing and approval by the MD.
- IV. Upon approval by the MD, the HRD announces a job vacancy and solicits for applications from suitably qualified candidates.

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	OKOMU OIL PALM COMPANY PLC	Date: 07/07/20
	RECRUITMENT POLICY	Page 2 of 2

- V. The HR department invites short listed candidates to be interviewed, in conjunction with the Head of department where the vacancy exists.
- VI. The department would then fill a skill proficiency form for the successful/selected candidate which would be sent to the HR for processing and approval by the MD before an offer of employment is signed and issued to the candidate.
- VII. An acceptance of such offer of employment by the prospective employee implies an agreement on his/her part to abide by the terms and conditions of employment, as contained in his/her letter of employment.
- VIII. OOPC employment is based on equal opportunity, regardless of sex, race, ethnicity, religion or political persuasion. Prospective employees would be judged on merit, relevant qualification and experience.
- IX. OOPC shall endeavor to give the first right of employment to candidates within its neighboring communities, especially where one candidate is not from a neighboring community and the other candidate is, and where both candidates are equally qualified in all aspects for that vacancy. OOPC vacancy/vacancies will be placed on the community notice board and the community will provide OOPC with what they deem to be suitably qualified candidates for these vacancy/vacancies. In the event that the communities cannot provide suitable candidates that suit the existing vacancy, OOPC would make use of media outlets to source for suitable candidates to fill the existing vacancy. OOPC is at liberty to choose the mode of employment of the candidate as defined in clause 4

NOTE

- Provision of a Nigerian National Identity card is an added advantage.
- As stipulated in the Labour Act, 2004, as amended, of the Federal Republic of Nigeria, the minimum age for employment is 16. 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 jeopardize the health, safety or morals of young persons shall not be less than 18 years. Therefore, due to the various stipulations between Nigeria Law and ILO, the minimum age for employment in OOPC is 18.
- Medical fitness certificate must be conducted.
- No payment of any form of recruitment fee.

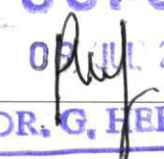
5.0 Record of Approval

Task	Name/Signature	Job Title
Approved by	Dr. Graham Hefer	Managing Director



All drivers/operators must always take note of the following:

1. The maximum speed limit on all of Okomu's plantation roads and those connecting Okomu to Extension 1 is **40km/h** for vehicles and **30km/h** for lorries.
2. Speed limits for vehicles within residential houses is **10km/h** and school areas is **5km/h**
3. This speed limit can be seen on warning signs displayed on these roads.
4. Drivers/operators are also to obey all traffic laws applicable in Nigeria, including wearing seat belts whether or not they are on public or private Okomu roads.
5. In addition, the speed limiter which is fitted according to Nigerian law on vehicles is set at this speed (between **45km/h** to **100km/hr**) to comply with these standard regulations.
6. Drivers/operators are not permitted to tamper with, disconnect/connect the speed limiters at any time at the risk of a serious sanction or even termination/removal from the company and/or charges for any damages incurred.
7. Only the Workshop Manager is permitted to alter the speed of the speed limiter. Consequently, drivers/operators should contact their direct superior authority for permission in this regard.
8. Any person captured on satellite camera over speeding will face serious sanction by Management.
9. All drivers/operators shall have valid driver's licenses.
10. All drivers/operators shall sign off that they have read and understood OOPC Vehicle SOP and all applicable rules pertaining to driving OOPC vehicles as contained in the Vehicle SOP.

Task	Name	Job title	Signature/Date
Authorized by	Dr. Graham Hefer	Managing Director	 DR. G. HEFER 09 JUL 2020

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.
- 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, 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
- Regular monitoring of PPE compliance and safety hazardous within the workplace.
- Commitment to consultation and participation of workers.

This policy is to be read in conjunction with the:

- High Risk Assessment- GP08
- Environmental Policy
- Incident and Hazard Reporting- GP18
- Safe Work Permit- GP20
- Boiler Room Operation- GP29 (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
Approved by	Dr. Graham Hefer	Managing Director



	Document title	Revision: 1
	OKOMU OIL PALM COMPANY PLC	Date: 01/04/2020
	CHILD LABOUR POLICY	Page 1 of 1

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.
- 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 Protection Act of Nigeria (2004), 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.
- OOPC shall ensure proper implementation and monitoring this policy (as per OOPC's Child Labour Procedure).
- 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	<div> <p>MANAGING DIRECTOR OOPC 09 JUL 2020 DR. G. HEFER</p> </div>

1.0 Policy Statement

The Okomu Oil Palm Company (OOPC) is committed to demonstrating the highest level of regard for business ethics, environmental practices, and full compliance with all applicable laws pertaining to them.

2.0 Scope

This policy is applicable to all stakeholders doing business with, or who are on the premises of OOPC at any time.

3.0 Definition

Code of ethics: A written set of guidelines issued by an organization to its staff, management and stakeholders to help them conduct their actions in accordance with its primary values and ethical standards.

4.0 Guidelines

OOPC is committed to:

- Complying with all international and national legislation, regulations, and OOPC's own policies in conducting its business.
- Timely, accurate and truthful disclosure of reports and documents filed with or submitted to regulators, and in other public communications made by OOPC.
- Using its funds and assets for lawful corporate purposes only, and to maintain OOPC's financial integrity.
- Prohibiting all forms of corruption, bribery and fraudulent use of funds and resources among all parties working for or on behalf of OOPC.
- OOPC complies with the United Nations Convention against Corruption, Article 12, which prevents corruption involving the private sector.
- Prohibiting the employment of all forms of involuntary or underage labour in the production of goods and services.
- Fair and appropriate disciplinary practices and recognition of the entitlement of all individuals to be treated equitably with dignity and respect.
- Advocate the right of its employees' to freedom of association and to maintain a workplace free from discrimination, physical or verbal abuse, threats, intimidation and harassment, whilst embracing diversity and respecting the personal dignity, rights and privacy of every employee.
- Provide a safe and healthy work environment for its employees and managers and encourage adherence to environmental, safety and health rules (as per OOPC Environmental and Safety Aspect procedure GP08).
- Protect its assets and ensure their efficient use by all persons working for or on behalf of OOPC.
- Discourage its employees from participating in any decision in which they may be unable to maintain professional objectivity due to conflicts of interest.
- Engage only in fair and open competition, by treating competitors, suppliers, customers, and colleagues with integrity.
- Encourage its employees to maintain the confidentiality of information entrusted to them, except when disclosure is authorized by the MD or required by laws or regulations as contained in the Freedom of Information Act 2011 Laws of the Federation of Nigeria.
- Corporate/ promotional gifts and hospitality on acceptance by staff & Management valued N20, 000 and above must be declared through the HOD/MD.
- OOPC do not make Political contributions of any form whilst carrying out its business operations with individuals, government agencies, NGOs, etc.
- OOPC will give charitable donations and sponsorships in line with its Procedure GP35 Corporate Social Responsibility
- OOPC do not comply any form of unethical conduct such as charging fees to workers, recovering cost of recruitment and transportation against workers' wages, receiving gifts and commissions from labour intermediaries, contractors, suppliers or other interested parties.
- In resolving conflicts, OOPC will avoid escalation of conflicts and prohibiting the usage of dogs and paramilitary in the organization.
- Communicated to all persons working for or on behalf of OOPC (as per OOPC communication procedure GP10) and enforce its strict compliance.


