



## I. Executive Summary

Olam International Limited has entered into a 70:30 Joint Venture Agreement ('JV') with the government of the Republic of Gabon ('RoG') to initially develop in **Phase I, 50,000 hectares of palm plantation in Gabon**. The total investment in the plantations, palm oil mills and related assets estimated at US\$236 million. As part of the agreement, RoG has committed to the JV **an overall land bank of 200,000 hectares allowing Olam to identify parcels of land** suitable for palm and rubber plantation development in **multiple phases**. The JV will also focus on developing small holder plantations in palm after completion of phase 1. Environmental Impact and High Conservation Value assessments have been completed for two lots totalling 38,560 hectares out of which approximately 7,000 hectares have been identified as suitable for oil palm cultivation at this point in time.

Olam Palm Gabon (OPG) will implement Phase I of the plantation development over 4-5 years, starting with an area of approximately 7,000 ha on which planting will be completed by early 2012. During this period, CPO and PKO mills will be installed to process the harvested crop. Further area will be identified for oil palm development, and phase 1 will be complete upon the development of 50,000 ha.

Olam is clearly committed to developing palm plantations within the RSPO framework, thus the Company will follow due processes of EIA and HCV assessments before converting any land for cultivation. To achieve this, Olam has commissioned an SEIA and HCV study through independent consultants that are experts in these fields, namely TERE, based in Gabon, and Proforest, based in the UK. The latter is an accredited RSPO assessor that is recognized to conduct HCV studies for the palm sector. Olam have, in this management plan, given due consideration to the recommendations made by the two agencies on aspects of environmental, social and high conservation value in the areas where palm would be planted.

## II. Reference Documents

- i. **SEIA and HCV assessment Reports- Already Provided**
- ii. **List of Legal Documents and regulatory permits related to the areas assessed**
  - i. *Decision portant autorisation d'exploration des concessions forestieres d'une superficie de 51,920 hectares*
  - ii. *Convention Portant concession de baux amphyteotiques*
- iii. **Location Maps- See below**
- iv. **Area of New plantings and time-plan for new plantings- See below**

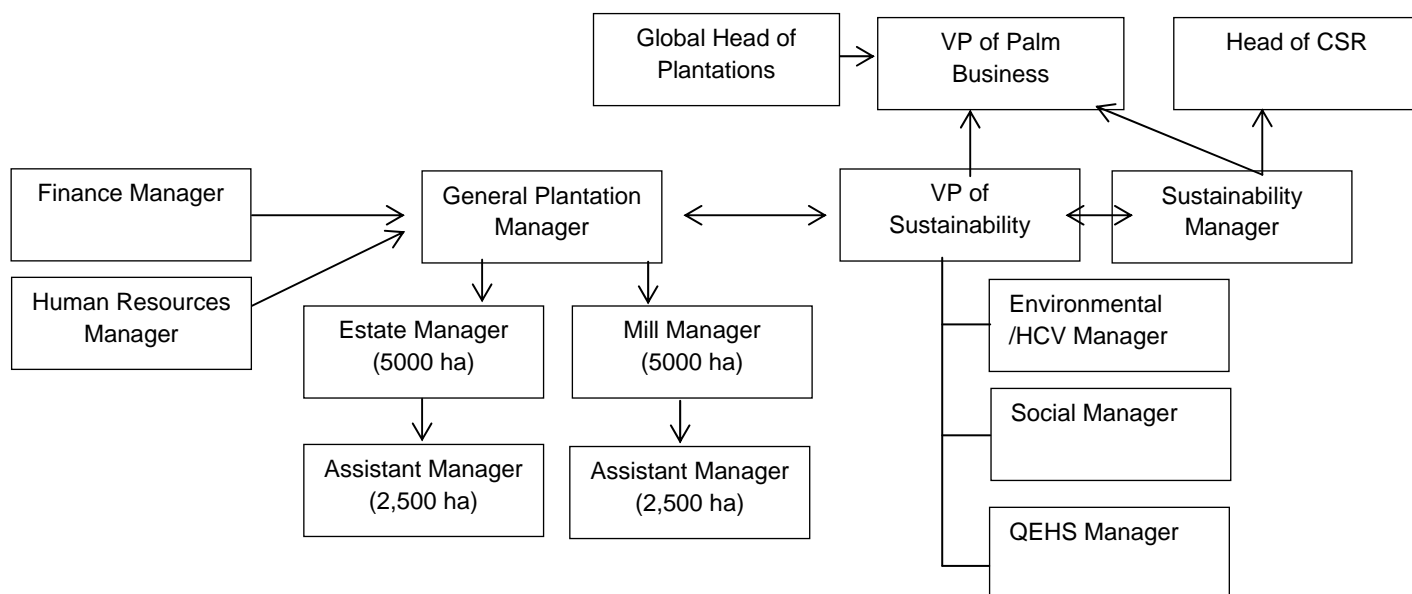
## III. SEIA and HCV Management & Planning Personnel

