AFRICAN DEVELOPMENT BANK GROUP

PROJECT: **Maryland Oil Palm Plantation Project**

COUNTRY: **Liberia**

SUMMARY OF THE ENVIRONMENTAL AND SOCIAL IMPACT ASSESSMENT (ESIA)

Project Team	Zineb ZERYOUHI, Senior Investment Officer	OPSM.2
	Rachel ARON, Senior Social Development Specialist	ONEC.3
	Uche DURU, Senior Environmental Specialist	ONEC.3
Sector Division Manager	Mouhamadou NIANG	OPSM.2
Sector Director	Mouhamadou NIANG, OIC	OPSM
Regional Director	Franck PERRAULT	ORWA

Liberia: Maryland Oil Palm Plantation Project

Project SAP number: P-LR-AAG-001

1.1 Introduction

This report presents a summary of the constituent components of the Environment and Social Impact Assessment (ESIA) which has been carried out for the **Maryland Oil Palm Plantation Company** (MOPP). The report is the product of both desk and field work based on a multi-disciplinary approach to systematic consultation, site reconnaissance, and data collection. The work was completed during July, August and September 2012.

This palm oil production project includes various components: the rehabilitation and expansion of oil palm plantation areas, maintenance of equipment and facilities, and the setting up of a program of satellite out grower plantations; in the second phase, a new processing plant is scheduled to be built in 2016.

It is noted that the ESIA has followed from the requirements of international lenders and has been carried out following preliminary activities (in particular clearing and planting) by the project company at the project site. Thus, the ESIA process has involved the monitoring & evaluation of existing work has been carried out in compliance with ESIA requirements to integrate all key elements of such a study: regulatory framework, baseline study, identification of impacts – associated with both ongoing and future phases of the project – and mitigation measures, implementation arrangements, etc. This study has been opportunity in the ongoing process to identify problems, risks and management issues, and to strengthen the next steps throughout the projects lifecycle.

1.2 Project description and justification

The MOPP concession is positioned approximately 30 km north from the county capital of Harper, which is just over 400 km south-east from the capital, Monrovia. MOPP will see in part the rehabilitation of a previous oil palm plantation, which was known as Decoris. The Decoris plantation was established during the mid to late 1970's with support of the World Bank.

MOPP is being developed by the SIFCA Group, a leader in the palm oil sector throughout West Africa. Founded in 1964, SIFCA is a leading African agribusiness group, involved in the cultivation, processing and marketing of vegetable oil, natural rubber and cane sugar, with operations in five countries through its subsidiaries.

MOPP involves farming a plantation of oil palms granted under a concession agreement signed on March 4th 2011 between the Government of Liberia and SIFCA. A specific company, Maryland Oil Palm Plantation (MOPP), was set up as a subsidiary of SIFCA to manage the Project. The concession was granted to SIFCA within the framework of a development project aiming at rehabilitating the former Decoris plantation, creating new cultivated plots, maintaining equipment and installations and building a processing plant.

As part of the project, 15,000 hectares of oil palms plantations will be developed. This surface will be exploited under two different mechanisms:

- About 9,000 hectares will be used for industrial plantations and is based on the rehabilitation of the previous Decoris plantation. This will to be developed between 2011 and 2015;
- About 6,000 hectares will be used for smallholder plantations under an Outgrower's Scheme, to be developed between 2013 and 2016.

MOPP's production will be used to diversify the sources of supply of crude palm oil and kernel oil for the SIFCA Group; the oil produced will be mainly destined to SANIA's (member of the SIFCA Group) secondary processing refinery in Ivory Coast.

1.3 Policy, legal and administrative framework

The Policy, Legal and Administrative Framework of the present ESIA consists of a range of documents:

- The Liberian national legislation, including laws and regulations pertaining to the environmental, social, land tenure and occupational health & safety areas;
- International environmental and social conventions and treaties ratified by Liberia;
- Environmental and social policies and guidelines of possible financing partners. As of September 2013, identified financing partners include:
    - The African Development Bank;
    - The International Finance Corporation;
    - The ECOWAS Bank for Investment and Development;

- SIFCA's own environmental and social policies, charters and guidelines.