The HSE Manager shall implement, monitor and document the provisions of this code.

The Managing Director confirms the commitment and support, along with that of all stakeholders, employees and those working on behalf of the company, to the above policy statement and the effective application and continual compliance with this code of ethics.

5.0 Record of Approval

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



	Document title	Revision: 2
	OKOMU OIL PALM COMPANY PLC	Date: 13/08/20
	DRUG AND ALCOHOL POLICY	Page 1 of 1

1.0 Policy Statement

OOPC is committed to providing a safe and healthy drug, alcohol and substance free workplace that enables OOPC staff, contractors, sub-contractors and third party contractors (defined as stakeholders) to perform at their most productive levels. Consistent with that commitment, the company has developed this policy statement regarding drug and alcohol use, and the testing thereof, to minimise its effects in the workplace.

2.0 Objective

The policy is designed to maintain a work place free from drugs and alcohol. The drug and alcohol policy covers illegal or illicit drugs, alcohol and other controlled substances. These will be referred to as prohibited substances within OOPC's work environment. The goal is to establish and maintain a work environment that is free from all drugs, alcohol and/or other controlled substances.

3.0 Scope

This policy is applicable to all stakeholders doing business with OOPC, during business hours.

Stakeholders shall be obliged to undergo random drug/alcohol tests at any time that OOPC requests them to do so. Refusal to undergo any test will lead to the immediate termination or loss of contract by the stakeholder(s) concerned.

4.0 Legislation

Driving

0.00% is maintained for **ALL** driving activities within OOPC concessions during working hours. However as regards the Nigerian Highway Code section 2.6f, maximum permissible blood alcohol level for driving on the highway **ONLY** is 0.5gms per liter or 0.05% of Blood Alcohol Concentration (BAC)

5.0 Definitions

5.1 **Alcohol Dependence** is defined as: The habitual drinking of intoxicating liquor by a stakeholder, whereby the stakeholder's ability to perform his/her duties are impaired, and/or his/her attendance at work is negatively affected, and/or they endanger the safety of others.

5.2 **Drug Dependence** is defined as: The habitual taking of drugs by a stakeholder other than a drug prescribed as medication, resulting in a stakeholder's ability to perform his/her duties being impaired, and/or their attendance at work is negatively affected, and/or they endanger the safety of others.

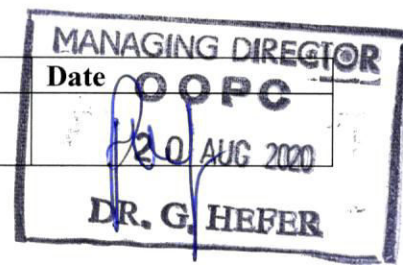
6.0 Guidelines

Any stakeholder, who violates this policy, may be subjected to one or all of the following measures:

- Disciplinary action, including termination of employment or contract.
- Violation by contractors or third party contractors will result in their removal from the workplace and their contract terminated.
- In the absence of a contractor's written policy, OOPC will administer appropriate elements of this policy as deemed necessary.
- This policy will be communicated to all stakeholders involved in any way with OOPC, as per OOPC Communication Procedure-GP 10.

7.0 Record of Approval

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



EMERGENCY RESPONSE/CONTINGENCY PLAN FOR FIRE, SECURITY THREATS, MEDICAL, CHEMICAL SPILL, AND ELECTRIC SHOCK

1.0 Purpose/Scope

This procedure defines the framework for preparing for and responding to emergencies involving fire, security threats, chemical spill, medical emergency and electric shock.

2.0 Workplace/Activities Affected

All workplace and departments

3.0 Definitions

3.1 Fire and Chemical spill are defined as materials which when released into the environment, or because of their properties and the way they are used, could cause harm to workers, from fires and explosions. Dangerous substances include petrol (PMS), liquefied natural gas (LPG), paints, chemicals and solvents.

3.2 Security threat is defined as any incident or confrontation that jeopardizes property and lives, which includes, but not limited to: militants and civil unrest.

3.3 Emergency Response-actions taken by personnel within the work area in an effort to mitigate the impact of an incident on the public and the environment.

3.4 TOC-Tactical Operations Centre: a communication Centre that coordinate all crisis activities.

3.5 Electric shock is defined as a sudden discharge of electricity through a part of the human body.

4.0 Exclusions

None

5.0 Procedures

In the circumstances:

5.1 For fire and security threats:

- The Person who has observed any danger must alert employees by sounding appropriate alarms. The alarm must be heard, seen or otherwise perceived by everyone in the workplace.
- The person must notify security/TOC on the emergency numbers posted in various locations in the work place, inform TOC of the situation fire/incident. If it's a fire, inform TOC of the location, injuries, potential fire hazards and risk (oil drums, paints, banga product, rubber, chemicals and gas bottles etc). TOC will brief fire service. If it is an incident, inform TOC of the type of incident, location description of suspect(s) type of weapon (if it involves a weapon) and any injuries at the scene.
- TOC will dispatch the appropriate authority to the scene, along with medical staff, if safe to do so, at the time.
- HSE representatives, will assist with evacuation of the worker(s) from the building.
- All workers must report to their muster point.
- HSE representatives will assist personnel with special needs or disabilities who may need help evacuating and assign one or more people, including backup personnel, to help them.
- Staff should ensure all windows and doors are closed, and all electrical appliances are switched off and unplugged before evacuating the building
- HSE representatives will do a head count to verify if anyone is missing, with the assistance of a contractor for their workers, if any are in that department.
- HSE representatives should ensure that no body returns to the factory/building until it is cleared by the appropriate authority.

