PUBLIC SUMMARY REPORT NEW PLANTINGS ASSESSMENT

SIME DARBY (LIBERIA) PLANTATION Inc Bopolu District, Gbarpolu County Republic of Liberia

1.0 EXECUTIVE SUMMARY

Sime Darby (Liberia) Plantation Inc. (Sime Darby) plans to develop 20,000 ha of land to oil palm at Bopolu District, Gbarpolu County, Liberia. The concession agreement provides for the Government and SIME DARBY PLANTATION (LIBERIA) INC to implement a social and community development program, which includes employee housing, education and medical care. In support of biodiversity conservation in the country, SIME DARBY PLANTATION (LIBERIA) INC is under obligation to carefully preserve original forest, areas of high biodiversity, and sacred community lands located within its proposed project area. A Social and Environmental Impact Assessment (SEIA) and a High Conservation Value (HCV) Assessment were completed in 2011 which recognised the following:

- There was no primary forest identified
- All areas required to maintain or enhance one or more HCV
- There was no peat soil identified
- All local peoples' land

Maps have been prepared and presented in the SEIA and HCV Reports to identify all of the above findings.

Abbreviations Used

CITES	-	Convention on International Trade in Endangered Species
EIA	-	Environmental Impact Assessment
EPA	-	Environmental Protection Agency
HCV	-	High Conservation Value
IUCN	-	International Union for Conservation of Nature
RSPO	-	Roundtable on Sustainable Palm Oil
SEIA	-	Social and Environmental Impact assessment
SIA	-	Social Impact Assessment
SOP	-	Standard Operating Procedure

2.0 REFERENCE DOCUMENTS

2.1 SEIA and HCV Reports

"Social and Environmental Impact Assessment - Cultivation of 20,000 Hectare of Land for Oil Palm Plantation situated in Gbarpolu County, Liberia", prepared by Green Consultancy Inc, Liberia.

"Assessment of HCV sites within Sime Plantations Liberia Inc." prepared by Dr Yap Son Kheong, S.K. Yap Forestry and Landscape Advisory Services, Malaysia

2.2 Legal Documents

Environmental Permit No: EPA/EC/ESIA/001-0410, Issue Date 21/04/2010, EPA Liberia.

Evidence of Land Tenure: Lease of land issued by Government of Liberia in April 2009 for a period of 63 years with an option of renewal for 30 years; Maps and Boundary Markers.

2.3 Location Maps

Maps showing the project location, landscape level and property level for the new development area are included as Figures 1, 2 and 3 in this Summary Report. The SEIA Report includes additional maps showing the topography, drainage and land use.

Preliminary maps have been prepared of the new development and include areas set aside for riparian reserves, roads, housing and layout of oil palm blocks.

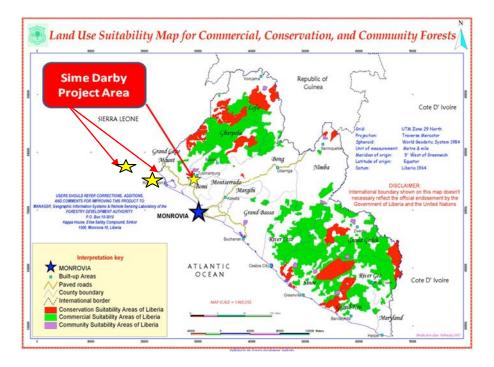
2.4 Area of New Plantings and Time-Plan for New Plantings

The area of the new plantings is 20,000 ha. The new development will commence following the completion of the RSPO public notification period for review by stakeholders and is planned for completion within two years of the commencement date.

Figure 1:







