THE OKOMU OIL PALM COMPANY PLC

ENVIRONMENTAL AND SOCIAL IMPACT ASSESSMENT (ESIA) OF THE PROPOSED EXTENSION TWO OIL PALM DEVELOPMENT PROJECT AT OVIA-NORtheAST AND UHUNMWODE LOCAL GOVERNMENT AREAS, EDO STATE, NIGERIA

FINAL REPORT

December 2016
Environmental and Social Impact Assessment (ESIA) of the Proposed Extension Two Oil Palm Development Project at Ovia- North East and Uhunmwode Local Government Areas, Edo State, Nigeria

Final Report

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December 2016
EXECUTIVE SUMMARY (ES)

ES 1.0 History and Business of Okomu Oil Palm Company Plc

The proponent of the proposed Extension Two oil palm development project; 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.

The Okomu Oil Palm Company Plc 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 hectares out of which 12,500 hectares could be planted with oil palm. It was incorporated on December 3, 1979 as a limited liability company. In 1990 the Technical committee on Privatization and Commercialization (TCPC) privatized the company on behalf of the Federal Government of Nigeria.

The privatization of The Okomu Oil Palm Company has been a great success and a huge encouragement for the Nigerian agricultural sector, with profound positive consequences of stable socio-economic growth for the region where it is located. The company has consistently posted profits in the last 15 years and is the only agri-business in the NSE’s top 18 companies with the largest turnover.

In 2014 OOPC Plc acquired a partly developed plantation of 11,416,673 ha at Uhunmwonde and Ovia Northeast Local Government Areas of Edo State. This latest acquisition is referred to as Extension Two. The company intends to develop Extension Two in strict conformity to the principles and criteria of the Roundtable on sustainable palm oil and best management practices that is reputed for. The company also plans to establish a 60 tonnes/hr mill at Extension Two when the plantation development has progressed considerably.

Okomu Oil Palm Company Plc benefits from the quality management provided by its main shareholders and technical partner, Socfinco SA, with a 62% shares in Okomu Oil Palm Plc. Socfinco SA is the biggest single shareholder that brings into Okomu a little under a century of sound acclaimed technical expertise in the world stage on tropical agriculture.

Socfinco SA is a global player in the cultivation of oil palm, rubber, coffee and tropical flower. Socfinco SA founded in 1912 was the first industrial company to plant oil palm in Africa and Indonesia. It has ongoing plantations in Cote D’ivoire, Liberia, Guinea, Cameroun, Indonesia, Kenya Sierra Leone and Congo.
ES 2.0 Purpose and Need for the Project
The Okomu Oil Palm Company Plc (OOPC) has been planting oil palm since 1978. The company has recently expanded the capacity of its palm oil mill from 35tons FFB/Hr to 60 tons FFB/Hr and has plans to increase the capacity further. In spite of the acquisitions and expansion, the present situation of local supply of industrial grade crude palm oil (CPO) supply is that of gross inadequacy. Suffice it to say that the company is the number one producer of premium grade CPO in Nigeria and the demand for its products has continued to rise over the years.

In order to satisfy the yearnings of its customer, OOPC Plc proposes to rapidly develop its new acquisition (Extension Two). By so doing, the company would be able to produce more CPO to meet the demand of its customers and increase the prospect of Nigeria closing the national CPO supply-demand deficit. This attainment would also increase the total annual income and help to meet the company’s financial obligations to its shareholders, as well as corporate social responsibilities.

ES 3.0 Proposed Location and Description of Project
The proposed Extension Two oil palm development project is located within Latitudes 6°38’ 37”N and 6° 47’ 31”N and Longitudes 5° 48’ 5”E and 5° 54’ 39”E. The total project area is about 11,416.673 hectares and stretches across two local government areas. The eastern part lies in Uhunmwonde Local Government Area, while the western part lies in Ovia Northeast Local Government Area, Edo State, Nigeria.