5.2 For chemical spill:

For small spill:

- First person to observe a spill must use the appropriate spill kit to control the spill.

For large spill:

- The first person to observe the spill must contact their supervisor, who will notify HSE to dispatch the Spill Response team, to see a perimeter to contain the spill.
- The supervisor must notify TOC, for emergency assistance (if needed).
- HSE will notify The Federal Ministry of Environment.
- The Federal Ministry of Environment will assist in the disposal of waste and,
- Decontaminate the area and affected place.

5.3 For medical emergency;

- The person who has observed any emergency must notify TOC on the emergency numbers posted in various locations in the work place, inform TOC of the type of Emergency.
- TOC will notify and dispatch medical staff and ambulance to the scene.

5.4 For electric shock;

- First person to observe a shock situation should turn off the source of electricity, if possible, if not, notify the Estate department and contact TOC to dispatch the appropriate authority.
- Keep the shocked person warm, lying down, and still until the ambulance arrives.


6 Emergency numbers

0813 463 1183 (TOC) – 24hrs

7 Record of Approval

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



	Document title	Revision: 1
	OKOMU OIL PALM COMPANY PLC	Date: 11/06/2020
	ENVIRONMENTAL POLICY	Page 1 of 1

1.0 Policy Statement

OkomuOilPalm 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 and related issues; and encourage their participation and cooperation to minimize adverse impact and protect the environment;
- Support our joint venture partners and small holders to adopt and implement these principles; and
- Periodically review this Environmental Policy to ensure it remains relevant and applicable to our business.
- Implementation of our GHG Emission Reduction Policy.

4.0 Record of Approval

Task	Name/signature	Job title	Date
Approved by	Dr. Graham Hefer	Managing Director	10 JUL 2020 DR. G. HEFER

MANAGING DIRECTOR
OOPC
10 JUL 2020
DR. G. HEFER

	Document title	Revision: 1
	OKOMU OIL PALM COMPANY PLC	Date: 11/06/2020
	FIRE PREVENTION AND MANAGEMENT	Page 1 of 1

1.0 Policy Statement

The prime purpose of this policy is to ensure maximum fire prevention within OOPC concessions and around its border lines.

2.0 Scope

The policy is applicable to all OOPC concessions, including those subsidiaries and third party suppliers.

3.0 Definitions

3.1 Dry Season-Period at the time of the year with little or no amount of rain fall.

3.2 TOC-Tactical Operation Centre

4.0 Guidelines

- OOPC has taken on an active role in mitigating the occurrence of haze in the region, through our commitment to no deforestation.
- This policy is supplemented with community education and awareness campaigns, as well as multi-stakeholder partnership to entrench sustainable practices throughout the industry.

NO DEFORESTATION

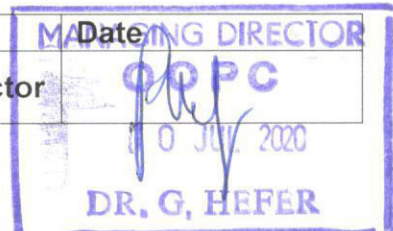
- One of the key tenets of the No Deforestation pillar is a strict Zero Burning Policy.
- We do not tolerate the use of fire in land preparation or development.
- Mechanical methods are employed in land development and wood debris is left to decompose. This returns nutrients back into the land and reduces the need for inorganic fertilisers, thereby also reducing the greenhouse gas footprint.


ACTIVE FIRE MONITORING AND RAPID RESPONSE

- TOC (TOC 2 for Extension 2) is notified of any sign/fire sighted within OOPC concession and boundary areas through the emergency number.
- OOPC has a 24/7 fire monitoring system in place during dry season to alert us of fires in and around our concessions.
- OOPC has a well-established fire prevention and suppression programme to minimise the incident and impact of fire and haze.
- All OOPC concession is equipped with fire-fighting infrastructure and equipment, and staffed with an on-site fire brigade.
- Fire service personnel are trained to be vigilant and prepare to respond to fire incidences quickly and decisively.
- Regular meetings are conducted with neighbouring communities to inform and educate on fire prevention techniques.
- Fire extinguishers are located in various locations within OOPC concession.
- OOPC staff members are educated on the use of fire extinguisher annually.
- Regular audit is conducted with State Fire Service for proper inspection of fire-fighting equipment.
- HSE Manager is responsible for managing the fire brigade and this policy.

5.0 Record of Approval

Task	Name/signature	Job title	Date
Approved by	Dr. Graham Hefer	Managing Director	10 JUL 2020



	Document title	Revision: 1
	OKOMU OIL PALM COMPANY PLC	Date: 15/04/20
	GENDER POLICY	Page 1 of 2

1.0 Policy Statement

The Okomu Oil Company PLC (OOPC) is committed to maintaining a positive climate at work, in which individuals can work together in an environment free of all forms of violence, harassment, and discrimination on the basis of gender. OOPC strongly believes and supports gender equality and opposes any form of gender discrimination and violence at the workplace. The Company is therefore obligated in providing a safe work environment which is free from any kind of bias and harassment. The organization draws its source by upholding the constitutional mandate (section 17, 34, 35, Nigeria Constitution) and (Nigeria Labour Act 2004 section 73) to ensure the human rights of the people that are under its jurisdiction.

2.0 Scope

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

3.0 Policy Requirement

The Gender Committee at OOPC has been set up with an objective of providing men & women an appropriate complaint mechanism against any inequality issue or unwelcome behavior in any manner. The policy suggests mechanisms that are accessible and will ensure confidentiality. It also serves as a system to ensure the fair, accountable and representative procedures for redressal and resolution. This Policy also defines the Physical, Psychological and Emotional harassment, physical or verbal form) by any gender and the mechanisms of redressal through the Committee by looking at the specific structures, needs and imperatives in OOPC. However, for female members, Sexual harassment is guided by the definition of Sexual Harassment given by the Nigeria law.

4.0 Objective

Okomu Oil Palm Company (OOPC) aims to fulfill its obligations under this policy by removing any barriers that prevent women from achieving equality and seek to protect the reproductive rights of women.


5.0 Scope

The policy applies to employees and contractors (including temporary contractors) of OOPC. This policy does not form part of any employee's contract of employment or contractor's services.