### i. Organisational Information and Contact Persons

Contact Persons	Position	Entity
Gagan Gupta	Project Director	Olam Gabon
Supramaniam Ramasamy	Global Head of Plantations, Palm	Olam International Ltd
Shyam Ponnappa	Plantation General Manager	Olam Palm Gabon
Arun Venkataraman	Vice President-Sustainability	Olam Palm Gabon
Alexandra Booth	Sustainability Manager	Olam International Ltd.
Raphael Aouba	HCV Assistant Manager	Olam Palm Gabon
Nina Kouba	Social Manager	Olam Palm Gabon
Jean Michel Pierre	Certification Programme Manager, Social Services	Olam International Ltd

The plantation area will be structured in divisions (*figure i*) consisting of around 2,500ha each to ensure that implementation of all best practices, including training of the workers who are unfamiliar with plantation work and techniques, is well supervised. Each of these divisions will be managed by an assistant manager. Suitable standard operating procedures will be established for all the field activities before commencement of the project. Supervisory staff will be trained and designated to implement and monitor management plans that address HCV recommendations, and relevant environmental and social aspects.

*Figure i*



**ii. Personnel involved in planning and implementation**

Role	Responsibility	Entity
Plantation head	Operational planning, implementation of best practices in establishing plantations	Olam Palm Gabon
Finance Manager	Budgeting, Regular payments and cash flows	Olam Palm Gabon
Sustainability Manager	Management of RSPO compliance and sustainability oversight	Olam International Ltd.
HR Manager	Hiring and evaluating employees; conducting inquiries and resolving HR issues	Olam Palm Gabon
RSPO Supervisor	Monitor HCV management, implement Health & Safety standards, and handle local community relations.	Olam Palm Gabon
RSPO Training and Guidance	Implementation training/ guidance for Estate managers and assistants	Proforest
Estate managers	Training/guidance of workers to ensure compliance with best practices; overall operation of the unit	Olam Palm Gabon
Assistant Manager	Support of estate manager in implementing best practices	Olam Palm Gabon

**iii. Stakeholders to be involved**

- Ministry of Environment
- Ministry of Water and Forest
- Ministry of Inventory and Forest Management
- Village Representatives of Nsile, Woubele 1, Woubele 2, Ayeme Bokoue 1, Ayeme Bokoue 2, Agricole Centre, Agricole Frontiere, Oyane 1 & 2, Oyane 3, Oyane 4, Mupuma 1, and Mupuma 2
- Local Social and Environmental NGOs and Research Institutes
  - IRET, WWF, CENAREST, WCS

#### **IV. Land Clearing and Planting Plan**

The first 7000 hectares in the southern part of lot 8 will be cleared for planting in the first phase giving due consideration to the HCV areas highlighted by Proforest's survey and also any relevant environmental and social considerations in the SEIA conducted by TERE. Olam Palm Gabon expects to start the land clearing upon completion of due diligence in early May 2011. The planting will be done within the limited window of suitable weather conditions.

The planting season in Gabon is restricted to 5 – 5.5 months of the rainfall period, starting from mid October to April. Planting of the cleared area is planned accordingly to be completed before mid March 2012 such that the last planting gets minimum one and a half months' favourable time to establish well before the dry season sets in.

Land clearing will be completed on a block by block basis, from east to west to drive any potential animals present, into the larger jungle area on the western side of lot 8, thereby reducing the chances of them being hunted or poached by villagers on the eastern side of the lot.

