



**OKOMU**

*Responsible tropical agriculture*

**ENVIRONMENTAL AND  
SOCIAL MANAGEMENT PLANS  
FOR  
OKOMU OIL PALM COMPANY  
MAIN ESTATE, EXTENSION 1 & 2  
CONCESSIONS  
(2019-2021)**

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## 1. OVERVIEW AND BACKGROUND

### 1.1. DESCRIPTION OF LOCATION

The Okomu Oil Palm Company (OOPC) was established in 1976 as a Federal Government pilot project aimed at rehabilitating oil palm production in Nigeria. At inception, the pilot project covered a surveyed area of 15,580 ha of land in the Okomu Forest Reserve located in Ovia South West Local Government Area of Edo State in Nigeria. In 1979 the company was incorporated as a limited liability company, before becoming fully privatized in 1990 as a Public Limited Company (PLC). At this point the Socfin Group first bought a stake in the company. By 1989 just about 5,000 ha of the land had already been planted with oil palm and major infrastructural developments on site had already begun, including office blocks, staff quarters and a primary school for children of the company staff.

As part of the company's plan of development, it acquired and installed a 1.5 tons/hour palm oil processing facility in 1985 and thus begun processing of FFB into Crude Palm Oil (CPO). The oil palm processing facility with a capacity for 30tons/hour was expanded with additional 30tons/hour mill processing facility, bringing the total palm oil processing mill capacity to 60tons/hour. The new oil mill facility is equipped with a tilting sterilizer and conveyor systems which together enhances processing and eliminates the use of forklifts in the processing of FFB. This system is an improvement of the old one and it is expected to reduce the cost of FFB processing at the mill. The OOPC Plc is now listed as the 10<sup>th</sup> ranked company by turnover on the Nigerian Stock Exchange, and is 66% owned by Socfinaf SA, which is incorporated in Luxembourg and 34% by a diverse range of Nigerian individuals and institutional shareholders, none of whom individually own more than 5% of the share capital. Over the last 10 years OOPC has consistently posted profits and at present all Crude Palm Oil production is sold domestically in Nigeria.

In the decades since the original 15,580ha block (henceforth 'the **Main Estate**') was first allocated to OOPC, two extension areas have been acquired by OOPC; a block of land called Extension 1, measuring 6,116ha that is 22km East of Okomu Main Estate on the eastern border of the Okomu National Park and the latest acquisition, called Extension 2, which is 11,416 ha, is situated 120km away from Okomu Main Estate and bisects the Ovia North East and Uhumwonde Local Government Areas of the state. As of December 2016, the OOPC operations covered a total of 33,112 ha of land across three separate lease areas. All three lease areas are government owned land but are leased to the company with varying lease periods ranging from 50 to 99 years for the purpose of oil palm and rubber agriculture. Of this total area, 19071ha are covered with oil palm and 7335.03ha with rubber trees. The total area not yet planted is now 1940.87ha. The High Carbon Stock (HCS) area is 254.50 ha. There is also a total of 2975.84ha of High Conservation Value (HCV) areas within the concessions which consist of Swamps, riparian strips, areas of life trees and forest blocks. The remaining 1534.76ha is occupied by infrastructures, nurseries, buildings, golf fields, dumpsite, HCV buffer, Military camps, mills, factory, burrow pits, areas of steep slopes etc.

## **2. ASSESSMENT PROCESS AND METHODS**

### **2.1. SEIA**

Being a going concern, the environmental impacts were extracted from Environmental Audits and Compliance reports for the period of 2012 to 2017 and the Social Impact assessment was conducted in 2017 to ascertain the level of social impact of Okomu's activities on the communities within its footprints.

### **2.2. HCV**

The assessment process for Extension 1 commenced in June 2015 and was completed in December 2015 by Proforest. That of extension 2 started in July 2015 and was completed in November 2015, also by Proforest. The Assessment of HCVs within Okomu Main Estate was conducted by Foremost Development Services Limited and was completed in September 2017. These two assessments guided the compilation of the Management Plan presented in this document.

### **2.3. GHG**

The 2018 result of GHG emission of our activities was calculated using the PalmGHG Monitoring tool and this aided the development of the management of GHG in Okomu. This will consolidate the 2017 report and be used in management of major factors that increase our GHG footprints.