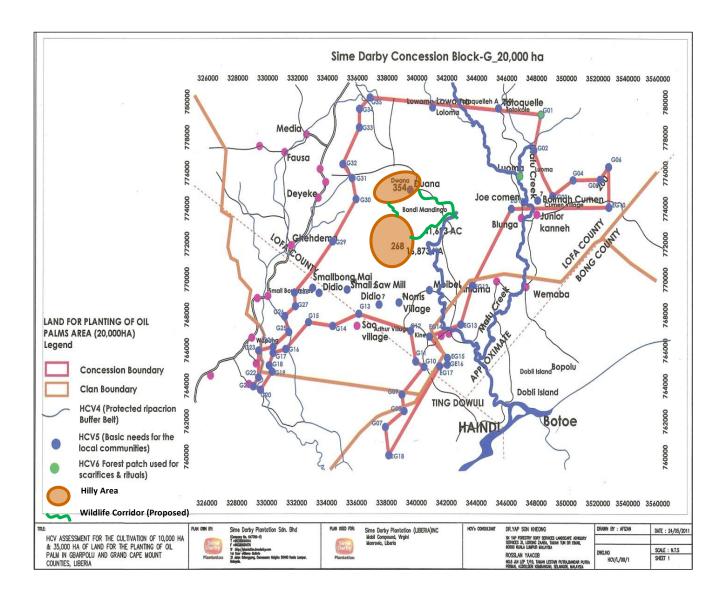


Figure 3: Location of Towns and Settlements with HCV 5 and HCV 6 Attributes

3.0 SEIA AND HCV MANAGEMENT AND PLANNING PERSONEL

3.1 Organisational Information and Contact Persons

Sime Darby (Liberia) Plantation Inc is based in Monrovia, Republic of Liberia. Contact Person : Mr Azmi Jaafar Phone : + 231 880624228 Email : azmi.jaafar@simedarby.com

3.2 Personnel Involved in Planning and Implementation

A. The SEIA was carried out by Green Consultancy Inc of Liberia, whose senior staff Mr Solomon Wright and Mr Abraham Tumbey are licensed by the EPA Liberia as EIA evaluators.

B. The assessment of HCV sites was led by Dr. S.K.Yap with the assistance of a team of biologist, forester, social scientist and GIS scientist:

Dr. S.K.Yap Team Leader, Ecology Mr. Roslan Yaacob, GIS Mr. Solomon P. Wright, Social Mr. E. Abraham Tumbey Jr., Geology/soil Ms Patience Awhavbera Flora/Fauna Mr. Ezekiel H. Kpehe Forestry C. The Sime Darby Management Team involved in the Planning and Implementation are as follows:

Name	Designated	Task
Azmi Jaafar	Vice President I,	Overall
	Sime Darby Liberia	Plantation Management of
		Liberia
Mohd Zulkifli Isa	Vice President II	Operation and Site
	Operation	Environmental Manager
Norazam Abdul Hameed	Vice President II	Sime Darby Plantation
	Plantation Sustainability	Sustainability and RSPO
		Officer

4.0A SUMMARY OF MANAGEMENT AND MITIGATION PLAN (SEIA) The summary of the Management and Mitigation Plan are as follows;

Impacts	Mitigation Measu	res	Monitoring Program
Soil Erosion			
Soil damage & nutrient loss Soil instability Deterioration of water	Recommended pre of riparian res plantation Stream Width	eservation erve for Min.	Exclusion to be mapped on a 1:33,0000 map scale. Marking on the ground or on the tree at 1.5-m height on the demarcation of riparian reserves.
quality Disturbance to aquatic life Increase in	<40m	50m	Photo (with date), GPS locations and
sediment loads	20m – 40m	40m	map to be included in the Compliance
	10m-20m	20m	monitoring Report.
	5m-10m	10m	
	< 5m	5m	Monitoring of water quality upstream and downstream of the Project site.
	> 3m	-	The parameters include <i>TSS, turbidity,</i> oil and grease. Other information such
			as GPS location, stream width, surrounding land use must be provided too.
	Dominant drainag cleared areas rehabilitated for longer used w growing creeper prevent formatio erosion channels.	shall be areas no vith fast plants to	Photo (with date) and GPS location of the drainage system.
	Equipment must reasonable size ar equipped with bl standard practice	nd can be ade as is	Photo (with date) of machinery used for land clearing and preparation.

Impacts	Mitigation Measures	Monitoring Program
	industry globally. Equipment will be used and operated to minimize soil disturbance and compaction. The blade should be mostly moved above the ground surface without touching the ground to prevent soil disturbance and forming of rill erosion.	
	Erosion control structures: table drains, culverts and other drainage structures to channel run-off water to road-side filter strips or silt pits prior to entry into streams should be installed concurrently with road construction.	Marking of proposed roads on the map and ground checking for the width of roads, drainage system and gradient. Photo (with date) and GPS location of the filter strips especially in the high- risk area.
	Table drains should be seeded with grass to prevent erosion of drainage banks and to prevent formation of erosion channels.	Site inspection – during rehabilitation works. Any failures should be noted.
	Road grade should not exceed 15% (8degrees).	Photo (with date), GPS location and mark on map for such structures.
	Roads should not cross main streams unless appropriate crossing structures (e.g. culverts or bridges) are built.	Map showing the road with approximate area for each of them and photo (with date) for structures built across the river.