The proposed Extension Two oil palm development project land is covered by statutory Certificate of Occupancy (C of O). The 11,416 ha concession was originally allocated to Iyaye Brothers by the State Governor for a period of 99 years for agriculture development. The original Certificate of Occupancy (C of O) with Number EDSR 15666 is dated 3rd May 2006 and registered as No 40 at Page 40 in Volume B. 237 in the Land Registry at Benin City in the Edo State of Nigeria. The previous lease holder of the land, Iyaye Brothers and A & Hatman Ltd planted only 760 ha of the land with oil palm before re-assigning the land to Okomu Oil Palm Company on 28th November 2013. Upon acquisition of the concession, Iyaye Brothers allowed independent farmers to use the land acquired for agriculture development, mainly subsistence farming. This resulted in conversion of most part of the concession for food crop production. The company intends to fully develop it into an oil palm estate that will comprise majorly oil palm plantations. The other ancillary components will include earth road network, workshop, powerhouse, housing units and office buildings.
The vegetation of the project site is degraded forest. The proposed plantation development will therefore not involve the clearing of natural forests. The northern half of the land has a few rivers traversing it. The plantation development will ensure that the watersheds are protected and the riparian forest strips will be conserved. All identified natural habitats on the land will also be conserved as contained in Table 7-6; Summary of Forest Management Plan for the Proposed Extension Two Oil Palm project.

OOPC Plc is a member of the Roundtable on Sustainable Palm Oil (RSPO) and is committed to implementing the principles and criteria of the RSPO in the development and operation of the proposed Extension Two oil palm development project to ensure that it achieves the complementarities of economic, environmental and social factors.

The fresh fruit bunches (FFB) to be harvested from the plantation will initially be processed with the existing mill. However, given that the mill is of low capacity, the company will later upgrade or install a new mill with the appropriate capacity to match the FFB production capacity of the plantation.

**ES 4.0 EIA Study Procedure**
The EIA study was carried out after due consultation with the Federal Ministry of Environment (FMEnv), and in accordance with the Ministry’s Procedural Guidelines, and Terms of Reference (TOR) and scope of work, approved by the Ministry.

**ES 5.0 Verification by the FMEnv**
The FMEnv visited the proposed extension project site in order to verify the proposals and statements in the OOPC Plc’s application for an environmental impact assessment permit.

**ES 6.0 Consultations with and Participation by Stakeholders**
The Stakeholders identified were: (i) Federal Ministry of Environment (FMEnv), Abuja (ii) Ministry of Environment and Public Utilities, Edo State; (iii) Uhunmwonde Local Government Area; (iv) Ovia Northeast Local Government Area; (v) Project host communities.

The objective of the consultation was to inform and educate stakeholders on details of the project, its justification, discuss the scope of study and the project’s potential and associated environmental impacts, and obtain their views and comments. The summary
of the communities’ assessment of the likely environmental impacts of the proposed project was that the proposed project would largely have insignificant adverse impacts.

**ES 7.0 Project Justification**
The proposed project will complement considerably both the Agricultural Transformation Agenda (ATA) and the economic transformation strategy and plans of the country. Justification is therefore found for the proposed Extension Two oil palm development project in its potential to: i) Add value to the existing production of the company, ii) Provide direct employment, iii) Create additional jobs, iv) Contribute to the socio-economic development of neighboring communities, and iv) Increased economic benefits to the nation.

**ES 8.0 Envisaged Sustainability**
In order to achieve the desirable sustainability of the proposed Extension Two oil palm plantation project, OOPC Plc will develop and operate the project based on industry best practices, applying especially the IFC Performance Standards and the Principles and Criteria of the Roundtable on Sustainable Palm Oil (RSPO).

Technically, best hands and agricultural practices shall be employed to carry out the project to ensure its technical sustainability while environmental sustainability will be attained through the OOPC Plc Environmental Management System (EMS) that is already in place. The life span of an oil palm plantation is about 30 years or more after which the palm trees are felled and then replanted. With proper upkeep, the oil palm can produce for more than two decades. The envisaged upkeep practices include routine ring weeding, pruning, slashing and fertilizer application.

The project will be financed from the company’s yearly turnover and profits. The financial performance of the company has improved considerably. OOPC Plc is listed on the Nigerian Stock Exchange. The financial performance of the company over the years would enable it to execute and sustain the project operations. The estimated cost of the project is about N6.3 billion Nigerian Naira.