6.0 Definitions

Gender equality" means the equal rights, obligations, opportunities and liability of men and women in professional life, upon acquisition of education and participation other areas of social life; Equal treatment for men and women" means that there Shall be no discrimination whatsoever based on sex, either directly or indirectly;

- Direct discrimination based on sex" occurs where one person is treated less favorably on grounds of sex than another is, has been or would be treated in a comparable situation. Direct discrimination based on sex also means the less favorable treatment of a person in connection with pregnancy and childbirth, parenting, performance of family obligations or other circumstances related to gender, and sexual harassment;
- indirect discrimination based on sex" occurs where an apparently neutral provision, criterion or practice would put persons of one sex at a particular disadvantage compared with persons of the other sex unless that provision, criterion or practice is objectively justified by a legitimate aim, and the means of achieving that aim are appropriate and necessary;
- Harassment has been defined under the categories of Psychological Physical and emotional. The following shall constitute Harassment
 - When unwelcome acts like any visual, verbal or physical conduct such loaded comments, remarks or jokes, emails, letters, phone calls, text messages, gestures, physical contact, stalking, display of a derogatory nature or creating an intimidating, hostile or offensive environment.

	Document title	Revision: 1
	OKOMU OIL PALM COMPANY PLC	Date: 15/04/20
	GENDER POLICY	Page 2 of 2

- Any unwelcome sexual advances, requests for sexual favors or any conduct of a sexual nature (Verbal or nonverbal conduct)
- Any action or comment/s (racial, ethnic, religious etc) which has the purpose or effect of substantially interfering with an individual's work performance or creating an intimidating, hostile, or offensive working environment.

7.0 Guidelines

- To espouse the cause of the right to gender equality and right to dignified livelihood.
- To foster a social, physical and psychological environment that will enable employees to work productively.
- Capacity building for gender sensitization: We will organize workshops, training programs and discussions for promoting and enabling a gender sensitive work culture. Also, regular trainings will be conducted on awareness and confidence building of field staff, with special focus on women staff.
- Building skills and capacities on gender perspectives to enable greater participation of all sections of community in our programs will be one of our objectives in all programs.
- This policy would implement the sexual harassment, child labour and female reproductive policies of the Company.

8.0 Role of the Gender Committee

The Committee's role will include of following:

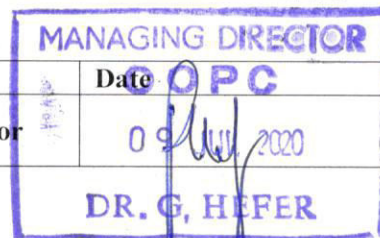
- To play a preventive role by making efforts towards sensitization of the staff on gender issues by conducting periodic programs and in house workshops/gathering.
- To take cognizance of complaints about Harassment, conduct proper enquiries, provide assistance and redressal to the victims, recommend penalties and action against harasser, if required.
- Ensure Safety and equality at all levels at the workplace.
- To recommend arrangements for appropriate emotional, psychological and physical support (in form of counseling and other assistance), if desired by the victim.
- Child care facilities to be provided by the growers and millers.
- Ensure vehicles are provided to breastfeeding mothers to take them to child care facilities to breastfeed their babies
- Women to be given specific break times to enable effective breastfeeding.
- The policy shall be reviewed annually.

9.0 Procedures of Registering Complaints

To follow OOPC procedure GP 27 (Grievance Procedure) attached.

10.0 Record of Approval

Task	Name/signature	Job title	Date
Approved by	Dr. Graham Hefer	Managing Director	09 JUL 2020



1.0 Policy Statement

OOPC monitors its greenhouse gas (GHG) emission and is constantly seeking for ways to reduce its carbon footprint in our plantation and industrial operations. We constantly strive to adopt best practices to reduce emission of carbon compounds in our palm plantations and oil mills. This is demonstrated in our optimal use of electricity from the national grid, and the use of the fresh fruiting bunch (FFB) fibre/kernel shells in our boilers. Further innovations to lower our carbon footprint include the installation of a steam turbine, which, together, enable the company to reach all of the GHG emissions reduction objectives, targets and timelines that have been adopted.

2.0 Scope

This policy applies to every area of our operations.

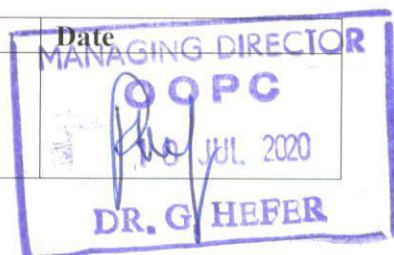
3.0 Guidelines

OOPC commits to:

- Constituting periodic green energy meetings aimed at reducing the use of fossil fuel in our operations.
- Identifying areas of significant GHG emissions and implementing plans to reduce or minimize them.
- Supporting the reduction of emissions from deforestation and forest degradation through the maintenance and protection of our forests.
- Conserving high carbon stock (HCS) forests and high conservation value (HCV) areas, and enhancing them where necessary.
- Minimizing the utilization of generation sets.
- Establishing a monitoring system to annually report our progress in reducing significant pollutants and emissions from our plantation and mill operations using palm GHG calculation from RSPO.
- Optimizing the use of FFB fibre/kernel shells in our boiler and increasing the use of the steam turbine as a priority over other alternative energy sources available to the company.
- Implementing our 'zero burning policy'.
- Reducing, recycling, reusing waste and disposing of waste, in an environmentally and socially responsible manner.
- Replacing regular light bulbs with more eco-friendly, compact fluorescent lights (CFL) in offices/production sites.
- Regular maintenance of all company's vehicles, road upkeep and to create shorter routes to mill and plantation fields thereby using less fossil fuels.
- Quarterly testing of ambient air quality.
- Reforestation of required areas in riparian areas which will be extracted from monitoring records.
- Since fertilizer is an important source of carbon, the plantation department will ensure fertilizer application is based on results of Annual foliar analysis and once in 5 years soil analysis results
- Setting Key Performance Indicator (KPI) for turbine use.

4.0 Record of Approval

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



1.0 Policy Statement

OOPC will provide a positive and supportive environment for all of its employees, visitors, contractors, third parties contractor and stakeholders, and as such will take every step to resolve issues within the workplace, and communities/stakeholders as quickly and efficiently, at the lowest possible level.

2.0 Scope

This policy is applicable to all stakeholders associated with OOPC.

3.0 Definitions

Grievance Management: is defined as a concern or complaint raised by an individual or group, in relation to activities undertaken by OOPC.

4.0 Guidelines

The following commitments will apply to OOPC's grievance management activities.