Impacts	Mitigation Measures	Monitoring Program
	Avoid pushing excess spoil into gullies and the edges of road embankments during road maintenance. Spoil should be compacted ' <i>in-</i> <i>situ</i> ', or transported to disposal sites away from the road, thus minimizing erosion of roads and sedimentation of waterways.	Site inspection – during rehabilitation works. Any failures should be noted.
	Provide filter strips or silt pits (traps) along the roadsides to help to reduce siltation of river systems and to prevent an increase in the intensity and frequency of peak flows into the river system downstream of the land clearing activities.	Photo (with date) and GPS location of the filter strips and silt traps, especially in the high-risk area.
	Where filter strip is not possible, silt trap is encouraged at all drainage outlets, prior to discharge into streams to reduce suspended sediment loading. Silt traps should be maintained regularly. Disposal from silt trap should not be done adjacent to rivers, streams, creeks or any drainage.	

Impacts	Mitigation Measures	Monitoring Program
	All culverts should have cut- off wall to prevent erosion under the pipe. The head and outlet walls of culverts should be stabilized with log or stone pitched walls.	Photo with date and GPS locations of all drainage system including any failures.
	Culvert gradients should ideally be 1-3%.	
	Contractors should ensure that proper drainage is installed in order to reduce soil erosion and runoff.	
	Removal of biomass should be carried out during suitable time period, proper methods and procedures and selection of machineries to reduce unnecessary surface erosion.	Photo (with date) and GPS location of the stacking of biomass and the location of burning at the field.
	Soil Protection – Terracing Slope between 12° and 20° should be terraced for	Marking of slope between 120 and 200 on the map and in the field.
	better result in the field, improved access and water retention.	Photo (with date) of terracing in the field.
	Protection of Steep Area The steep areas should be conserved for flora conservation and ecological protection.	Development Plan in 1:33,0000 scale maps. Photo with date and GPS locations showing the marking or painting on the trees.

Impacts	Mitigation Measures	Monitoring Program
Hydrological Impact	Water Yield Management: Extensive land clearing should preferably be carried out during the suitable weather.	Marking on map the boundary of each Project phases. GPS location and photo (with date) showing the land clearing activities carried out in phases. Records of rainfall
	 Commence planting cover crops soon (e.g. 1 month) after site clearing. 	
	 Refrain from clearing of areas where slopes are more than 250 and soils are shallow. 	
	 The areas should be limited by heavy machines during land clearing and preparation. 	
	 Suspending tractor traffic during wet periods to avoid excessive compaction. 	
	 Establish long term rainfall and flow gauging stations to monitor the impact on the river base flow. 	
	Reduction on the flood	Map showing details of phased

Impacts	Mitigation Measures	Monitoring Program
	levels:Exercisepropermanagementpractices;developProjectareainphases, encouraging naturalgroundcoverafterclearingafterclearingandmaintainingadequatestreamsidebuffer	development. Photo (with date) showing natural ground cover establishment and maintenance of riparian reserves and buffer belts.
	 Protection of water quality from sediment yield: Develop plantation in phases and ideally scheduled over drier period or months. 	Photo (with date) of measures taken to protect water quality from sediment yield. Provide map and GPS coordinates to show
	□ Lay roads carefully, preferably following the contour and must be far enough from stream.	
	 Clearing should be done parallel to contour lines, starting from high to low ground. 	
	 Install cross drains for minimizing overland flow. 	
	 Timing of road construction or road upgrading to conform to periods 	

Impacts	Mitigation Measures	Monitoring Program
	of less rainfall and allowing sufficient time for earthworks to stabilize.	
	 Using the appropriate machineries in the land clearing to minimize disturbance to the soil. 	
	 All clearing, grading and stabilization operations would be done before starting the next phase. 	
	 Where possible, the stages of development should be from the high to low grounds, so as to take advantage of the present vegetation to act as silt and runoff barriers. 	
	 Reduce the duration (max. 3 months) of land exposure to natural elements. 	
	 No person shall carry out any tree felling, building or 	