**ES 9.0 Relevant Environmental Laws, Decrees, Regulations and Edicts**
The following laws and regulations apply to the proposed project: (i) National Policy on Environment (FEPA, 1989); (ii) Environmental Impact Assessment Act 86, 1992; (iii) National Guidelines and Standards for Environmental Pollution Control in Nigeria,

**ES 10.0 Existing Baseline Environment**

The biophysical and human socio-economic environments that might be impacted by the proposed project were ascertained from field data gathering, previous natural resources and environmental studies and in-house environmental records of the company spanning both the dry and wet seasons.

The project site falls within the rain forest region of southwestern Nigeria which experiences a hot and humid tropical climate. The climate is characterized by seasonal rainfall, high temperatures and high relative humidity. The environment is noted for two distinct seasons of rainy and dry periods in a year, characterized by the southwest moisture laden monsoon wind and the northeast dry cold harmattan wind respectively. The Southwest trade wind predominates over the area, usually between March and November, while the northeast trade wind has greater influence between December and February/March. The Southwest monsoon wind originates from the Atlantic Ocean; hence it is moisture laden, warm and brings rain to the area. The north east trade wind is characterized by cold, dry and dusty weather, often referred to as harmattan. The occurrence of these trade winds is determined by the North-South migration of the zone of demarcation between them, known as Inter-Tropical Discontinuity (ITD). The movement is usually gradual, steady and consistent, hence, the regular pattern of rainfall and dry periods in the year. It directly and indirectly controls other climatic parameters apart from rain like temperature, relative humidity, cloud cover, wind direction and speed, etc. These in turn moderate and determine crops to be grown, farming systems and operations, etc.

According to Muller-Samanu *et al.* (1994), the area falls between humid and semi humid climate zone of the tropics with about 8-9 months of rainfall, and having an average of 8.5 humid months in a year. The rainfall is more than 1,500 mm per annum for most years, and the driest months have less than 60 mm of rain.
The rainfall pattern (amount, intensity and distribution) is greatly influenced by the movement of ITD. The annual total rainfall for the area ranges from 1595 – 2127.2mm (NIFOR meteorological station). The rains are said to have been established when at least 100mm have fallen in a year. Thus, for most years, this is not attained until April. The amount of rainfall increases from April through to June/July when it peaks and then reduces during the month of August before it peaks again in the months of September/October. Thereafter, it tapers-out towards the end of the year.

The total amount of rainfall, its distribution and intensity are very important factors in determining the suitability or otherwise of a land, apart from the quality of soil for any particular agricultural enterprise. The host communities of the project site are essentially agrarian, hence highly influenced by the pattern of rainfall in their activities. The rains, usually, at the onset of the season are noted for thunderstorms which at times can be destructive, traveling at very high speed exceeding 48km/hr. These are torrential and windy rains, usually referred to as line squall. It should be noted that the amount of rainfall in a month can vary widely from one year to another. This is not unconnected to the global phenomenon of climate change which is becoming more and more apparent in recent years.

The mean air temperature of the project area, like most of the tropical environment is generally high throughout the year. It is characterized by minimal fluctuations, usually less than 5°C throughout the year. It is referred to as isohyperthermic temperature regime. The highest mean monthly temperatures are recorded in the months of February and March 34.57°C to 33.76°C, while the lowest mean air temperatures are 20.83°C to 20.97°C in the months of January and July respectively.

On a general note, the temperature is high throughout the year. Hence, temperature is not a limiting factor to the good performance of crops. It is thus feasible to have an all-year round crop production where moisture is not a limiting factor.

The groundwater quality is good and free from pollution. Except for the pH that is generally low, all the water samples from the project’s water sources have all physico-chemical and microbiological parameters within the permissible limits recommended by WHO and FMENV for wholesome water.
The results of laboratory analyses of two groundwater water and control samples over two (wet and dry) seasons are presented in Table 4-3 in the report.