Figure ii

PLANTATION DEVELOPMENT ACTIVITY CALENDER FOR 5000Ha																				
Month number		-2	-1	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	
Sl. No	Activity	Month-->	O10	N10	D10	J11	F11	M11	A11	M11	J11	J11	A11	S11	O11	N11	D11	J12	F12	M12
1	Confirmation of the allotted land																			
2	EIA & RSPO																			
3	Recruitment of Managers and staff as per recruitment plan																			
4	Placing order for seeds																			
5	Nursery LC with hired machinery and preparing Pre Nursery.																			
6	Arrival of seeds and nursery planting																			
7	Procurement and Installation of nursery irrigation system																			
8	Main Nursery preparation and transplanting																			
9	Upkeep of nursery plants																			
10	Land clearing machinery & vehicle procurement																			
11	Construction of buildings as per construction plan																			
12	Land Clearing																			
13	Peg collection																			
14	Lining																			
15	Cover crop planting																			
16	Holing																			
17	Planting																			
18	Upkeep immature area																			



## V. Area of New Plantings

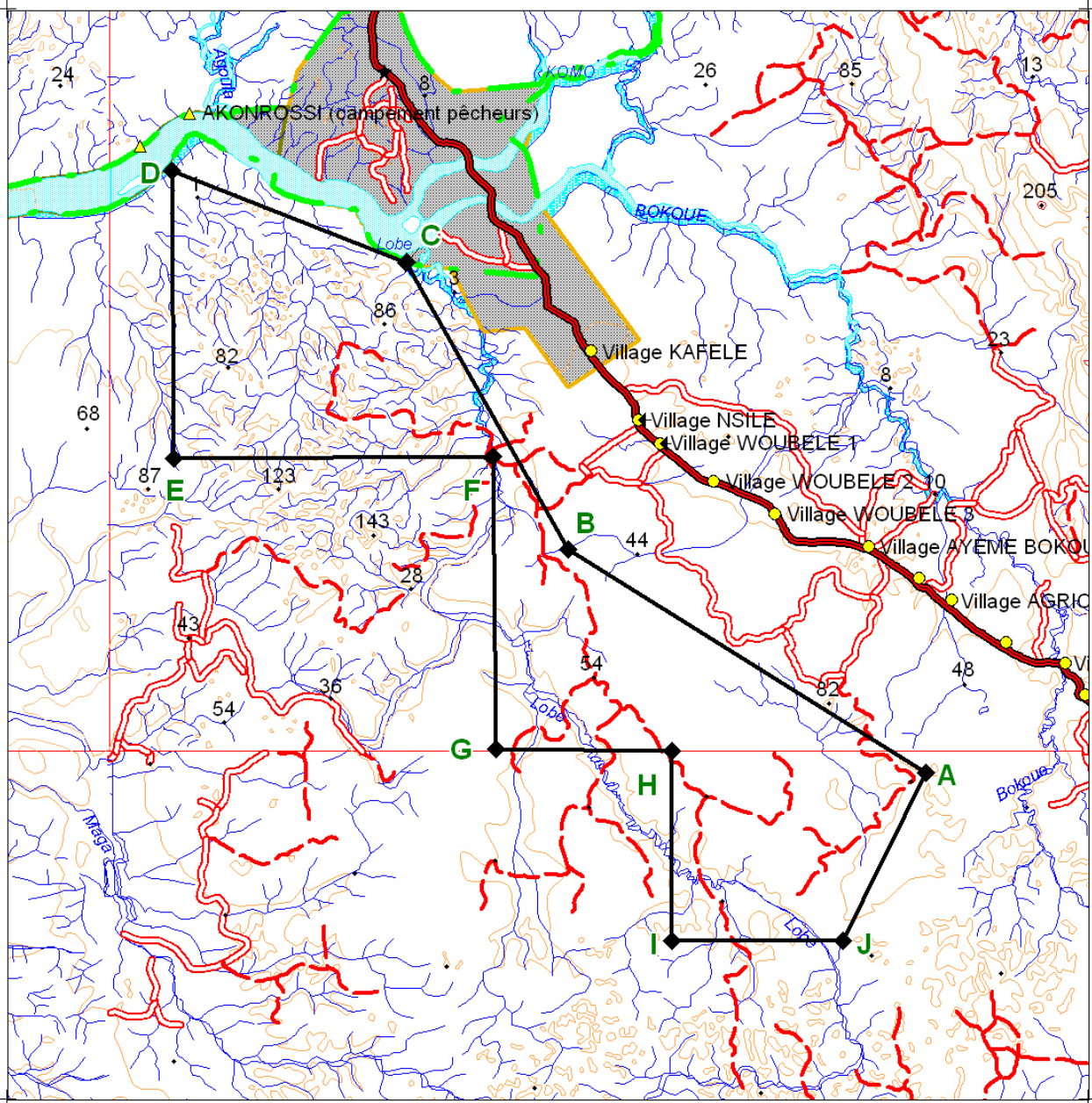
Following the survey conducted of lots 8 and 9, an initial contiguous area of approximately 7,000 hectares (*figure iii/Map below*) below 20 deg gradients has been identified in lot 8 for potential planting activities. The area in the northern section of Lot8 will not be planted due to environmental and HCV concerns. Olam Palm Gabon may conduct further surveys on lot 9 and consult the DGEF on whether suitable areas can be planted in light of Ramsar. We have decided not to plant any of the areas in lot 11.