Impacts	Mitigation Measures	Monitoring Program
	structures erecting and other works within the riparian area.	
	resource assessment with the aim of	
	identifying all water	
	resources in the area of operation and	
	identify sampling	
	locations for monitoring	
Wildlife and aquatic eco	blogy	
Human impact on wildlife populations Fragmentation of habitat and wildlife ranges Loss of biodiversity	Steep slopes more than 25° must be protected Retain patches of primary forests stand found in degraded forests areas, in order to serve as wildlife corridors. Establish a wildlife buffer of at least 1km away from wildlife conservation areas surrounding the project Conserve riparian areas.	GPS location, photo (with date) showing the marking on the trees at 1.5-m height at the base limits and map (1:33,0000) showing the surveyed area.
	Discourage hunting or trapping of wildlife within and surrounding the Project area.	Regular check for any sign of hunting activities at all the base camps.
	Directional clearing or	Development Plan with direction of

Impacts	Mitigation Measures	Monitoring Program
	felling of trees towards forested area.	clearing shown. Regular ground surveillance especially in the planting areas.
Biomass management		
	Stacking of vegetative waste along the contour	GPS location and photo (with date) showing the stacking of biomass in the cleared area.
	Explore alternative method of biomass disposal such as <i>in-situ</i> mulching or chipping.	The Project Proponent to look into these possibilities with consultation with the relevant authority.
Fertilizer Application an	d Pests and Diseases Manager	nent
Incorrect application of Fertilizers Judicious use of pesticides	Avoid application of fertilizers, pesticides and weedicides during the rainy weather and windy conditions. Fertilizers should also be applied in split doses.	The Project Proponent to closely monitor this by keeping proper records of each application.
	The frequency, dosage and timing of chemical application should be monitored closely. Practice biological control and other environmental friendly methods to control weeds and mammalian pests whenever possible.	The Project Proponent to take into consideration in the development plan, with documentation of consultation with the relevant authority.
Forest Fires		

Impacts	Mitigation Measures	Monitoring Program
	Establish a Emergency Response Procedure and an Emergency Response Team	The Project Proponent to take action.
Socio-Economics	I	
Displacement of people and communities	Establishment of Resettlement program in accordance with the terms defined in the Concession Agreement	Keep records of all meetings, consultations and negotiation regarding resettlement
Loss of land and crops		Keep record of all payments made to resettled persons
Change in lifestyle and living conditions	Follow the Free Prior Informed Consent (FPIC)	Monitor the conditions of resettled persons in their new communities
		Keep records of all complaints and actions taken to address them
Provision of Employment Opportunities for locals Risks to human	Work priority should be given to the suitable qualified local villagers.	Keep a record of workers and their particulars.
health at the camps within the project area	If non-Liberians were employed, proper procedures must be followed.	Relevant authorities to monitor.
	Where practical, workers to go through health check within first year of employment and emphasis on communicable or	Provide the audit team with non- confidential summary of the worker's health records.

Impacts	Mitigation Measures	Monitoring Program
	infectious diseases especially Malaria, TB or others every 6 months	
	Provision of basic facilities and utilities in accordance with terms of Concession agreement (potable or clean water, housing and sanitary facilities)	Photo (with date) and GPS location of the camp,
Pollution by improper waste disposal in the project area	Refuse to be disposed off in pits approx. 30m from waterways and above water table. Cover refuse with soil once a week.	Photo (with date), GPS location of the dumping ground and general layout of the camp, name of contractor and plantation areas.
	Storage tank, if any, should be constructed on stable ground with bunding and at least 50 m away from waterways.	GPS location and photo (with date) showing the location of the storage facilities.
Water resource degradation and siltation	Ensure good site development practices e.g. conservation of riparian reserves, soil erosion minimization, etc.	Photos (with date) to show good practices on ground.
	Cooperate with communities and local authorities on solving water supply issue on the directly affected communities.	

Impacts	Mitigation Measures	Monitoring Program
	Regular monitoring of water quality.	Compliance report to EPAL once in every quarter.
Dust and noise pollution	Proper maintenance of vehicles.	Records of maintenance carried out for vehicles
	Gravelling of roads around the plantation office, village and living quarters. Introduce tree-covered buffer zone around plantation area. Install appropriate signboards and establish speed humps reduce speed.	Photo (with date) and map showing roads, speed humps and tree-covered buffer zone around plantation area, installation of signboards, speed humps
Road Safety	Proper traffic signboard at appropriate spots especially near T-junctions or settlement area.	Photo (with date) and GPS location of the signboard.
	Damage section of road should be repaired as quickly as is practical and in accordance with company road maintenance procedures.	Photo (with date) and GPS location of any damaged road.
Project Abandonment		
Disturbance land area	Re-establish all open area with fast growing indigenous species or fruit trees	Project Proponent to take action Photo (with date) and GPS locations showing the reestablishment works on site.
Visual impact on	To be in accordance with the terms of the Concession	Photo (with dates), GPS location of