### **2.4. LUC**

The LUCCA for all concessions of Okomu was carried out in September 2017 by Hyperdrange Nigeria Limited with the maps covering 2005, 2007, 2009, 2014 and 2017. The result of the assessment informed the management decisions that are contained herein in this report.

### **2.5. HCS**

The HCS assessment was done in May 2019 at Extension 2 concession by Proforest. This was carried out in proposed development area to identify and map out HCS forests and to provide recommendations for management, monitoring and protection of the HCS forests to ensure that production activities do not negatively impact HCS forest areas. The recommendations are substantiated into this management plan.

## **3. MANAGEMENT PLANS**

This Environmental and Social Management Plan was developed using the information provided in various assessments and review of several monitoring records. This is developed to promote and/or enhance the positive impacts and mitigate the negative impacts. The Management Plan has been separated into 4 components from various assessments.

The team responsible for the development and monitoring of the management plans contained in this report are composed of different departments within the company that their activities are related to the plans.

- Dr. Graham Hefer - Managing Director
- Billy Ghansah - Agricultural Coordinator
- Mikle George - HSE Manager
- Glory Ohwevwo- Plantation Manager
- Leonit Shaji-Industrial Coordinator
- Samuel Oseghale-Oil Mill Manager
- Osunbor Ikponmwonsa- Human Resources Manager
- Fidelis Olise – Communication Officer
- Community Liaison Officers
- HSE Representatives
- All employees

### 3.1. MANAGEMENT PLAN FOR SOCIAL AND ENVIRONMENTAL IMPACTS

CROSS-CUTTING MANAGEMENT PLANS						
Parameters to be monitored	Proposed enhancement/mitigation measures	Location	Measurement	Frequency	Responsibility	Timeframe for completion of task (Estimated)
<b>Air Quality</b>	Lightly spraying of areas susceptible to significant dust generation with water especially during dry season, Preventive Maintenance for vehicles, generator sets and equipment, Zero burning policy.	Areas susceptible to dust generation, Equipment areas	Air Quality	Quarterly	Palm Plantation Manager, HSE Manager	Throughout project life span.
<b>Land Degradation, Erosion or near sensitive habitats.</b>	There will be side pits excavated at intervals to collect soil particles including sediments to avoid sediment load of water bodies, Planting of cover crops (Pureira and Mucuna) on the exposed portions of the land, SOP on planting of slope, Policy on Management of fragile soils.	Sloping land	Physical parameter of water bodies.	Annually, Adhoc	Palm Plantation Manager, HSE Manager	Throughout the project life span.
<b>Geology, Geomorphology and Soils</b>	Erosion Control Measures, Sediment Traps alongside roads, Use of red route for high traffic areas, Policy on the management of fragile soil and ensuring soil fertility, SOP on road maintenance	Areas susceptible to soil erosion	Maintained and Upgraded Roads	Annually, Adhoc	Palm Plantation Manager	Throughout project life span.
<b>Groundwater</b>	Waste and Pollution Management Procedure, Groundwater monitoring, Water Management Procedure, Use of chemical to improve quality of groundwater.	All Boreholes	Physical & chemical parameters of water	Quarterly	HSE Manager, All Manager	Throughout project life span.
<b>Surface Water</b>	Waste and Pollution Management Procedure, Surface water monitoring, Maintenance of Forest buffer zones, Water Management Procedure.	All Surface waters	Physical & chemical parameters of water	Quarterly	HSE Manager, All Manager	Throughout project life span.
<b>Habitats (Flora and Fauna)</b>	No Burning Policy, Prohibition of hunting, Firewood collection and Farming in conservation areas, Patrols, rehabilitation through planting seedlings, HCV-HCS Management Procedure and HCV-HCS Management plan.	Replanting areas, estates	Monitoring of habitats	Monthly	HSE Manager, Security, workers	Throughout project life span.
			Rapid biodiversity assessment result, Forest integrity assessment.	Annually		