The Government of Liberia (GoL) has developed legislation for the management of the country's physical, biological and human environment but, in many situations, it is still formulating its regulations and administrative structures. As is the rule for Environmental and Social Impact Studies, the most stringent policies – which may thus not be Liberian legislation – must be applied for the identification and management of environmental and social impacts.

The requirements MOPP needs to meet in terms of environmental and social management can be summarized as follows:

- Development of an **Environmental and Social Impact Study**. The various policies and laws requiring the development of such a study (AfDB, EBID, IFC, Liberian Law) to broadly capture the same concerns as regards the scope and contents of such a study (these include; executive summary, project description, institutional framework, baseline data, identification of impacts and risks, analysis of alternatives, identification of mitigation measures and arrangements for their implementation, recommendations, summary of public consultations).

- Development of an **Environmental and Social Management Plan** or **Environmental and Social Management System**. This document must include the following elements: a policy framework, a summary of the risks and impacts of the project, a plan for consultation of the public, a description of environmental and social management measures to be implemented, a description of arrangements necessary to the implementation of such measures including a cost estimate and schedule, analysis and recommendations regarding the organizational capacity and competency of the project promoter for implementation of the management measures including capacity building measures if any, an emergency preparedness and response plan and provisions for monitoring and review.

- Development of a **Stakeholder Engagement Plan** (to be included in the ESIA or ESMP); this includes measures ensuring the effective participation of disadvantaged or vulnerable groups to the environmental and social assessment and management process.

- **Public consultations** must be carried out as early as possible during the assessment process. Information about MOPP must be shared with affected populations in a form and language that is understandable by all, in such a way that the populations are able to provide inputs to the study. The ESIA report must then be displayed in a public place.

- For issues related to air quality, water quality, waste management, noise, etc. MOPP operations must be in agreement with the quantified targets and indicators set out in the World Bank Group's **Environmental, Health and Safety Guidelines**. Documents to be used as reference are the following:

  - Environmental, Health and Safety General Guidelines;
  - Environmental, Health and Safety Guidelines for Plantation Crop Production;
  - Environmental, Health and Safety Guidelines for Vegetable Oil Processing.

- Development of a full Resettlement Action Plan (given that the number of PAPs is more than 200). As is the case for the ESIA, the various policies to be considered capture the similar concerns as regards the scope and content of the RAP. Eligible causes for relocation include loss of shelter or assets, restriction of access to assets or protected zones and parks, loss of income sources, means of production or livelihoods. The level of compensation has to be full replacement cost for assets lost and a general improvement of former living standards, income earning capacity and production levels. Persons eligible for full compensation include persons with either a legal claim to the land/assets or with a recognizable claim to the land/assets; persons with no legal or recognizable claim to the land/assets will be provided with resettlement assistance and, if needed, adequate housing with security of tenure and compensation for the loss of assets other than land.

1.4 Description of the project environment

1.4.1 Soil type

Soil types found over almost the entire MOPP concession are reddish-brown free draining soils and, in small parts, range from gray to black soil. Some localized variance in soils does occur across the site associated with topographic variance and proximity to surface water, but most of the MOPP area consists of ferralsols.

Ferralsols have high agricultural potential because of their good structure and moderate to high chemical fertility and water-holding capacity. Their higher rainfall equivalents (soils called Krasnozems) can suffer from acidification and nutrient leaching, as do the ferralsols, particularly when subjected to annual cropping regimes. The MOPP soils are highly acidic, have low organic count, and the clay constituent varies across the concession. On higher points of the undulating topography there is common occurrence of an evenly rounded and smooth surface 'gibber', high in iron and formed by weathering / removal of sand and finer grain material.

Ferralsols have potential for structural decline and, from a sustainability perspective, are better suited to perennial cropping scenarios. Under perennial systems, these soil types support growth of a variety of tree crops such as rubber, oil palm, coffee, as well as corn and rice, assuming a long fallow periods in the cycle.

1.4.2 Topography & land use

The landform of Liberia features uniform rolling plains with wide and shallow valleys running parallel with the coast. These plains are regularly intersected with rivers. Beyond the coastal belt is a rolling plateau, and low mountains in the northeast. Maryland County has large rivers: the Cavalla, located in the East, the Gee River, in the Northwest, River Nun in the West and Ni Dellor in the West. The Gee River has several waterfalls, which flow and drain from the swamps and tributaries into the Ocean.