- In resolving conflicts, OOPC will avoid escalation of conflicts and prohibiting the usage of dogs and paramilitary in the organization.
- OOPC shall set up a process for recording and addressing external and internal grievances that are culturally appropriate (see OOPC grievance management procedure GP 27).
- OOPC shall establish and monitor a grievance management plan communicated in a way that it is accessible to all stakeholders.
- OOPC must commit to assess how grievances are received and responded to, based on the principles of transparency and accountability for all stakeholders.
- All stakeholders will be able to raise grievances without fear of reprisals, costs or retribution.
- OOPC will treat all matters with due confidentiality; individuals may report a grievance anonymously, although this blocks the access to engage them on a dialog in order to resolve or clarify the grievance.
- Grievances can be submitted through the Community Liaison Officer, Communication Officer or the following channels:

By email: hsesec@okomunigeria.com

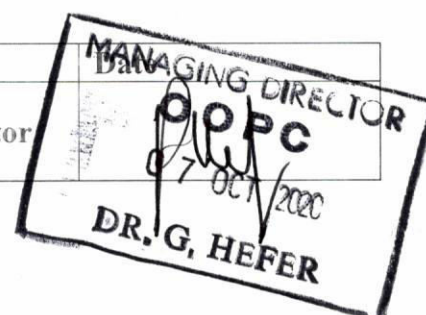
By telephone: 08068774161

In writing to: Okomu-Udo Ovia South West LGA. P.M.B 1449, Benin City, Edo State
Nigeria Attention: HSE Department (Grievance section)

- All grievances will be responded to within 15 days, either with a resolution or an update on progress if a resolution has not been found. All grievances should be resolved within 30 days or brought to the attention of the MD.
- OOPC shall decide and announce to the stakeholders the schedule for the periodic reporting on the management of the grievances received.
- This policy will be communicated to all stakeholders as per OOPC communication procedure GP 10.
- The HSE Manager shall control, monitor and manage all grievances on behalf of OOPC.

5.0 Record of Approval

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



1.0 Policy Statement

Respect for human rights is a fundamental value of OOPC. We strive to respect and promote human rights in accordance with the UN Guiding Principles on business and human rights in our relationships with our employees, suppliers and stakeholders. Our aim is to help increase the enjoyment of human rights within the communities in which we operate. This Human Rights policy elaborates on the requirement within our code of ethics policy to treat everyone at OOPC - and everyone with whom we come into contact - with fairness, respect and dignity. OOPC is committed to protecting individuals and their reports, complaints or disclosures filed in good faith. We also recognize that Human rights defenders work to promote transparent and accountable governments, clean and safe environments, fair working conditions, and equitable societies. They play a critical role in fostering corporate transparency and respect for human rights, such as monitoring of supply chains, exposing corruption, and protecting our shared environment. Based on this, we provide access to reliable channels to report wrongdoing; robust protection from all forms of retaliation; and mechanisms for reporting that promote reforms that correct legislative, policy or procedural inadequacies and prevent future wrongdoing. We also prohibit intimidation and harassment, including from security services/forces. This Policy is guided by the Universal Declaration of Human Rights, including those contained within the international Bill of rights and international labour organization's 1998 Declaration on Fundamental principles and rights at work, United Nations declaration on Human Rights Defenders, The International Covenant on Civil and Political Rights (explicitly referencing the protection of whistleblowing as an aspect of freedom of expression under Article 19), The International Covenant on Economic, Social and Cultural Rights; Convention on the Elimination of All Forms of Discrimination against Women (CEDAW); The International Labour Organisation's (ILO) Declaration on Fundamental Principles and rights to work; and RSPO Policy on the Protection of Human Rights Defenders, Whistleblowers, Complainants and Community Spokespersons.

2.0 Scope

This policy applies to all OOPC employees, contractors, service providers, and third party workers. It also covers the Human rights defenders (HRD), Environmental human rights defenders, whistleblowers and complainants within our stakeholders group, including community spoke persons. In implementing this Policy, we are subject to the laws of Nigeria and we are committed to complying with all such applicable laws. Our principle is that where national law and international human rights standards differ, we will follow the higher standard; where they are in conflict, we will adhere to national law, while seeking ways to respect international human rights to the greatest extent possible. Where local laws prohibit us from upholding certain aspects of this policy, we will comply with these local laws while continually seeking to respect and protect human rights. OOPC strives to prioritize the management of the human rights impacts of our business activities based on the operational context, our leverage and business relationships. As a result, we concentrate on our own operations and contractors/suppliers, most specifically on human rights related to labour conditions. OOPC, however, recognizes that other human rights may become greater priorities over time and we will regularly review our focus areas.

3.0 Definitions

Adequate: Capable of leading to the identification and punishment of those responsible

Environmental Human Right Defenders: Individuals and/or groups who, in their personal or professional capacity and in a peaceful manner strive to protect and promote human rights relating to the environment, including water, air, land, flora and fauna. They are characterized through their actions to protect environmental and land rights. Although they may work as journalists, activists or lawyers who expose and oppose environmental destruction or land grabbing, in many cases they are indigenous leaders or community members who defend their traditional lands against the harms of large -scale development projects.

Human Rights Defenders (HRD's): Individuals, groups or associations who promote and protect universally recognised Human Rights and contribute to the elimination of all forms of violations and fundamental freedoms of individuals and peoples. This definition does not include those individuals who commit or propagate violence.

Impartial and independent: Those responsible for carrying out the investigation must fair and not reliant only on the parties involved in the events under investigation;

Prompt: The investigation must be commenced swiftly and be completed within a reasonable time;

Reasonable belief: is defined as when a person could reasonably suspect wrongdoing in light of available evidence.

Thorough: Comprehensive in scope and – among other things – capable of identifying any systematic failures that led to the violation;

Whistleblower: Is anyone who exposes (reports) fraud, extortion, or sabotage to the relevant authority.