<b>Waste</b>	Waste and Pollution management Procedure, Establishment of a monitoring well at about 100m – 250m radius to the Oil mill effluent and Rubber factory effluent lagoons, Scooping the cake at the bottom of the effluent lagoon.	Estates, Industrial areas	Effluent and effluent monitoring well analysis.	Quarterly	HSE Manager, Estate, Workers	Throughout project life span.
			Waste separation	Daily		
<b>Sewage</b>	Onsite toilets with septic tanks shall be made available for use	Estate, workplaces	Sewage management	Daily	HSE manager, Estate, Workers	Throughout the life span.
<b>Occupational health and Safety</b>	Occupational health and safety management system including use of PPE, Handling of hazardous machineries and equipment, Clinic facilities, Hazardous materials (e.g. agrochemicals, fuels) stored in appropriate containers and shall be safely locked away, Conspicuous warning signs posted at hazardous waste storage and handling facilities.	Working areas	Staff Trained in Occupational Health and Safety, Number of Accidents and Illness	Daily	All Managers, workers	Throughout project life span.
<b>Social infrastructure</b>	Maintain and build adequate facilities at estates as appropriate	Estates	Presence of well-maintained facilities	Annually	Estate Department	Throughout project life span.
<b>Effluent</b>	Regular maintenance of pipes, Build monitoring wells and periodic testing, Long term plan to improve the treatment of effluent, Bunding of effluent lagoon	Surface water, groundwater	Physical & chemical parameters of water	Quarterly	Plantation Manager/ HSE department/ Mill Manager	Throughout project life span.
<b>Health</b>	Clinic, Periodic Health Awareness, Immunization programs, Collaboration with government and other health organization	Estates	Reduction in Prevalent Ailments	Monthly	Clinic, HSE Manager	Throughout project life span.
<b>Chemical spill</b>	Maintenance of Forest buffer Zones of about 20-50m along river banks, SOP on chemical spray, Use of spill kits, Periodic sampling of water bodies, Chemical management, Contingency plan for chemical spill, Impervious sump or container shall be placed under the spigots of fuel drums to collect drippings.	Surface water, groundwater	Physical & chemical parameters of water	Quarterly	Plantation Manager / HSE department	Throughout project life span.
<b>Oil/Fuel spill</b>	Maintenance of Forest buffer zone of up to 50m along river banks, Environmental Contingency plan, Bunding of storage facilities, Periodic testing of water bodies.	Surface water, groundwater	Physical & chemical parameters of water	Quarterly	Industrial Manager, Workshop Manager, HSE Manager	Throughout project life span.
<b>Fertilizers and agrochemicals management</b>	Soil and foliar testing, Fertilizer Application plan, use of pruned materials in-situ, implementation of Zero Burning policy in replanting and Action Plan for Reduction of Agrochemical Usage.	Planting areas	Analysis of the records of quantity of product applied, compared to the plan, SOP on pruning	Yearly	Plantation Manager	Throughout planting life span

			and zero burn policy			
<b>Pest and diseases management</b>	Integrated Pest Management plan and SOP for controlling diseases.	New planting areas	Analysis of the record of the technique applied to the control of pest and diseases.	Annually	Plantation Manager	Lifetime of new planting
<b>GHG</b>	Low emission vehicles to be used, Zero burning, Regular maintenance of vehicles, Periodic Monitoring of ambient air quality, Explore use of organic fuels, GHG Emission Reduction Policy, Renewable Energy Utilization Plan	Plantation	GHG emission, Analysis of record of fossil fuel and biomass used	Annually using Palm GHG	Agricultural Coordinator, Oil Mill Manager, HSE Manager	Throughout project life span
<b>Noise and Vibration</b>	Implementing good working practices, installing acoustic mufflers in large machines, Equipment shall be maintained in good order, Appropriate Personal protective equipment (PPE) provided and enjoin worker to always use them, Construction activities that will generate disturbing sounds shall be restricted to normal working hours.	Workplaces	Excess of 90dBA levels	Quarterly measurement and when desirable, Adhoc	HSE department	Throughout project life span
			PPE Monitoring	Daily		
<b>Adulteration/ destruction of indigenous culture</b>	Continuous orientation and induction given to employees about the restrictions and taboos in the cultures of surrounding communities.		Social Values	Yearly	OOPC Management	Throughout project life span
<b>Reduction of displacement of communities</b>	No further expansion activities beyond boundaries, install boundary poles along all boundaries, Plantation boundary demarcation and maintenance SOP, Map of the plantation	Communities	Number of Displaced persons, boundary pole monitoring records	Quarterly	OOPC Management	Throughout project life span
<b>Preservation of communities farmland</b>	No further expansion activities beyond boundaries, install boundary poles along all boundaries, Plantation boundary demarcation and maintenance SOP, Map of the plantation	Communities	Farmland available, Boundary pole monitoring records	Quarterly	OOPC Management	Throughout project life span
<b>Public and occupational safety health measures</b>	Periodic Health Awareness and collaboration with Government on health issues	Estates	Prevalent ailments	Monthly	OOPC Management	Throughout project life span
<b>Corporate Social</b>	Implementation of CSR procedure	Communities	Number of projects	Annually	OOPC Management	Throughout project life span