The project site is situated in the "Cape Palmas" which is a major geographic feature on the West African coast, positioned at the extreme southwest corner of the northern half of the continent. The Cape consists of a small, rocky peninsula connected to the mainland by a sandy isthmus. Immediately to the west of the peninsula is the estuary of the Hoffman River which runs through Harper. Land formation and climate contribute to a regular incidence of rivers running across the landscape to the sea. Thus, within a very small catchment zone the MOPP has three significant river systems.

The history of land use over the last 180 years is closely related to the topography. Post 1830's, there were major settlements established by returning Negro slaves from America. Generally, the activities of these settlements were confined to an area running along 65 km parallel to the coast. Beyond that line, the local communities maintained their livelihoods. The 65 km zone thus became the focus of routine forest clearing for swidden agriculture and later commercial plantations, the first of these being Firestone Rubber Plantation in Pleebo, established during 1926.

1.4.3 Climate Type & Trends

Generally it can be stated that the country has two seasons – a wet season from March-April to October and a dry season from November to March, though the beginning and end of either season can vary considerably. Any significant change in the rainfall pattern could adversely impact on production as although the palm oil plant is considered to be tolerant of drought conditions, almost all crops yield best under regular and evenly distributed rainfall.

The strong maritime influence means that the temperatures in the coastal region remain constantly within the relatively narrow band of 18°C to 33°C, (a range which is reinforced by data below). Slightly higher maxima and slightly lower minima occur in the dry season, but the range within each band is only about 5°C throughout the year. In the highland region maximum daytime temperatures are slightly higher (35°C) in the dry season, but night time temperatures are considerably cooler (15°C), giving a large diurnal range of some 20°C in December. The wet season daily variations are much smaller, typically only 10°C, and with the daytime and night time temperatures always between 30°C and 18°C respectively.

The climate of the Cape Palmas region is essentially determined by the migration of the Intertropical Front (ITF). This mechanism has both regular and periodic variance, which explains especially the extreme variability of annual rainfall at MOPP.

The average low temperatures are around 22°C – 23°C all year long, while average high temperatures range from 27°C in August to 32°C in February – April.

1.4.4 Hydrology

The water table in the area is high and, as shallow well depth is found to operate very well at 15m. The Oxfam office in Harper have been responsible for the implementation of a shallow wells program in Maryland, on behalf of the UNDP program, and, after a three year period of work in the Pleebo district, their assessment of the situation across Pleebo is considered sound. They have noted that there is no need for the use of any drilling rig to get to the aquifer. Soils at 15m have a higher clay constituent. Water yield has been found to be uniform and, where routine hygiene procedures are in place, there is no reason for communities and settlement in the area to be without good groundwater. Groundwater depth does vary seasonally, which is a reflection of both rainfall quantity and soil percolation quality.

The nucleus of the concession includes three sub catchments with three river systems including tributaries, all of which are perennial. These rivers predominantly run in a south-south-westerly direction and all ultimately flow into the Atlantic Ocean. Two of these rivers have their source within the concession area, and the third in the immediate land to the north.

1.4.5 Fauna & Flora

It is recognized that the rain forests of West Africa have been designated as one of the world's hotspots of biodiversity. They extend from Ghana to Senegal and are referred to as the Upper Guinean forests. Because of their isolated position, they harbour a large number of rare and endemic animal and plant species. However, the forest areas within and surrounding the MOPP site have been seriously compromised as a result of both casual and sustained clearing for high value timber harvest, as well as the regular slash and burn practices for subsistence level agriculture. However, there are High Conservation Value (HCV) areas within the MOPP concession and, as it is in these areas that remnant fauna could be found, these valuable remnants require recognition and management by the MOPP. It is also acknowledged that for the local communities, the hunting of all animals has been considered a primary part of livelihood, and that there are clear indications across the concession land, and adjacent areas, that such practices continue, although only in a limited way due to the demise in range and incidence of species.