Surface Water quality varied from one location to another within the proposed project area. The pH varied from 5.6 – 6.7, Conductivity 20 – 50(ucm-2), Turbidity 6-303, Suspended solids 3-208 mg/l, Dissolved oxygen 1.2-3.2, Biological oxygen demand 0.5-2.6 mg/l, Alkalinity 2-6, Hardness 4-14, Chloride 10.6-14.12, Phosphate 0.15-2.17, nitrate 4.5-9.5 mg/l, Sulphate 6-43 mg/l, calcium 1.6-3.21mg/l, Magnesium 0.49-1.95mg/l. All the values determined for heavy metals in the water bodies occurred in low concentration much below the recommended limits by FMENV and WHO. Water temperature was 27ºC± 0.4. Water movement could only be determined for Jemide River because other streams were seasonal. The speed of the water ranged from 0.5 to 0.7m/sec; with a mean of 0.603±0.054 m/sec. Secchi disc turbidity for Jemide River was 80cm.

The planktonic community was represented by 29 species of phytoplanktons and 2 species of zooplankton. The phytoplankton consist of Bacillariophyta (7 species), Chlorophyta (10 species) Euglenophyta (4 species) Cyanophyta (1 species), and Dinophyta (7 species) while the zooplankton was up of 2 species of Cladocera and Copepoda. There was no evidence of eutrophication (alga bloom).

The benthic fauna of the Jemide and Owan rivers is made up of eleven (11) species; decapods, crustacean and larval forms of Coleoptera, Diptera, Tricoptera and Odonata. These species are indicative of the absence of organic pollution.

The results of the laboratory analyses of the bottom sediment samples collected during the field exercise are presented in Table 4-13. The pH value of the sediment samples was within the range of 6.50 and 6.74 with an average of 6.62. Results of grain size analyses showed that the sediment samples were predominantly made up of sand with an average content value of 85.0% followed by silt having an average content value of 2.15% and lastly clay with 2.0% average content value.

Automatic reading equipment was employed to determine the air quality of the project site. The concentrations of SO$_2$, H$_2$S, CO, CO$_2$, NO$_X$, were all below the limits set by FMEnv. The concentrations of particulates are also below the set limit, showing clean,
unpolluted ambient air in the locations. The noise level was well below the community noise exposure level of 60dB(A). The groundwater quality is also good and free from pollution.

The project is within the Zone Q (Very Humid Lagos to Benin to Asaba Low land) of the agro-ecological zones of Nigeria. This zone is essentially the western Nigeria lowland, a relatively flat to gently undulating plain developed on sedimentary rocks and littoral deposits. The project site is underlain by Tertiary and Cretaceous sedimentary rocks (mainly sandstones).

Most of the soils in the study area were developed from undifferentiated igneous, metamorphic and Pre-Cambrian basement complex rocks with shale underneath. The rocks are fairly deeply weathered and occurrence of rock-out-crops in the survey area is fairly widespread.

The natural vegetation of the area has been greatly modified. Human interference through annual uncontrolled bush burning and intensive small scale farming has reduced the original forest to secondary ones and bush re-growth. The vegetation in the northern part of the proposed site consists of a mosaic of fallow lands, farms, and riparian wetlands along the streams located within the site. The commonest crops under cultivation in the farms include *Manihot esculenta* (cassava), *Musa sapientum* (Plantain), *Zea mays* (corn), and *Dioscorea alata* (yams).

Trees within the fallow area of the northern region of the proposed project area include *Baphia nitida*, *Trema orientalis*, *Pycnanthus angolensis*, *Musanga cecropioides*, *Alchornea cordifolia*, *Alstonia aboonei*, *Milicia excelsia*, *Nauclea spp.*, *Voacanga spp.*, *Terminalia ivorensis*, *Ricinodendron africanum*, *Irvingia gabonensis* and *Bombax* spp. The riparian wetland areas along the streams and Jemide River are dominated by swamp loving plants such as *Hallea ciliata*, *Ancistrophyllum seccundiflorum*, *Uapaca spp.*, *Musanga cecropioides*, *Anhostema aubryanum*, *Danielia ogea*, *Pandanus togoensis*, and *Alchornea cordifolia*.

The terrestrial wildlife fauna of the region consist of mammals, birds, reptiles, amphibians and invertebrates. A total of 27 species of mammals (excluding bats) were recorded in the area during the period of study. These species belong to 6 mammalian Orders, 16 Families, and 24 Genera. They include the rodents (Rodentia), primates
(Primates), pangolins (Pholidota), carnivores (Carnivora), insectivores (Insectivora), and ungulates (Artiodactyla).