<b>Responsibility</b>						
<b>Workers' Welfare</b>	Workers receive their full benefits when leaving the organization.	Estate	Number of workers who receive benefit	Adhoc	OOPC management	Throughout the life span
<b>Socio-economics</b>	Public enlightenment about potential health risks (STDs), Facilitate education/enlightenment about the project and its nature.	Estate, Communities	Records of enlightenment	Adhoc	Company doctor	Throughout the life span.
<b>Inter/Intra Communal Conflicts</b>	Stakeholder Engagement Procedure, Grievance Management Procedure, Training for community heads for managing crisis, Community sourcing for unskilled labor and contract awarding, Fire Prevention and Management Policy.	Neighboring communities.	Number of Conflicts	Annually	OOPC Management.	Throughout project life span.
<b>Corporate Image</b>	Operate according to the best industry standards and practice.	OOPC	Complaints	Annually	OOPC management	Throughout project life span
<b>Smallholders displacement</b>	Introduction of a smallholders farmers scheme to establish sustainable livelihood within communities, No further expansion activities beyond boundaries, Installation of boundary poles along all boundaries, Plantation boundary demarcation and maintenance SOP, Map of the plantation.	Neighboring communities	Number of registered smallholders	Adhoc	Palm plantation	Throughout the project life span.

#### SPECIFIC ACTION PLANS

ISSUES	PRIORITY	RESPONSIBLE	TARGET
Review and Update Status of Permits, Certificates and Licenses	High	HSE Manager	End of 2017 & 2018
Establish inventory for Waste generated at OOPC	Medium	HSE Manager	Monthly
Determine quantity of Effluent going to lagoon	Medium	HSE Manager	Monthly
Patrol for Environmental and Safety Aspects	Medium	HSE Manager	Monthly
Certify Management Systems to ISO 9001:2015, ISO 14001:2015 and OHSAS 18001:2007	High	HSE Manager	2017 & 2018
Carry out investigations for all major incidents	High	HSE Manager	As required
Establish an energy conservation protocol for workers	Medium	HSE Manager	Monthly
Implement water conservation strategies	Medium	HSE Manager	Monthly
Enforce use of seatbelts for drivers in the plantation	Low	Security	Daily
Carry out refresher First Aid Training for First Aiders	Low	Clinic	Annually
Replace all damaged waste storage bins	Low	Estate	As required
Establish a training program on RSPO for workers and Contractors	Medium	HSE Manager	Annually
Maintain all firefighting equipment	Medium	HSE Manager	Daily, Biannually
Implement Renewable Energy utilization Plan	Medium	Oil Mill	2019 & 2020

### 3.2. HCV

HCV	Specific HCV	Management	Monitoring
HCV 1	Fauna and Flora RTEs	<ul style="list-style-type: none"> <li>• Strict enforcement of hunting ban in all the riparian and wetlands. MoU with ONP for joint monitoring of RTE within the forest/riparian areas.</li> <li>• Where appropriate, restore population of RTE</li> <li>• RTE inventory will be conducted annually.</li> <li>• Publication and awareness campaign about the presence of RTE species and the need to protect them to internal employees, workers.</li> <li>• Regularly educate the workforce about the status of RTEs.</li> </ul>	<ul style="list-style-type: none"> <li>• Regular monitoring and occasional patrol of riparian forests and wetlands.</li> <li>• No application of agrochemicals within the forest.</li> <li>• No collection or hunting.</li> <li>• No felling of African grey parrot roost trees.</li> </ul>
HCV3	Swamp Forest	<ul style="list-style-type: none"> <li>• Maintenance of buffer zone of 50 m set around the current extent of swamp forest area.</li> <li>• There would be no production activities in the buffer.</li> <li>• In swamps buffer where Oil palm trees are already existing, only manual activities will be carried out. After the palm trees are old and no longer viable, they will be felled and left to be part of the swamp ecosystem.</li> <li>• No agrochemical application in the swamp forest and buffer zones.</li> <li>• Publication and awareness campaign about the presence of swamps and the need to protect them to internal employees, workers.</li> <li>• Put up notice on areas where no agrochemicals spraying is permitted</li> <li>• Put up signboard identifying the types of HCV present with clear warning of consequences of illegal hunting and or encroachment.</li> <li>• Create a definitive map of HCV (boundary point of HCV with coordinate position).</li> <li>• Regular patrol to avoid encroachments</li> <li>• Conduct mapping and record on the spread of key wildlife species on site.</li> </ul>	<ul style="list-style-type: none"> <li>• Regular monitoring of the swamp forest areas</li> <li>• No application of agrochemicals within the swamp forest buffer zone.</li> <li>• No farming.</li> <li>• No hunting.</li> </ul>