1.4.6 Agricultural practices

Several field trips were taken to observe the farming in the district. Predominantly the existing practices by local people are swidden (slash and burn) agriculture, which in the most part, fit the category of subsistence level agriculture. A small amount of surplus is traded but primarily, what is produced is for HH consumption. People are consistently reliant upon agriculture for their income, regardless of the sum total of the income derived. A considerable component of this income can be attributed to rubber tapping.

The major crop is upland rice for which production was calculated to be range considerably from very poor to low (.4 MT/Ha) to the best estimates at approx .6 Metric Ton (MT). A considerable proportion of rice fields were chlorotic in appearance (signalling high pH and lack of nitrogen), and rust seemed to be endemic. Cassava and maize/corn are also major staple crops. Improved cassava varieties have been accessible, and promotion of improved varieties could make a considerable difference to production.

1.4.7 Socio-economic characteristics

Maryland County is characterized by the following socio demographic characteristics:

- Demographic vitality

The County has a rapidly growing population: the 2008 Census figures provide that the County counts 136,404 people against 69,267 in 1984 (last Census date).

The annual population growth is 2.8%, which is slightly higher than the national rate (2.1%) and reflect the region's vitality.

- Densely populated region mostly because of its economic vitality

The estimated population density is today (2008) 60 persons per km² (154 persons per sq. m). It is one of the most densely populated counties of Liberia.[1]

---

[1] 2008 Population Census

Its small landmass with a high population total is supported by the presence of agricultural companies that for long time attracted a working population in the county, in particular the Firestone rubber plantation established in Maryland in 1926, and opportunities for trade with contiguous Ivory Coast.

- Important urban population

Maryland County is characterized with an important urban population: this represents more than 30% of total population and is distributed between two cities. Harper, the administrative and political capital with 19,000 inhabitants, and Pleebo that counts more than 23,000 inhabitants. This underlines the important role in commercial activities that this city plays, taking advantage of its geographic position in the South. It is the most important urban area for the whole south eastern region of Liberia. Pleebo was also formerly known "Firestone" and today the "CRC city".

- Opposition between the quasi mono ethic composition of rural areas and intermingling of populations in urban areas

The predominant ethnic group in Maryland is Grebo (90%) with Kru following (5%) and notably 2% of non-Liberian.

In Maryland County, if rural areas are Grebo, Pleebo (much more than Harper) is a multi-ethnic and cosmopolite city. People from all other Liberian counties are found in Pleebo as many foreigners from the adjacent countries (Guinea, Sierrea Leone, Ivory Coast). They are engaged mostly in commercial activities, also in the rubber employment market, or for the Liberian administration jobs.[2]

- As a boarder county, the impact of refugees on the host population

Since 2003 the political turmoil and violence in the Ivory Coast led to an influx in Maryland of Ivorian refugees. The majority of refugees stayed within the host communities, increasing pressure on host population with regard to availability of food, health services, water and sanitation facilities. In 2011 a new influx of refugees[3] caused additional strain on the already over-stretched health system. Most of the refugee populations returned to Ivory Coast in 2012; a few camps of refugees still exist in particular in Harper district and in Pleebo/Sodoken district. Some Ivorian households live among rural communities.

1.5 Project alternatives

As previously noted, the MOPP is presently at the 'execution' stage of the project cycle and therefore a large investment in time and resources has been committed to the rehabilitation of the Decoris nucleus. Clearing of the old plantation nucleus (nearly 1500 Ha), establishment of nurseries (X 2) and the planting young oil palm in 500 Ha, has been completed over an 18 month timeframe. In another two years the MOPP can expect that there will be an initial harvest from the young palms. The prospect that MOPP would now cease in the name of a 'no-project' alternative, is not considered an option.