*Figure iii*

<b>Designation</b>	<b>Area (Ha)</b>
Total Area identified for plantation development in Lot 8	10,732
Areas containing slopes >20 degrees	2,398
Area provided for riparian buffer zones	1,200
<b>Area Plantable</b>	<b>7,134</b>

**DELIMITATION LOT 8**

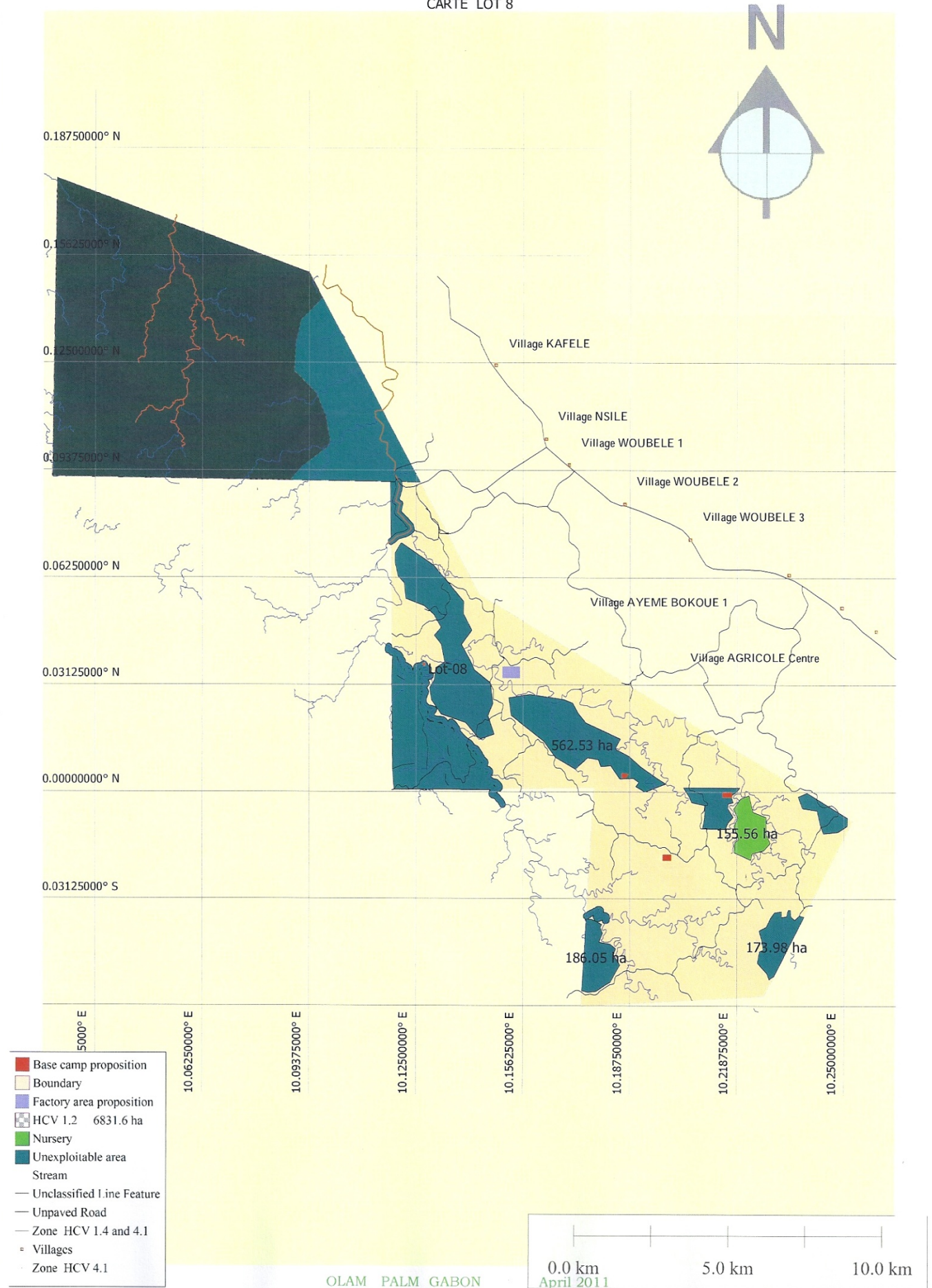
**Superficie: 18 736, 500 ha**



**Echelle: 1 / 200 000**



CARTE LOT 8





## VI. Summary of Management and Mitigation Plans (SEIA)

Environment		Impact source		
Physical	Air	Development and operation of access roads to the site and internal tracks ; traffic	Emission of greenhouse gas	Vehicle fuel consumption will be verified at regular intervals and speed will be regulated; there will be regular maintenance of vehicles to minimise pollution.
			Emission of dust	Speed of vehicles and machines will be regulated
		Establishment and operation of base camps	Noise	Homes will be remotely located, and there will only be about 250 employees per camp which should reduce noise.
			Refrigerating gas leaks	Procedures for treatment of refrigerants
	Underground and surface waters	Method of producing seedlings	Water for plants	The nursery will be located close to a moderate to major water flow (so that it will not impact the water supply to local area) to ensure the water requirement of the plants is met; Micro irrigation systems will be used to avoid wastage and water runoff on soil.
			Use of Chemicals	Rational Use of Inputs; chemical application will be based on palm growth, crop yield and soil and leaf sample analysis, and the recommendation of an agronomist. The physiochemical quality of water will be monitored annually.
	Underground and surface waters, and soil	Development and operation of access roads to the site and internal tracks ; Traffic	Erosion of roads by streams	Adequate run off points will be provided to ensure that water does not run down the roads. Outlets for run-off water will be provided at regular intervals depending on gradient. Where the road is laid on longer slopes, silt pits will be provided along the waterway at regular intervals to prevent soil wash.