		<ul style="list-style-type: none"> <li>• Annually, Conduct rapid survey of the frequency and abundance of wildlife and the presence of new borns (sign of population viability), wildlife using the area as possible refugia in the area of HCV.</li> <li>• Where appropriate, regenerate swamp forest.</li> <li>• Oil palm trees bordering swamp and are found within the water extent, shall be painted round with red paint, and caution signboard to discontinue spraying shall be installed on or to the next tree away from each painted tree.</li> <li>• Training of workers to create awareness of the painted trees and caution signboards.</li> <li>• Regular reduction of the abundance of <i>M. bracteata</i> growing in swamps.</li> <li>• Assisted Natural Regeneration should be encouraged for area in the Swamp forests with potential regeneration but faced with establishment limitations. This includes removing weeds that may compete with regenerating seedlings, adding fertilisers to and mulching/guarding around existing seedlings. Create a definitive map of HCV (boundary point of HCV with coordinate position).</li> <li>• Regular patrol to avoid encroachments</li> <li>• Conduct mapping and record on the spread of key wildlife species on site.</li> <li>• Conduct rapid survey of the frequency and abundance of wildlife and the presence of new borns (sign of population viability), wildlife using the area as possible refugia in the area of HCV.</li> </ul>	
HCV 4	River Riparian areas/ Buffer zones	<ul style="list-style-type: none"> <li>• Buffering of all rivers and streams. Set-aside buffer of 50m on each side for big rivers (width &gt;20m), 25m buffer for medium rivers (20&gt;width&gt;5m) and 10m buffer for all small rivers and streams (width not more than 5m). Measurements will be average of widest and smallest sections of all rivers and streams</li> <li>• For the old plantations, Palm trees will be felled and left to be part of the buffer after they are old and no longer viable.</li> <li>• Regular patrol to avoid encroachments</li> <li>• No application of agrochemicals within 100 metres from rivers and streams and within buffer zones with notice boards</li> <li>• Provide the boundary sign of buffer zone that surrounds the area of HCV.</li> </ul>	<ul style="list-style-type: none"> <li>• Regular sampling from rivers and streams for assessment.</li> <li>• Regular monitoring of riparian vegetation, watersheds and riparian forest areas.</li> <li>• Avoid application of agrochemicals in riparian vegetation and watershed areas.</li> <li>• No farming.</li> <li>• No burning.</li> <li>• No dumping of trash.</li> <li>• No pollution of water bodies.</li> </ul>