A total of 49 avifauna species were recorded. Birds, characteristic of primary forest or old growth secondary forest such as hornbills, turacos, various bulbuls, flycatchers, and eagles were found in the primary forest fragment near the Jemide River. Seed and insect eating birds dominated the farmlands and oil palm plantation in the southern part of the concession within the proposed project area. They include bulbuls, barn swallows, swift, wagtails, waxbills, pin-tailed whydahs, common thrush, kingfishers and sunbirds. These species gives a clear indication of habitat change.

The textures of these soils were predominantly sand to loamy sand in the epipedon while the subsurface horizons were predominately sand to sandy clay loam in texture. Three profiles had no textural change with increasing soil depth. These profiles had sand textural class throughout the profile.

The soil structural classes of the soils ranged from weakly formed fine-crumbs in the surface horizons to moderately developed medium and coarse sub-angular blocky structures in the subsurface horizons. The consistencies were loose – friable in the surface and firm in the sub surface horizons.

The organic carbon content of the soils was moderate to high in the surface but low in the subsoil. In all the profiles the organic carbon content of the horizons deeper than 30 cm were below the critical requirement of 0.8% recommended for sustainable production of oil palm.

The total Nitrogen (TN) status of the soils varied linearly with the soil organic carbon content. Thus the TN content of the soil was moderate in the surface horizons with moderate OC contents and very low in the subsurface horizons where the OC content was low. Available P was low in the surface and subsurface horizons of the soils. All the pedons were deficient in available P and thus application of P fertilizer will be required for sustainable production of oil palm.

The result of baseline situation in relation to the project communities shows that the ten communities have similar culture in the way of greetings, marriage, tradition and other norms and values and they tend to be more bonded by the common interests they share as farmers. One of the major problems in some of the communities is soil erosion and flooding.
Some of the potential positive socio-economic benefits of Extension Two include creation of employment, introduction of high yielding varieties of oil palm and sustainable management of palm plantation practices, training and capacity building for employees and smallholders, revenue to local communities through royalties payment to landlord communities, tax revenue for the Edo state government and commercial opportunities for small and medium scale enterprises including petty trading.

While some of the potential negative impacts envisaged by community stakeholders include; Loss of farmlands, community conservation and forest products collection areas, Impacts on food insecurity and prices of food products, Influx of plantation workers and potential impacts on family structures and social networks, Water pollution due to agro-chemical application, sewage from worker’s camps and Pollution from hazardous substances, Exposure to health risks (e.g. HIV), Adulteration/destruction of indigenous cultural values. However, the intended use of agrochemical is minimal and not in the banned list of chemicals allowed by the FMEnv.

The suggested measures to mitigate the potential social impacts include: proper community engagement, Implementation of FPIC, Avoidance of displacement of communities and people, Ensuring proper participatory disengagement and payment of compensation to farmers using the land, Prevention of pollution of water resources and corporate social services to communities and diligent implementation of social impact management plan.

**ES 11.0 Alternatives Considered**
The alternatives considered were: (i) Do nothing alternative”; (ii) Alternative project location; (iii) Alternative plantation development methods; (iv) Smallholder development alternative. Of all the alternatives considered, the full development of the project as planned is favoured.

**ES 12.0 Significant Potential and Associated Environmental and Health Impacts**
The major/significant anticipated impacts arising from the development and operation of the proposed oil palm development project were examined and considered at four phases including: (i) Pre Construction; (ii) Construction; (iii) Operation and Maintenance; (iv) Decommissioning and Abandonment.

It is envisioned that land based traffic will also increase as a result of the proposed project. Land based traffic is expected to increase mainly during the operation phase to allow the FFB collected in the field to be processed at Main estate (headquarters). Activities at the project site during construction will however be varied and limited to the construction phase. The proposed project will result in a negligible impact on traffic, circulation and parking at the project site and its vicinity. It would be unlikely that the
rate of motor vehicle accidents would increase due to the project. No additional cumulative transportation impacts would result from the proposed action. Therefore it is anticipated that no long term environmental impact will be forthwith in considering the land based traffic.