	Document title	Revision: 2
	OKOMU OIL PALM COMPANY PLC	Date: 02/10/20
	HUMAN RIGHTS POLICY	Page 2 of 2

4.0 Guidelines

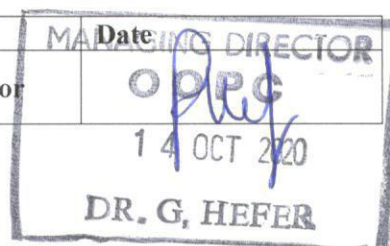
OOPC commits to:

- Recognize and respect the rights of all workers, including the workers of contractors, temporary workers or migrant workers. Our commitment is further manifested in policies such as the Code of Ethics Policy, Sexual Harassment Policy, Child Labour Policy, HIV/AIDS Policy, Safety and Healthy Workforce policy, Forced labour and Human Trafficking policy and amongst others.
- Conduct our business in a manner that respects the rights and dignity of all people whilst complying with all legal requirements.
- Treat everyone who works for OOPC fairly and without discrimination. Our employees, contractor staff and suppliers are entitled to work in an environment and under conditions that respect their rights and dignity.
- Respect freedom of association and ensure no forced, trafficked or bonded labour. Where our employees wish to be represented by workers unions, we will cooperate in good faith with the bodies that our employees collectively choose to represent them within the appropriate national legal frameworks.
- Recognize and respect the rights of local and indigenous communities by respecting their cultures, customs, values and land tenure rights. We commit to obtaining Free, Prior and Informed Consent from local communities before commencing new operations and commit to open, transparent, fair and equitable conflict resolution.
- Respect the rights of people in communities impacted by our activities and maintain a transparent and open dialogue with them. We will seek to identify adverse human rights impacts and take appropriate steps to avoid, minimize and/or mitigate them.
- Seek to make contractual commitments with contractors/suppliers that encourage them to adhere to the same principles.
- Ensure the provision of security is consistent with laws of Nigeria, using security services only where necessary and requiring the use of force only when necessary and proportionate to the threat.
- Continue to build the awareness and knowledge of our management, employees and contractors/suppliers on labour rights and this policy and encouraging them to speak up, without retribution, about any concerns they may have.
- Place importance on the provision of effective company-based grievance mechanism which is applicable to all stakeholders to ensure remediation of potential abuses. Any stakeholder with concerns regarding the human rights impacts of OOPC's activities may raise these through the grievance management process.
- Continue increasing the capacity of our management to effectively identify and respond to concerns.
- Grant protection for reports made by HRD with a **reasonable belief** that the information is true at the time it is disclosed.
- Protect individuals to safeguard the individuals' physical and psychological integrity and that of their family group, their property and working conditions; against violence, threats, all forms of retaliation, direct or indirect, pressure or any other arbitrary action as a consequence of the individual's legitimate exercise of their fundamental human rights in the course of their engagement with OOPC or as a result of their report against violation of human rights.
- Protect individuals from all forms of retaliation, disadvantage or discrimination (all types of harm, including but not limited to: dismissal, probation and other job sanctions; punitive transfers; harassment; reduced duties or hours; withholding of promotions or training; loss of status and benefits; and threats of such action) in workplace linked or resulting from HRD activities. OOPC seek to preserve the individual's confidentiality. The identity of the individual may not be disclosed without the individual's explicit informed consent.
- Ensure employees and workers have the right to decline to participate in corrupt, illegal or fraudulent acts.
- Provide protection against threat to individuals who have disclosed information anonymously including those who subsequently have been identified without their explicit consent.
- Ensure that any investigation is **adequate, thorough, impartial, independent and prompt**; and a sufficient element of transparency of the investigation or its result to ensure accountability.
- Ensure full range of remedies, covering all direct, indirect and future consequences of any reprisals.

The Human Resource 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	14 OCT 2020



	Document title	Revision: 4
	OKOMU OIL PALM COMPANY PLC	Date: 11/06/2020
	PROTECTION OF REPRODUCTIVE RIGHTS POLICY	Page 1 of 1

1.0 Policy Statement

OOPC has a strong guiding principle that the appropriate way to ensure equality in the workplace is to respect the reproductive rights of all, especially women.

2.0 Objective

Okomu Oil Palm Company (OOPC) aims to fulfill its obligations under this policy by removing any barriers that prevent women from achieving equality and seek to protect the reproductive rights of women.

3.0 Scope

The policy applies to employees and contractors (including temporary contractors) of OOPC. This policy does not form part of any employee's contract of employment or contractor's services.

4.0 Definitions

4.1 **Reproductive rights:** legal rights and freedom relating to reproduction and reproductive health.

4.2 **Woman:** any member of the female sex irrespective of age or status.

5.0 Guidelines


OOPC has devised the following measures to protect the reproductive rights of women and promote gender equality at work.

- Constitute a gender committee, which will include representatives from all departments of OOPC specifically to address areas of reproductive concern to women.
- Workplace consultation regarding issues relating to equal opportunity for all staff, contract workers and third party workers.
- Sensitization and awareness for women about their reproductive rights.
- Ensure that no work with pesticides is undertaken by pregnant or breast feeding women.
- Adequate space and paid breaks will be provided to enable mothers with infants 24 months or younger to breastfeed or express and store breast milk with privacy.
- OOPC shall comply with the Labour Act of Nigeria (2004), as amended, which ensures the rights of women to maternity protection and prohibits dismissal from work on account of her pregnancy status. OOPC also subscribes to the minimum standards of the International Labour Organization (ILO) Maternity Protection Convention (Revised), 1952 (No. 103), and the Maternity Protection Recommendation, 1952 (No. 95), stipulating that no woman shall be discriminated against on grounds of pregnancy and childbirth and women bearing a child shall be protected from dismissal on such grounds during the entire period of pregnancy and maternity leave. They shall have the right to resume their employment without loss of acquired rights.
- Pregnancy testing is not conducted as a discriminatory measure and is only permissible when it is legally mandated. However, where an employee has hinted her superior of her pregnancy on account of stress resulting from the pregnancy, the supervisor should communicate it to the manager who will then refer her to the company's doctor for a pregnancy test to be conducted. If confirmed that such employee is actually pregnant, a lighter alternative equivalent employment is offered to her without alteration of her pay.
- OOPC shall comply with the National Labour Act, allowing a woman employee (on medical certificate to take her confinement 6 weeks prior to delivery and to remain on confinement following delivery; protecting a pregnant woman from night work.
- The Grievance Management Procedure (GP27) should be followed if any of the above rights are perceived to have been violated.
- The HRD shall manage, monitor and oversee this policy.

6.0 Record of Approval

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



	Document title	Revision: 2
	OKOMU OIL PALM COMPANY PLC	Date: 07/07/20
	RECRUITMENT POLICY	Page 1 of 2

1.0 Policy Statement

The Company's current recruitment policy is performed on a competitive interview and equal opportunity basis, regardless of sex, race, ethnicity, religion or political persuasion solely on merit, relevant qualifications and/or experience in collaboration with or on behalf of OOPC through certified labour brokers.