		<ul style="list-style-type: none"> <li>• Publication and awareness campaign about the presence of Riparian forest and other HCV 4 values and the need to protect them to internal employees, workers, and surrounding communities.</li> <li>• Erection of buffer zones signboards showing the type of HCV present including warning.</li> <li>• Where required, improve on the vegetation density along water bodies/ wetlands.</li> <li>• Identify and map areas prone to erosion and landslides.</li> <li>• Implement policies and/or SOP to regulate the use of agro-chemical and waste management.</li> <li>• Publication and awareness campaign on the SOP on the use of agro-chemicals and waste management.</li> <li>• Monitor the effectiveness of mitigation of water pollution every 3 months.</li> <li>• Rapid biodiversity assessment will be conducted annually.</li> <li>• Periodic assessment of the quality of forests</li> <li>• Regular reduction of the abundance of <u>M. pruriens</u> growing in Riparian forests.</li> <li>• Assisted Natural Regeneration should be encouraged for area in the Riparian forests with potential regeneration but faced with establishment limitations. This includes removing weeds that may compete with regenerating seedlings, adding fertilisers where necessary to and mulching/guarding around existing seedlings.</li> <li>• Interview-based evaluations of local peoples' views on water quality at minimum twice a year (just before and after the rainy season). This will be done with the people of Agbanikaka, Owan, Uhiere, Odigwetue, Odighi and Oke</li> <li>• Data on logging activities in the swamp and the riparian vegetation should be recorded and compared periodically to measure the effectiveness of protection measures. A response plan should be prepared to address illegal logging in a timely manner whenever this is identified</li> </ul>	<ul style="list-style-type: none"> <li>• No felling of trees/logging.</li> <li>• No cutting of tender trees e.g. sapling, poles.</li> <li>• No fishing.</li> <li>• No hunting</li> </ul>
HCV5	Erudu River	<ul style="list-style-type: none"> <li>• Buffering of rivers and streams across its length.</li> <li>• Erection of signpost to create awareness about the river and the forest areas for medicinal uses.</li> <li>• Conduct regular patrol around the HCV area.</li> <li>• Publication and awareness campaign on the presence of riparian reserve and rivers and the need to protect them to internal employees, workers, and surrounding communities.</li> </ul>	<ul style="list-style-type: none"> <li>• Include regular monitoring of buffer zone areas and periodic monitoring of boundaries of al set-aside areas in general operational monitoring systems</li> <li>• Regular testing of water samples from rivers and streams that drain the concession to</li> </ul>

		<ul style="list-style-type: none"> <li>• Implement SOP to regulate the use of agro-chemical and waste management.</li> <li>• Engages with the communities in the western side of Extension 2 to agree on how they could access the natural resources within the concession sustainably that will be consistent with the Federal and State legal and regulatory requirements.</li> </ul>	<p>assess pollution levels.</p> <ul style="list-style-type: none"> <li>• No hunting.</li> <li>• No agrochemical spraying.</li> </ul>
HCV6	Survival Trees or Life trees	<ul style="list-style-type: none"> <li>• Agree with communities on what activities are allowed within the sacred site management areas</li> <li>• A written agreement drawn between Udo and Okomu clearly establishing access routes and period of visitation for access to sacred sites.</li> <li>• Agree with both communities for the identification of the person or persons who will be using the shrine.</li> <li>• Agree the visit dates and method of communication between the company and the communities on the management of the shrine.</li> <li>• Provide free access to the shrine for the local community based on agreed accessibility system and route.</li> <li>• Perform awareness campaigns related to the protection of shrine and surrounding forest.</li> <li>• Protect the Life tree by erecting signposts.</li> <li>• Fence life tree, where there is human disturbances.</li> </ul>	<ul style="list-style-type: none"> <li>• A Simplified HCV monitoring system/protocols in collaboration with the local communities.</li> <li>• No dumping of trash in the premises.</li> <li>• No desecration of the life tree or shrine.</li> </ul>

### 3.3. HCS

<b>Management</b>	<b>Monitoring</b>
<ul style="list-style-type: none"> <li>• Demarcate clearly with signs the boundaries of the HCS forest management area.</li> <li>• No burning during land preparation which should be monitored once or twice a week during land clearing operations.</li> <li>• Engage with communities in the landscape on the concession and sensitize them on the importance of the HCS forest identified</li> <li>• Cooperate with communities to agree on allowable low-intensity collection of NTFPs in the HCS forest</li> <li>• Closing of existing or new roads leading to the HCS forest or have restricted access to prevent illegal activities such as logging, hunting, farming etc.</li> <li>• Establish a co-management committee to develop and monitor permitted community activities in HCS forest management area</li> <li>• Conduct bi-annual monitoring of any changes in size of HCS forest management areas to show zero conversion of the identified HCS forest using remote sensing technics and tools or any appropriate scientific methods.</li> </ul>	<ul style="list-style-type: none"> <li>• Monitoring (once or twice a week) of the boundaries during the land clearing operation to avoid accidental HCS forest conversion</li> <li>• Monthly monitoring through patrol for threats such as logging farming, burning, hunting, trash etc.</li> </ul>