		Planting methods (including site preparation and life cycle of palm)	Suppression of natural alleviating capacity of pollution in the area	Land clearing will be completed on a block by block basis, limiting deforestation to only what is necessary. There will be no planting on slopes greater than 20° in areas greater than 20 ha.								
		Operating procedures and maintenance of plantations	Use of chemicals	Best practices will be followed for chemical use.								
		Management of household and similar waste, industrial waste and sewage wastewater flows	Wastewater drainage leading to an organic pollution of the streams	Wastewater will be channelled and collected away from water bodies; All sewage from houses will be drained and collected in septic tanks, while domestic waste water will be contained within the plantation area.								
			Downward leachings	Establish buffer zones:								
				<table><tr><th>Type</th><th>Width</th><th>Buffer Zone (m)</th></tr><tr><td>Small streams</td><td>&lt;5 m</td><td>10</td></tr><tr><td>Rivers</td><td>&gt;5 m &lt;20m</td><td>50</td></tr><tr><td>Big rivers</td><td>&gt;20m</td><td>100</td></tr></table> Water will be monitored on an annual basis.	Type	Width	Buffer Zone (m)	Small streams	<5 m	10	Rivers	>5 m <20m
Type	Width	Buffer Zone (m)										
Small streams	<5 m	10										
Rivers	>5 m <20m	50										
Big rivers	>20m	100										
<b>Soil</b>	Development and operation of access roads to the site and internal tracks ;traffic	Compaction	Roads will be compacted as development progresses									
	Establishment of base camps	Herbicide Treatment	Application of the procedure for handling chemicals									
	Method of producing seedlings	Needs for soil in the nursery	Samples distributed over the project area; The soil used in the nursery will ultimately go back into the subsoil level while planting in the field and will enrich the subsoil layer.									
	Planting methods (including site preparation and life cycle of palm)	Erosion	Slope management Good agricultural practices Non-invasive cover crop will be planted									
	Operating procedures and maintenance of plantations	Erosion loss of fertility	Soil protection against water (water retention, flow paths, rub rails and ditches); weeding									
		Development and operation of access roads to the site and internal tracks ;	Emission of dust	Restrict speed of vehicles and machines								