Impacts	Mitigation Measures	Monitoring Program
abandoned	Agreement. Maybe to include, removal of all	roads and map for the plantations.
camps	building structure to discourage any illegal squatter activities, removal of all solid and liquid waste, rehabilitation of all main roads.	
	Remove all machinery and equipment to recover cost.	Project Proponent to take action.
Security of the Project area	Retain the security gates into the plantation areas.	Project Proponent to take action.

4.1.1A Monitoring Program

The monitoring program is designed to evaluate impacts resulting from the development and operation of Sime Darby (Plantation) Liberia project operational activities. Continuous monitoring of the environment will be an integral part of all phases of the project. Monitoring data will provide management with information regarding the effectiveness of environmental management and mitigation measures and may identify situations requiring corrective measures. Thus, the monitoring program will confirm the environmental stability of the project.

Internal Monitoring Team

Internal Monitoring Team had been set-up to monitor the social and environment compliances of the project. The Personnel and their task are as follows;

No.	Personnel	General Task	
1	Project Director/General Manager	Allocate financial resources as and when	
		required.	
2	Environmental Manager	Oversee the overall management and operation of the environmental requirements.	

No.	Personnel	General Task			
		Supervise and enforce environmental			
		requirement.			
		Coordinate staff and resources in the delivery			
		of remediation measures.			
		Advise the Management on the			
		environmental issues.			
		Liaise with the relevant Government agencies			
		and stakeholders.			
3	Environmental Officers	Brief the contractors of all the legislative			
		requirements.			
		Monitor the implementation of all the			
		mitigating measures in all the development			
		area.			
		Carry out monthly environmental audit for all			
		the plantation area.			
		Inform the Manager of the potential issues or			
		noncompliance.			

External Monitoring

A. Government Agencies

All the relevant government agencies such as the EPAL, Forestry Development Agency, Ministry of Labor and the Ministry of Agriculture would carry out regular or random check in on the plantation areas at their discretions.

B. Independent Consultants

Apart from carrying out internal monitoring, the Project will engage an independent environmental consulting firm to carry out environmental auditing and monitoring on a quarterly basis. A quarterly report should be compiled and submitted to the EPAL. In addition, the Consultant should advice when required during their contract period to ensure environmental compliance and protection. It is also the duty of the Consultant to check the effectiveness of the suggested mitigating measures and recommend, as and when appropriate, additional mitigating measures to ensure the project is implemented in a sustainable manner. The monitoring requirements are presented as follows;

- Riparian Reserve
- Hydrological Impact
- Infrastructure Development
- Access Road
- Base camp and Workshop
- Socio-Economics
- Resettlement and Compensation
- Water Supply Source
- Waste Management
- Occupational Safety and Health
- Biomass Management

4.0B SUMMARY OF MANAGEMENT AND MITIGATION PLAN (HCV)

This is to establish an HCV management plan defining specific areas requiring special management and defining appropriate management practices for each HCV found within the project area.

The summary of HCV sites in and the recommended management measures are listed in the Table as below:

HCV	Element	Status	Management measures
1	Forest areas containing globally, regionally or nationally significant concentrations of biodiversity values		
1.1	Protection areas	Not present within the project site.	
1.2	Threatened and endangered species	No IUCN red list animals Presence of protected animals within the riparian forests	Poaching for bush meat is still practiced. Inform the Forestry Development Bureau on any cases of poaching that contravene the approved hunting season. Educate plantation workers from encroaching into the protected sites. Erection of signage. Establish no hunting policy within the plantation. Encourage husbandry using chickens and goats

HCV	Element	Status	Management measures
1.3	Endemic species	Not present	
1.4	Critical temporal use	Not present	
2	Globally, regionally or nationally significant large landscape-level forests	Not present	
3	Forest areas that in or contain rare, threatened or endangered ecosystems	Not present	
4	Forest areas that provide basic services of nature in critical situations		
4.1	Forests critical to water catchments	Not present	Water catchment outside the project site. The river systems are important sources of water for the local communities.
4.2	Forests critical to erosion control	The main river systems are critical for the local communities as sources of water and food.	Strictly maintain the riparian buffer belts in accordance to width specified in the EIA Report. This is to prevent any soil erosion and increase of total suspended particles in the river water.
4.3	Forests providing barriers to destructive fire	Not present	