---

2 Interview with Mr. A. Harmon, City Mayor of Pleebo.

3 In 2011 the total number of refugees was 75,688 in Grand Gedeh and 20,513 in Maryland; ECHO and DRC reports

1.6 Potential impacts and mitigation/enhancement measures

Field visits conducted by the Consultant in areas already cleared and in some cases planted by MOPP evidenced the following physical impacts:

- A loss of existing secondary regrowth on the old Decoris plantation nucleus;
- Diminished biodiversity as a result of land clearing;
- Decrease and fragmentation of habitat as a result of land clearing for a range of birds and animal life;
- Potential loss of top soil from clearing processes;
- Imposition of uniform road grid upon the landscape;

Furthermore, planned MOPP activities are likely to have the following adverse physical impacts:

- Establishment of processing plant & waste stream;
- Increased demand upon ground and surface water for nursery irrigation and processing plant;
- Potential for increase in surface runoff into existing rivers and creek system;
- Potential for increased pressure on the remnant tree species which constituted the ecological corridors delineated along river and creeks.

The Population and Assets Survey as well as the field visits conducted by the Consultant evidenced the following social impacts:

- Loss of access to land used for cultivation and fallow adjacent settlement by local communities;
- Potential for increase in poverty of vulnerable groups due to loss of lands and assets;
- Potential for increase in land conflict as communities are squeezed for land;
- Creation of job opportunities for members of the local communities, particularly in regard to unskilled labour;
- Higher profile of 'company town' status for Pleebo as greater numbers of people employed in the two company enterprises;
- Through training and mentoring, opportunity for eligible members of the local communities to be involved in the skilled and management roles of the MOPP;
- Women specifically will also have a greater opportunity to secure employment;
- Broader livelihoods improvement for Pleebo Town;
- Increase in family incomes means improved access education services as well as health services;
- Increased vehicle traffic on a routine basis passing through the town;
- Over 3-5 year time frame a dramatic increase in land unit productivity.

The table below lists possible impacts with associated mitigation measures:

Impact	Mitigation Measures
Physical Environment	
Loss of vegetation including secondary regrowth, diversity and habitat	Securing of ecological corridors along all permanent rivers and creeks
Potential for increased pressure on the remnant tree species which constitute the ecological corridors delineated along river and creeks	Agreements secured with local communities to establish vegetation management groups which will plan for the planting of dedicated timber lots and fuel wood plantations.
Potential loss of top soil from clearing processes.	Guidelines established for the clearing processes which includes recognition of contours, 50m exclusion corridor to slow down surface water flows.
Imposition of uniform road grid upon the landscape has potential to threaten integrity of ecological corridors.	Customised detailing of road network around all river and creek areas determined through onsite assessment and detailed in EMP
Establishment of processing plant & waste stream will focus activity in one central point with ongoing potential impact.	Post treatment holding ponds established and routinely monitored for treatment and harvest of waste stream.
Increased demand upon ground and surface water for nursery irrigation and processing plant	Monitoring of surface and ground water quantity and quality.
Potential for increase in surface runoff into existing rivers and creek system	EMP details ecological corridor establishment and monitoring
Social Environment	
Loss of access to land used for cultivation and fallow adjacent settlement by local communities Potential for increase in land conflict as communities are squeezed for land	Identification of alternative land and agricultural extension support to increase productivity and reduce area of land required for swidden agriculture.
Increased vehicle traffic on a routine basis passing through settlement.	Management and maintenance of roads increased as part of MOPP operations.

The positive benefits of the MOPP are clear and for many in the community. There has been improvement in some areas concerning:

- Refurbishment of an existing plantation which, after 30 years, was reaching senescence
- stage;
- Employment for up to 1000 people;
- Improved health, educational opportunities, standard of living etc for the communities;
- Delineation and protection of dedicated ecological corridors.

In dealing with a plantation which has been previously established under a different regime, it is important to have some understanding of the way in which the previous operation managed the site and coalesced with the community. According to various Pleebo community people spoken with, and verified by land use mapping from the period, there were agreements made to provide for continued community use of cultivation and fallow areas to the east of the concession. The Consultants understand that the MOPP management has only just become aware of this situation through the ESIA work.

It is imperative that both the MOPP and SIFCA see this as a major opportunity, to build on the previous where possible, and to strengthen the MOPP operations by building upon the previous achievements, albeit they are perhaps at times intangible and difficult to assess. In this regard, understanding the perceptions of the community and ensuring that steps are made to build trust, confidence and an enthusiasm for the project to move ahead. These are important steps in managing social impacts.