		Traffic		
		Establishment and operation of base camps	Deforestation and construction of facilities	Deforestation will occur on a block by block basis, including during the establishment of the base camp, minimizing the land cleared to only what is needed.
		Method of producing seedlings	Change of the vegetation cover	
		Planting methods (including site preparation and life cycle of palm)	Landscape Alteration	Windbreaks will be maintained around the site
		Management of household and similar waste, industrial waste and sewage wastewater flows	Waste lift	Waste from base camps and other locations will be collected on a regular basis, sorted according to biodegradability and kept in closed bins. Recyclable waste will be sold, while non-biodegradable waste will be disposed suitably
Biological	Terrestrial plant formations	Method of producing seedlings	weeding of Crop nurseries	Mainly manual weeding Rational use of chemicals
	Terrestrial fauna	Development and operation of access roads to the site and internal tracks ; Traffic	Tracks opening for poachers	Check-points will be placed at major roads leading to the estate to control hunting.
		Method of producing seedlings	Protection of the crops	Crop protection, such as pesticides, will only be used when required, and will be used in a controlled manner according to best practices.
		Operating procedures and maintenance of plantations	Protection of the crops	Integrated pest management against parasites and mammals may be introduced as the project progresses.
	Fish and wildlife	Establishment and operation of base camps	Fishery and hunting pressure	Barriers will be put up at the entry points into the project area to control movement of people hunting. Sign boards will be put up at strategic points indicating prohibition of hunting. People will be educated on conserving animals and the existing laws on hunting.
	Aquatic and terrestrial fish, wildlife and flora	Planting methods (including site preparation and life cycle of palm)	Alteration of the ecosystems	Prioritization of deforestation areas sanctuary and migration corridors timing of deforestation operations Maintain vegetation around streams

				Implement High Conservation Value requirements
		Operating procedures and maintenance of plantations	Pollutions due to the storage of hydrocarbons and machine maintenance	Oils and fuel have to be store in aboveground tanks, in holding tanks equipped with a drainage system and oil separator in a covered and ventilated storage space
				A contingency plan will be established in the case of incidents
				Maintenance of equipment at appropriate places on impermeable ground, and waste oil management
				Regular monitoring facilities
				Establishment of collection facilities in sufficient numbers
		Management of household and similar waste, industrial waste and wastewater	Environment pollution by the leachates ;	Waste storage in sealed containers and covered area, placed on impermeable surfaces equipped with a drainage system
			Intoxication of wildlife and imbalance of the ecosystems	Control of storage facilities; monitoring of water quality and conservation areas
				Dispatch of waste through an adequate treatment process
				Permit Gre-a-gre holders will be identified and compensated on the basis of forest inventory results.
<b>Human</b>	<b>Employment and local economic development</b>	Planting methods (including site preparation and life cycle of palm)	Loss of wood resources	Conservation of zones for villages or compensation in the case of relinquishment through the process of Free, Prior and Informed Consent