Based upon the findings of social impact assessment, the proposed Extension Two project showed generally positive social consequences in the affected 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 social security in the project area.

As a result of this, the following management and mitigation measures are proposed for adoption and implementation to address the significant potential social and environmental impacts in order to make the proposed Extension Two project socially acceptable and beneficial:

- Implement FPIC
- Develop and implement community engagement plan
- Avoidance of displacement of communities and people.
- Identification, demarcation and appropriate management of traditional conservation areas and other high conservation values in the landscape.
- Prevention of pollution of water resources.
- Ensuring proper participatory disengagement and payment of compensation to farmers using the land.
- Fire prevention programs and zero or controlled burning.
- Corporate social services to communities.
- Provision of healthcare services and HIV prevention.
- Diligent implementation of social impact management plan

For health impact assessment of the proposed extension two oil palm development project, the main negative impacts are health, safety, and pollution of air and surface water. However, mitigation measures will be put in place for health and safety through the provision of adequate and appropriate PPE. Similarly, there will be a buffer zone (50-150m) between planting areas and the water bodies and there will be minimal application of fertilizer and agrochemicals.
ES 13.0 Proposed Environmental, Social and Forest Management Plans, (EMP, SMP and FMP) to be put in Place

All mitigation measures will be adhered to by the Environment, Health and Safety (HSE) department of the company; (i) Emissions testing and reporting will be done in accordance with the regulatory requirements and record submitted to FMEnv; (ii) Fire prevention precautions will be in place as required by the State Fire Service; (iii) All firefighting equipment will be inspected and maintained regularly; iv) Regular inspections will be conducted to verify the integrity of the fuel tanks. v) Written procedures governing the operation of the fuel tanks and precautions to be taken will be developed; (vi) The occupational health, safety and environmental policies shall be implemented; vii) Capacity building programme for plantation staff including awareness, in-plant training, seminars, workshops and short courses shall be undertaken regularly to enhance the implementation of the EMP.

For the proposed plantation project, the environmental monitoring programme would cover a number of parameters including meteorology, ambient air quality, surface water quality, groundwater quality and noise levels. All these would be monitored by the Federal Ministry of Environment.

The schedule of EMP detailing impact, mitigation measures, actions to be taken and the persons responsible for mitigation actions has also been drawn. It will equally be monitored for compliance.

ES 14.0 Decommissioning

The approaches to the decommissioning of the plantation project would involve the combination of assets recovery, dismantling, demolition, decontamination and remediation.

ES 15.0 Conclusion

The EIA process demonstrates that the plantation extension project will fully comply with legislative requirements in Nigeria and other relevant international regulations applicable to the planned activities and operations. The proposed project will result in substantial economic benefits for Nigeria through Employment opportunities generation in particular during the construction and operation phases.
This EIA also indicates that discharges including gaseous emissions and noise are expected from the operation of the plantation project. However, any such discharges, which can be considered as potential sources of adverse environmental effects, can be fully managed through preventive actions and mitigating measures. This means that no significant negative impact on the natural, health and social environmental sensitivities of the project area is expected to result from discharges, let alone the occurrence of a residual impact.

There would appear to be no legal, administrative, natural and socio-economic limitations to prevent the proposed plantation project from going ahead as proposed by OOPC Plc. The project shall be implemented in accordance with the proposed environmental management plan (EMP).

An EMP involving environmental management and supervision organizations, and environmental monitoring has been established to ensure the environmental performance of the Project. To ensure successful implementation of these measures, the EMP covers major relevant aspects such as institutional arrangement for environmental management and supervision and environmental monitoring. With implementation of the mitigation measures defined in the EIA and EMP, and SMP, all the likely adverse environmental impacts associated with the project will be prevented, eliminated, or minimized to an environmentally acceptable level.

The Project is environmentally and socially sound, and will promote balanced and environmentally sustainable operation of OOPC Plc. It is therefore recommended that OOPC Plc should implement the proposed Extension Two oil palm project by fulfilling its obligations as outlined in the respective social and environmental management plans in this report.