Additionally, the project could possibly contribute to safeguarding some of the environmental assets in the area; specifically the High Conservation Value forests, which are already threatened by hunting and exploitation activities in the area.

1.7 Monitoring program

One of the primary inputs by the yet to be appointed EMP officer will be to monitor the performance of the MOPP regarding the physical environment. This work can consist of a number of monitoring points across the plantation, most particularly at nodal points of the ecological corridors. Water monitoring should be done using the base line data assembled as part of this ESIA.

It will be necessary to monitor and evaluate the project activities regarding social issues in particular. Monitoring will provide the information necessary for feedback into the environmental management process, and will assist in identifying where additional mitigation effort or where alteration to the adopted management approach may be required. A number of issues have been identified which require documentation and monitoring as the project progresses.

Item	Monitoring Parameters	Monitoring Frequency	Monitoring Locations	Responsibility
Land Use change	Land use/land cover change (ha); loss or increase in natural habitat	Annually	Project site / HCV areas	EMP Manager
Ecological Corridors	Integrity of plant community undisturbed, emergent plant material and signs of aquatic life.	4 times a year	At a combination of permanent and random sites across the concession.	EMP Manager engaging Community school based program.
Water Quality	Surface water; Total Suspended Solids BOD COD Total fecal coliform PH	4 times a year	Rivers & water bodies in vicinity of MOPP site; above & below MOPP influence & below drainage outlets	EMP Manager engaging a Community school based program.
Health & Safety	Health & safety surveys, documentation of injuries & accidents; use of PPE, presence of signs, first aid kit, and fire-fighting devices	Continuous	Entire area of the MOPP	MOPP Site Management, EMP Manager.
Agricultural land use	Diminish impact of swidden agriculture	Seasonal	All community gardens / farms.	MOPP agriculture extension appointee.
Settlements / PAPs				
MOPP links to community	Number of positive general contacts of benefit to both groups	ongoing	MOPP Management & community committees	MOPP management
	Number of employees with MOPP who were previously PAPs	ongoing	MOPP HR department	MOPP management

	Specific works completed, identified by community using MOPP resources	2 times per year	MOPP Management & community committees	MOPP management

1.8 Public consultations and public disclosure

Public consultation included initial meetings conducted with chiefs and senior members of each village and in each of these first sessions in Pleebo, consultants were accompanied by Martin Nyeka, the CRC/MOPP Communities Services and Public Relations Officer. Following local protocols, additional meetings were held with the Mayor of Pleebo City Corporation, the hierarchy from the Maryland County offices based in Harper, the leaders of the senior elected political representatives from the National government who were frequently in Monrovia, as well as community leaders by virtue of their civil service positions in Pleebo. At the onset of the mission, consultants also held meetings with the all relevant government Ministries in Monrovia, briefly introducing the proposed SCT workplan, and seeking approval and support for the ESIA. All these meetings recognized the formalities, but were conducted mostly in a very informal manner.

People from the public were prepared to listen and share with the SCT, but they had a clear and consistent message to offer. Although they felt that they had no choice in the arrival of the MOPP, they did not wish to stop it as they saw the opportunity for work and the livelihood benefits which would follow as offering improved prospects for many. However, during the consultation process the expressed concerns regarding the compensation process and employment opportunities as well the ability of MOPP management to meet commitments.

1.9 Conclusion

The assessment has observed the potential attractive benefits for the MOPP project, as well as, the many challenging hurdles that will be involved in successes fully implementing the project. The project has already made some achievements, some of which are impressive over a short period; plantation re-established, new buildings established and/or refurbished, nursery commenced and irrigation in process of installation. While there has been significant emphasis upon development of the physical site, more emphasis has to be brought to bear on on securing community support and engagement.

Pertinent questions to ask at this stage include how much time should be spent on working with the community, what are the best relevant models that SIFCA should deploy, and how will the company know when it has been successful in this important area?

This will require organizational changes in MOPP which will introduce adequate skills and management approach on issue of community engagement, occupational health and safety, environmental management etc.

Finally, it is necessary emphasis on the fact that ESIA is an ongoing process, which will require additional field observations, monitoring activities and consultation process all which should culminate in a learning process that will mitigate adverse impacts and enhance beneficial impacts of the project.