			Reduction of rural activity zones	Employment policy will favor of local populations
		Operating procedures and maintenance of plantations	Creation of jobs	Employment opportunities increase with the growth of the project. All permanent employees will be provided with basic accommodation with electricity and water supply. Clinic, school, religious and recreational facilities will be provided.
		Establishment and operation of base camps	Increase in economic dynamism	Compensation will occur with the participation of the populations
	<b>Use of the soil</b>	Planting methods (including site preparation and life cycle of palm)	Land tenure	Villagers will be compensated based on data collected during the agriculture and forest inventory, as well as during the social participatory mapping process.
			Loss of cultures, ancient villages and cultural places	Employees will have free access to healthcare provided by the clinic. Nearby villages will also have access to medical consultancy, but will have to pay for any prescribed medication.
	<b>Security / health</b>	Establishment and operation of base camps	Setting- up of healthcare facilities in the base camps	Use of individual protective equipment (IPE) will be compulsory, and employees will be trained in the use of chemicals. MSDS will be clearly displayed in the storage area, and labels will remain on chemical contains.
			Use of chemicals and handling of hydrocarbon	Employees will be properly trained in health and safety prior to the use of machinery as per Standard Operating Procedures.
		Operating procedures and maintenance of plantations	Body injury risks related to the use of machines and vehicles	Anti-venom serum will be supplied in the clinic
			Work in presence of venomous reptiles	





VII. Summary of Management and Mitigation Plans (HCV)  
i. Plan for HCV monitoring and regular review of data

Based on the GIS coordinate available, riparian buffer, HCV and non-plantable zones within the plantation will be clearly marked using GPS systems. The areas will isolated for conservation by roads with signs ‘HCV areas- no hunting permitted’ at regular intervals. Conservation areas will be monitored on a monthly basis by Estate managers (who will have prior training in HCV monitoring) overseen by the RSPO supervisor. Where appropriate, workers will be advised on regulations and standards (ie. operating machinery, no hunting etc).

- i. Management and mitigation plans for threats to HCV areas/ Management plans to enhance or maintain conservation values of identified HCV areas
- i. Protection of Rivers
1. Relevant HCVs:
- a. HCV 1.2: Concentrations of rare, threatened or endangered species- *Manatee (Trichechus senegalensis)* and *Chimpanzee (Pan troglodytes)*
  - b. HCV 1.4: Seasonal concentration of species-Lower part of River Lobe and Bikoume watershed
  - c. HCV 4.1: Forest areas critical to water catchments-Traditional fishing areas of Awala and Bikoume rivers and the banks of Komo estuary; riparian forest protecting Woubele river which is a major source of drinking water for the local communities.

The Awala, Bikoume, and Lobe rivers, which represent a fishing area for local communities will be left undisturbed and buffer zones (see below) will be maintained along the rivers to prevent erosion and leaching of agrochemicals into them.

Riparian Buffer Zones

Type	Width	Buffer Zone (m)
Small streams	<5 m	10
Rivers	>5 m <20m	50
Big rivers	>20m	100

On open stretches of the river banks bamboo will be planted to prevent natural erosion of river banks during high rainfall period. Waterways will be diverted at regular intervals, depending on slope, to minimise soil erosion into the rivers.

Contractors will be trained to respect riparian buffer zones and provided with maps and coordinates of areas that need to be protected prior to conversion. Felling will be carried out laterally to river buffer zones to avoid their destruction by the falling trees.

Where it is necessary for the road to pass through a buffer, minimum destruction of vegetative growth will be ensured. Forest bridges and culverts will be constructed during the development phase, and they will be replaced with the appropriate permanent structure according to best practices in a phased manner.

The RSPO supervisor will monitor boundaries of the buffer zones monthly, and should any issues arise corrective action will be taken. We will identify the rivers that could potentially be affected by the plantation, establish a baseline and conduct a bimestrial evaluation of siltation. Additionally, water quality testing will be carried out annually on the Lobe, Bikoume, and Woubele rivers, and meetings will be held with village communities to identify any water quality issues, should they arise.

- ii. Erosion Control
1. Relevant HCVs:
- a. HCV 1.2: Concentrations of rare, threatened or endangered species- *Manatee (Trichechus senegalensis)* and *Chimpanzee (Pan troglodytes)*
  - b. HCV 1.4: Seasonal concentration of species-Lower part of River Lobe and Bikoume watershed
  - c. HCV 4.1: Forest areas critical to water catchments-Traditional fishing areas of Awala and Bikoume rivers and the banks of Komo estuary; riparian forest protecting Woubele river which is a major source of drinking water for the local communities.
  - d. HCV 4.2: Forest areas critical to erosion control- Hilly areas with slopes above 20 degrees

Areas above 20 hectares with 20 degree slopes will be excluded from conversion to prevent erosion. However, as far as possible, Olam plans to avoid planting on surfaces that require terracing. In the event we do require terracing we will prepare an SOP and orient our contractors and employees to follow those procedures while terracing. In either case, Olam estate managers and the RSPO supervisor will be provided with maps and coordinates of areas with slopes, and they will be trained to implement and respect erosion control recommendations.