HCV	Element	Status	Management measures
5	Forest areas fundamental to meeting basic needs of local communities (e.g. subsistence, health)	Residual forested areas are critical to local communities as sources of food and wood	Protection of all residual forested sites that may be sources of food, medicines and construction materials for the local communities.
			Placing of signs to prevent encroachment into forested areas by field workers
			All identified towns and associated planted land would be excluded from the project activities. The actual area to be excluded shall be determined through prior consultation with each of the communities to arrive at informed consent. These areas will have to be demarcated on ground and on maps.
6	Forest areas critical to local communities' traditional cultural identity	Mosques and churches for local communities within project sites, Burial sites of local communities	Erect signage indicating HCV values. Demarcate on maps and on ground. Consult with local communities on management practices.
		Social program like schools	All identified sites of religious importance to local communities would be excluded from the plantation activities.

HCV	Element	Status	Management measures
			Monitor progress of education progress in villages

For HCV 4 and HCV 5 sites the management recommended to maintain the existing vegetation in its natural state within the prescribed buffer belt. The process of natural regeneration will encourage introduction of more species. The increase in diversity of plants will also improve the food sources for the animal species and nesting sites. The vegetation cover will also provide a buffer from the surrounding oil palms having any impact on the forested area.

In sites identified to have attributes of HCV 4.1 and HCV 4.2 the existing natural vegetation will be maintained and excluded from the future replanting program.

For all the above HCV sites demarcation on maps and signage on ground will be essential to avoid possible encroachment.

HCV Monitoring

The main objective of monitoring is to determine whether HCV management objectives are met as well as providing the management with up-to-date information on the HCV under its care. This allows intervention or ongoing adjustment of operation plans.

Monitoring plans should be derived from management objectives and written into the management plan. Data gathered during the HCV assessment should be used to determine what should be the generic and specific objectives of the monitoring program. A set of measurable indicators for each key value is to be developed. Monitoring activities can include social and biological surveys and direct and indirect observation.

An outline of the monitoring regimes is presented in Table 7.

Table 7 Outline of Monitoring Regime

PARAMETER	LOCATION OF MONITORING	FREQUENCY OF	RESPONSIBLE PARTY
		MONITORING	
HCV 4.2	Riparian management	Quarterly and	Sime Darby
Riparian Reserve (flora/fauna).	zones along river, streams and steep slopes	also regular patrolling of the protected	Environmental Unit
Determination of boundary of riparian		sites	Independent

buffer.			Consultant
Assessment of any damages to vegetation		Discretional	FDA, EPA, MOA
Records of sightings of animals			
Ensure signage demarcating the protected zone			
HCV 5	Towns and villages within	Biannually	Sime Darby
Monitor boundary agreed with the local	and at the parameter of the project area		Environmental Unit/Personnel Unit
communities Consultations with			Independent Consultant
communities through Liaison Committee		Biannually	Independent Consultant
HCV 6 Monitor boundary of all sacred sites	Village churches and mosques Burial ground	Biannually	Sime Darby Environmental Unit/Personnel Unit
Consultations with communities through Liaison Committee			

Training on the Management and Monitoring of High Conservation Value Sites

To be effective in the maintenance of the high conservation values of the sites identified in the different estates, a monitoring program followed by management practices will be developed. **Scope of a Training Module**

A training module will be developed for the management to be able to understand the principles of HCV and techniques to monitor and manage these sites. A practical training in one of the estates will be included.

Scope of a Training Module

- 1. HCV concept in the Liberian context
 - a. The attributes of HCV
 - b. Relevant regulations and laws related to HCV
 - c. RSPO and HCV identification
- 2. Determination of HCV sites within the plantation (ecological expertise and stakeholders)
- a. Documentation and consultation
- b. Field assessment methodology
- c. The required expertise
- d. Information within the estates
- e. Demarcation and Protection of HCV sites
- 3. Management practices
- 4. Monitoring and record keeping
- 5. Working with other agencies
- 6. Financial implementation

5.0 INTERNAL RESPONSIBILITY

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 August 25, 2011:

Azmi Jaafar General Manager, Sime Darby (Liberia) Plantation Inc.