### 3.4. SOIL ANALYSIS

The following proposed management measures are to be used for replanting on slopes:

Slope	Planting design to be adopted
0% to 4%	Planting in a straight line North –South
>4 to 9%	Planting in panels or planting in contour lines
>9 to 16%	Planting in contour lines with an anti-erosion drains along the contour
>4 to 16%	Use of individual platforms if slope is higher than for the adopted system
>16 to <40%	Planting along contour lines and on terraces
>40%	No clearing and No planting

Fragile soils planting areas will be managed to promote the incorporation of organic matter and mitigate any type of erosion that may arise from planting. In addition, cover crop and other soft grasses will be given room to grow and erosion control measures like use of bumps on road to reduce the speed of runoff water. The policy on management of fragile soil and ensuring soil fertility is implemented.

### 3.5. CARBON STOCK AND GHG

Below are the mitigation methods that will be employed to reduce Okomu GHG footprints. The GHG will be monitored using the updated format of Palm GHG.

EFFICIENCY OF TRUCKS	
	FUEL CONSUMPTION
OBJECTIVE	Reduce fuel consumption of trucks
DESCRIPTION	<ul style="list-style-type: none"> <li>•Maintenance of road infrastructure to shorten the distance between the plantation and mills and fuel efficiency;</li> <li>•To exercise better control of FFB trucks.</li> <li>•Monitoring of fuel consumption</li> <li>•Encourage more fuel efficient vehicles as replacements</li> <li>•Explore the option of using other transport systems like hook lift transport systems</li> </ul>

FOREST RESERVES	
	PLANTATION
OBJECTIVE	Increase carbon stocks through forests
DESCRIPTION	<p>While about 10% of the concessions already has forest areas, OOPC believes that these could be increased through two actions:</p> <ul style="list-style-type: none"> <li>• Reforestation of required areas in riparian areas which will be extracted from monitoring records.</li> <li>• Increased monitoring of conservation areas (HCV and HCS) to avoid encroachment.</li> <li>• Avoidance of land areas with high carbon stocks in any development</li> <li>• Explore sequestration options available to it</li> </ul>

FERTILIZERS
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<b>PLANTATION</b>	
OBJECTIVE	Increasing the use of organic fertilizer.
DESCRIPTION	By the nature of the company, fertilizers represent an important focus of emission or carbon footprint. Okomu proposes to <ul style="list-style-type: none"> <li>• Research the possibility of using more efficient fertilizers.</li> <li>• Ensure fertilizer application is based on results of annual foliar analysis and 5 year soil analysis results</li> <li>• Return pruned materials to the soil</li> <li>• No burning during replanting to ensure that organic matter is returned to soil.</li> </ul>

<b>EFFICIENCY OF EQUIPMENTS</b>	
	<b>MILL</b>
OBJECTIVE	Reduce GHG released into the atmosphere
DESCRIPTION	<ul style="list-style-type: none"> <li>• The company will institute a program to look for options of renewable energy such as biogas or biodiesel etc</li> <li>• Constitute periodic green energy meetings</li> <li>• Optimization of electricity from National Grid</li> <li>• Monitoring of GHG by PalmGHG.</li> <li>• Optimization of the fibre/shells used in the boiler and increased efficiency of the steam turbine. Set KPI for Turbine use</li> <li>• Ensure the use of renewable energy (turbine use) is consistent in percentage against non-renewable energy</li> <li>• Minimum utilization of Generator set</li> </ul>

#### **4. REFERENCES**

Assessment Of High Conservation Values In Okomu Oil Palm Company Main Estate, Ovia South West, Okomu-Udo, Edo State, Nigeria By Foremost Development Services Limited, September, 2017.

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Social Impact Assessment (SIA) Of Oil Palm And Rubber Development Project At Ovia



Southwest Local Government Area, Edo State, Nigeria by Foremost Development Services Limited, May, 2017.

## **5. INTERNAL RESPONSIBILITY**

This document is a summary of Management plans for Social and Environmental Aspects of Okomu Oil Palm Company covering 2019 to 2021. This plan will be reviewed every two years to incorporate the results of monitoring and/or following significant operational changes and will be updated as required.

On behalf of OOPC, I accept the responsibility of the company to implement the management plans and ensure it is implemented.

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**Managing Director**

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**Date**