To further prevent erosion, felled trees will be windrowed. The width of windrows shall be restricted such that there will be a 2 meter clear space between them and the planting line. All the stumps in the field, except those in the windrowing area, will be uprooted and the depression created in the spot will be filled with soil and levelled.

Roads will be laid in a North-South direction. For hilly areas, the roads will be adapted to the topography. Adequate run off points will be provided to ensure that water does not run down the roads. Outlets for run-off water will be provided at regular intervals depending on gradient. Where the road is laid on longer slopes, silt pits will be provided along the waterway at regular intervals to prevent soil wash. Main roads will be evenly covered with laterite.

Leguminous cover crops, *Puraria* or another non-invasive species, will be planted immediately after conversion to avoid erosion of soils.

- iii. Implementing FPIC
1. Relevant HCVs:
- a. HCV 5: Forest areas fundamental to meeting basic needs of local communities-Customary use of timber for construction/agriculture plots within the concession/hunting

Olam has an experienced team in place which has defined the FPIC process and is working with teams from the Ministry of Water and Forest and the Ministry of Agriculture to establish a memorandum of understanding with the locals. Through the memorandum of understanding, the locals give their informed consent for the relinquishment and indemnisation of customary rights to the land, thus freeing the land for commercial cultivation of oil palm. Two social communicators (a male and female) have been employed by Olam, and the relevant villages have chosen representatives for the process (a customary practice in Gabon). The process has identified plantations, non-timber forest product collection areas, and religious and cultural site. Additionally, permit holders are identified, and will be compensated based on data from the completed forest inventory.

A conflict resolution procedure has been defined with local communities, and HCV areas have been delineated through a social participatory process. The communities have been well informed of the project and the potential impacts, including the restrictions on hunting.

The project will improve economic conditions by increasing employment opportunities, education and health care facilities in the plantation. Able and willing local Gabonaise will be given first preference to jobs, before others from the region are considered. All permanent employees will be provided with basic accommodation with electricity and water supply, where appropriate. Clinic, school, religious and recreational facilities will also be provided in a phased manner. The clinic will provide healthcare to employees on the plantation. Adjacent villages will have access to medical consultancy, but cost of medication will be charged.

#### **iv. Fauna Conservation**

##### **1. Relevant HCVs:**

- a. HCV 1.2:** Concentrations of rare, threatened or endangered species- *Manatee (Trichechus senegalensis)* and *Chimpanzee (Pan troglodytes)*

If Olam does not relinquish the northern section of lot 8 to the government, further mammal surveys will be carried out to verify populations of great apes. Conservation areas will be defined and delineated, and sign posts will be placed at regular intervals notifying individuals of the HCV area and 'No Hunting'. The areas will be monitored on a monthly basis by the RSPO supervisor.

Sufficient jungle corridors will be maintained surrounding the 7,000 ha plantable hectares identified in lot 8.

Workers will be educated on HCV matters and Olam will have a strict no hunting policy included in employees' code of conduct. Olam will contribute further to community educational programmes on hunting, particularly during the closed season and RTEs .

Check-points will be placed at major roads leading to the estate to control access for hunting. Sign boards will also be displayed at strategic points of the estate and HCV areas indicating restrictions on hunting.

In regards to elephant conflict, Olam has identified and excluded significant areas for high conservation habitats and buffer zones, thereby reducing the chance of conflict with elephants. Should a conflict arise, Olam will seek appropriate advice to deal with the issue.

#### **VIII. Formal Signing Off Of Management Plan**

I hereby sign off on the above Summary Report of Planning and Management. The above may be amended and clarified for improvement during the phased development of the oil palm plantation, but it will remain in accordance with RSPO Standards and Principles.

Signed on April 21, 2011:



Alexandra N Booth  
Sustainability Manager, Olam International