2.0 Scope

This policy is applicable to certified labour brokers for all recruitment processes on behalf of OOPC where the company requires the services of any person on a secondment basis. Where independent contractors and/or third parties require the recruitment of labour or staff, either directly or indirectly through labour brokers, then the contents of this policy are also applicable to them.


3.0 Definitions

- (i) **Direct Employment:** This is no longer an option in OOPC, but current employees who are employed as a staff of the company on this basis, are, as per their terms and conditions of employment, which includes confirmation after probation until the employment relationship is severed through resignation, retirement, redundancy, termination, dismissal or death.
- (ii) **Seconded Employees:** OOPC currently utilizes the services of Federal Government Ministry of Labour certified brokers to source an employee or a group of employees on behalf of OOPC under similar terms and conditions, to those stated in Clause 1.0 herein, and whom are, once chosen, then assigned to work for OOPC under similar terms and conditions to those employees denoted in Clause 3.0 (i). On expiry of the secondment term, for any of the reasons stated in Clause 3.0 (i) herein above, the employee (the 'seconded') will then return to their original employer (the 'Broker').
- (iii) **Temporary staff:** A person is designated a temporary staff when he /she is employed on a short-term basis, such as NYSC and Industrial Attachment (a maximum of 12 months at any given time). The company's terms and conditions of service are not applicable to temporary staff.

4.0 Recruitment Procedures

The procedure for employment into any of the above (i-iii) categories of staff shall be as follows:

- I. There must be a vacancy before a department could request for additional staff.
- II. The department wanting to fill a vacancy or requesting for additional staff, shall fill an employee's job requisition form stating reasons for the request, the job description and the required specification (Qualification)
- III. The department sends the completed job requisition form to the HR for processing and approval by the MD.
- IV. Upon approval by the MD, the HRD announces a job vacancy and solicits for applications from suitably qualified candidates.

	Document title	Revision: 2
	OKOMU OIL PALM COMPANY PLC	Date: 07/07/20
	RECRUITMENT POLICY	Page 2 of 2

- V. The HR department invites short listed candidates to be interviewed, in conjunction with the Head of department where the vacancy exists.
- VI. The department would then fill a skill proficiency form for the successful/selected candidate which would be sent to the HR for processing and approval by the MD before an offer of employment is signed and issued to the candidate.
- VII. An acceptance of such offer of employment by the prospective employee implies an agreement on his/her part to abide by the terms and conditions of employment, as contained in his/her letter of employment.
- VIII. OOPC employment is based on equal opportunity, regardless of sex, race, ethnicity, religion or political persuasion. Prospective employees would be judged on merit, relevant qualification and experience.
- IX. OOPC shall endeavor to give the first right of employment to candidates within its neighboring communities, especially where one candidate is not from a neighboring community and the other candidate is, and where both candidates are equally qualified in all aspects for that vacancy. OOPC vacancy/vacancies will be placed on the community notice board and the community will provide OOPC with what they deem to be suitably qualified candidates for these vacancy/vacancies. In the event that the communities cannot provide suitable candidates that suit the existing vacancy, OOPC would make use of media outlets to source for suitable candidates to fill the existing vacancy. OOPC is at liberty to choose the mode of employment of the candidate as defined in clause 4

NOTE

- Provision of a Nigerian National Identity card is an added advantage.
- As stipulated in the Labour Act, 2004, as amended, of the Federal Republic of Nigeria, the minimum age for employment is 16. 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 jeopardize the health, safety or morals of young persons shall not be less than 18 years. Therefore, due to the various stipulations between Nigeria Law and ILO, the minimum age for employment in OOPC is 18.
- Medical fitness certificate must be conducted.
- No payment of any form of recruitment fee.

5.0 Record of Approval

Task	Name/Signature	Job Title
Approved by	Dr. Graham Hefer	Managing Director



APPENDIX G

Copy of Fire Prevention and Control Memo

Provisions For Fire Prevention on the Estate

ESTATE:

Number of trained fire personnel = 11
Number of fire truck (5000litres) = 1
Number of water tanker attach to fire truck= 1
Number of fire extinguishers = 178
Number of water overhead tank = 1

OIL MILL:

Number of fire personnel = 4
Number of fire pumps = 1
Number of water storage tank = 1
Number of hose reel = 10
Number of Hydrant = 3
Number of smoke detectors = 11
Number of fire blanket = 4
Number of fire extinguishers = 57

RUBBER FACTORY:

Number of fire personnel = 7
Number of water storage tank = 1
Number of hose reel = 9
Number of landing valves = 9
Number of smoke detectors = 14
Number of fire blanket = 4
Number of fire extinguishers = 32
Number of fire truck (1800 liters) = 1

RUBBER ESTATE:

Number of fire extinguishers = 92
Number of overhead tanks = 1

MAIN ESTATE WORKSHOP:

Number of fire extinguishers = 32
Number of hose reel = 3

Number of smoke detectors = 13

ESTATE MAINTENANCE DEPT:

Number of fire extinguishers = 12
Number of hose reels = 3
Number of smoke detectors = 13

MAIN ESTATE OFFICE:

Number of fire extinguishers = 11
Number of hose reel = 1
Number of smoke detector = 23

HSE DEPARTMENT:

Number of fire extinguishers = 2
Number of smoke detectors = 4

IITA ESTATE:

Number of fire extinguishers = 28
Number of overhead tanks = 1

RUBBER PLANTATION OFFICE:

Number of fire extinguishers = 4
Number of smoke detectors = 8

MAIN ESTATE CLINIC:

Number of fire extinguishers = 2
Number of smoke detectors = 9

MANAGEMENT QUARTERS:

Number of fire extinguishers = 37
Number of smoke detectors = 48
Number of fire blanket = 19

BOYS QUARTERS:

Number of fire extinguishers = 7

APPENDIX I

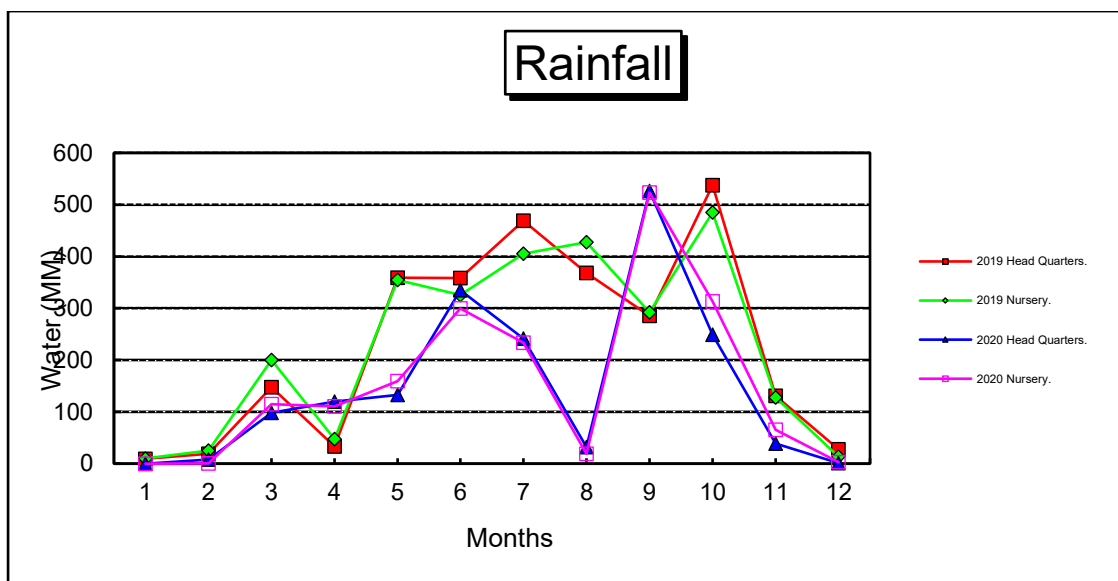
Meteorological Data

Rainfall Data at the Estate (2020)

Month	Rain Days	Rain fall in mm	Cumulated rainfall in mm to date	ETP	Balance end of month		Water deficit Cumulated to date	Water deficit Last year	
					Soil reserve	Water deficit		Month	Cumul
January	0	0.0	0.0	150		72.4		-140.5	-140.5
February	1	0.5	0.5	150		149.5		-130.9	-271.4
March	9	114.6	115.1	150		35.4		-2.3	-273.7
April	12	110.4	225.5	120		9.6		-116.4	-390.1
May	15	159.2	384.7	120		0.0		0.0	-390.1
June	15	299.4	684.1	120		0.0		0.0	-390.1
July	22	233.4	917.5	120		0.0		0.0	-390.1
August	3	19.1	936.6	150		0.0		0.0	-390.1
September	23	523.2	1459.8	120		0.0		0.0	-390.1
October	20	313.2	1773.0	120		0.0		0.0	-390.1
November	7	65.3	1838.3	150		0.0		0.0	-390.1
December	1.0	2.9	1841.2	150		31.8		0.0	-390.1
Total Year	128	1,841.20				298.7	298.7	-390.1	-390.1

Rainfall Data at the Nursery (2020)

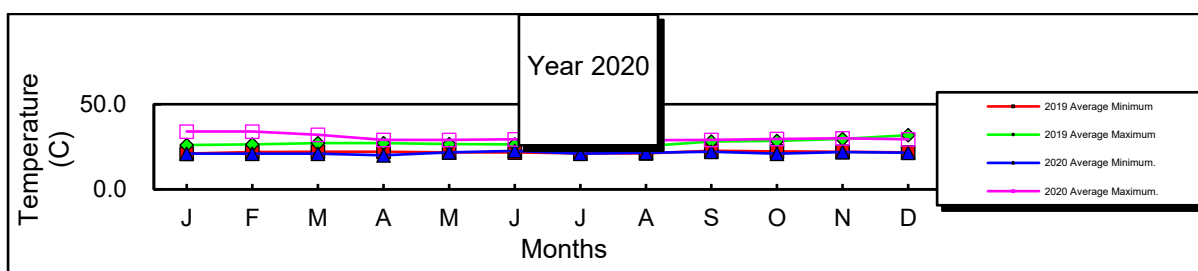
Month	Rain Days	Rain fall in mm	Cumulated rainfall in mm to date	ETP	Balance end of month		Water deficit Cumulated to date	Water deficit Last Year	
					Soil reserve	Water deficit		Month	Cumul
January	0	0.0	0.0						
February	1	7.8	7.8						
March	10	98.3	106.1						
April	12	120.1	226.2						
May	16	132.6	358.8						
June	16	334.9	693.7						
July	20	241.7	935.4						
August	3	32.2	967.6						
September	22	526.2	1493.8						
October	21	248.9	1742.7						
November	7	38.9	1781.6						
December	3	7.2	1788.8						
Total Year	131.0	1788.8				0.0	0.0		0.0



Temperature (Centigrade)

Date	Thermometer	
	Min.	Max
Dec-20		
Ave. this month	21.61	29.38
Absolute	20.00	31.00

Year 2020	J	F	M	A	M	J	J	A	S	O	N	D
Average Minimum	21.00	21.00	21.00	20.00	21.74	20.96	20.96	21.45	22.00	21.03	21.96	21.61
Average Maximum	34.00	34.00	32.00	29.00	29.00	27.90	27.90	28.90	29.10	29.58	29.90	29.38
Minimum Absolute	22	22	23	20	20	18	18	19	20	20	21	20
Maximum Absolute	32	32	30	31	32	30	30	30	38	31	31	31



Sunshine Hours

Sunshine in Hours	
Dec-20	
Daily Average	

Year	J	F	M	A	M	J	J	A	S	O	N	D	Total
2008	138	119	239	155	142	264	119	42			77	177	1472
2009	157	195	169	158	155	123	126	66	120	130	159	199	1757
2010	158	219	106	182	152	133	121	87	73	121	197	197	1746
2011	105	203	176	205	139	79	38	84	97	102	223	146	1597
2012	134	149	168	192	163	111	73	96	101	153	184	199	1723
2013	172	195	192	145	132	81	59	68	67	161	157	209	1638
2014	186	137	138	139	131	74	52	56	57	123	185	200	1478
2015	164	170	118	119	144	68	62	43	36	148	190	175	1437
2016	139	75	149	144	120	73	59	32	105	132	167	174	1369
2017	156	235	163	139	156	79	42	39	74	134	207	135	1559
2018	113	105	201	155	123	96	39	81	96	169	209	206	1593
2019	193	115	196	132	132	88	41	52	51	105	207	225	1537
2020	225	128	122	134	144	104	56	78	21	116	187	198	1513
Av.10years	152.0	160.3	160.7	155.2	139.2	88.2	58.6	63.8	75.7	134.8	192.6	186.6	1,567.7

