



SUMMARY REPORT OF PLANNING AND MANAGEMENT

FOR

**Golden VerOleum Oil Palm Proposed development area at
Tarjuowon District, Sinoe County, Liberia**

RSPO

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1. Executive Summary

Golden Veroleum Liberia (GVL) is a subsidiary of the Verdant Fund LP, whose main investor is Golden Agri-Resources Ltd. Golden Agri-Resources Limited (GAR) is the principal investor in the Verdant Fund LP. GVL is a registered member of RSPO (# 1-0102-11-000-00).

In September 2010, the Government of the Republic of Liberia (GoL) signed an oil palm plantation concession agreement with GVL to develop a commercial grade oil palm operation in Liberia. The land for this agro-industrial oil palm plantations development, by the concession agreement should be located in five counties including Sinoe, Maryland, Grand Kru, Rivercess, and River Gee. The concession agreement, which covers a total land area of 220,000 ha, allows GVL to prospect for and to identify the exact locations of the land in the five Counties. In addition, the agreement provides that GVL will collaborate with the Government of Liberia and communities to develop 40,000 ha in oil palm outgrower schemes for communities near to the operational areas of GVL. (“An Act to Ratify the Concession Agreement between the Republic of Liberia and Golden Veroleum (Liberia) Inc, approved September 1, 2010”)

As of October 2013, GVL has only identified suitable lands in Sinoe and Grand Kru where its operations have commenced. In Sinoe, GVL has completed both High Conservation Value (HCV) assessment and Environmental and Social Impact Assessment (ESIA) and a New Planting Procedure (NPP) as required by the Roundtable on Sustainable Palm Oil (RSPO) for two areas in Butaw and Kpayan Districts with a combined area of 20,000 ha (12,000 ha in Butaw District, 8,000 ha in Kpayan District). Of the total land area that NPP has been completed, only 3,130 ha (2,530 ha and 600 ha in Butaw and Kpayan respectively) has been planted. In addition to this, GVL has completed HCV assessment, ESIA and NPP notification for an area of 28,000 ha in Trenbo and Wedabo Districts and has since developed oil palm central nurseries in Sorroken and Trenbo.

As part of its commitments to deliver on the concession agreement with the GoL, GVL in consultation with the local communities in the Unification District of the Sinoe County identified a 15,482 ha land offered to GVL for oil palm plantation development.

The land under discussion is located in the Tarjuowon Statutory District of Sinoe County in the south-east of Liberia – Figure 1. The proposed land lies between latitudes 5°17'N and 5°29' N and longitudes 8°56' W and 9°04' W. The area under consideration has largely been used for farming and other livelihood activities by the population from about 12 communities in the catchment area.

As required by the RSPO, GVL engaged Proforest and Green Consultancy of Liberia to carry out HCV and SEIA of the proposed oil palm development area. The SEIA was carried out in line with the statutory requirements and the regulatory and proves steps as specified by the Liberian Environmental Protection Agency. The HCV assessment was carried out a team of 13 experts, 3 of them, Abraham Baffoe, Abraham Tumbey and Solomon Wright are RSPO approved HCV assessment team leaders. The independent, participatory and comprehensive HCV assessment process using the Draft Liberian HCV National Interpretation (November 2012) and the Global HCV Toolkits (2003) started in May and was completed in October 2013. Proforest and Green Consultancy have assessed HCVs comprehensively for the proposed area ensuring that extensive and participation of all stakeholders throughout the process.

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The findings of both the SEIA and the HCV suggest that the proposed area consists largely of farm and fallow lands haven been logged repeatedly over 20 years ago (Before the Liberian Civil War). The findings of the HCV assessment suggest that there are no primary forests in the proposed area. Field verification and satellite images of 1991 examined during the assessment all attest that the site is largely agricultural land, dominated by secondary forest and fallow lands.

However, the HCV assessment identified HCVs 1.2, 4.1, 4.2, 5 and 6 as present while HCVs 1.3 and 1.4 were identified as potentially present with HCVs 1.1, 2, 3 and 4.3 to be absent. Appropriate management recommendations have been provided by assessors, which GVL has elaborated and will be implemented to ensure that those HCVs found to be present are maintained.

The SEIA of the site covered all environmental and social aspects of agro-industrial oil palm plantation development activities including land preparation, maintenance, harvesting and processing of palm oil. In addition to outlining the potential positive and negative impacts of the various activities that will be implemented, the study has recommended appropriate environmental and social management mitigation and management interventions and plans to ensure the potential positive impacts are enhanced while the negative ones are avoided or minimised.

2. Reference documents

- SEIA report: This is the Social and Environmental Impact Assessment report produced by Green Consulting (October 2013)
- HCV report: This is the report of the HCV assessment produced by Proforest (October 2013)

List of legal documents and regulatory permits to the area assessed

Land, Forestry and Wildlife

- An Act Creating the Forestry Development Authority (1976)
- The New Forestry Reform Law of 2006
- Wildlife Law of 1988
- Draft Wildlife and Protected Area Management Law 2009
- By-laws of the Board of Directors of the Forestry Development Authority (Draft)
- Forestry Regulations Nos. 1-25 (1978-2000)
- Forest Management Plan (2000)
- National Forestry Act (2000)
- The NTFP Regulation of 2009
- The draft Land use Policy of 2013

Environmental Protection

1. Environment Protection Law (2002)
2. Environment Protection Agency Act (2002)

Protected Areas

1. Protected Forest Area Network Law (2003): Amended the National Forestry Act of 2000 and defines a series of eight protected area types and the uses permitted and prohibitions for each.
2. Sapo National Park Act (2003): Expanded Sapo National Park (Liberia's only fully protected area created in 1983)

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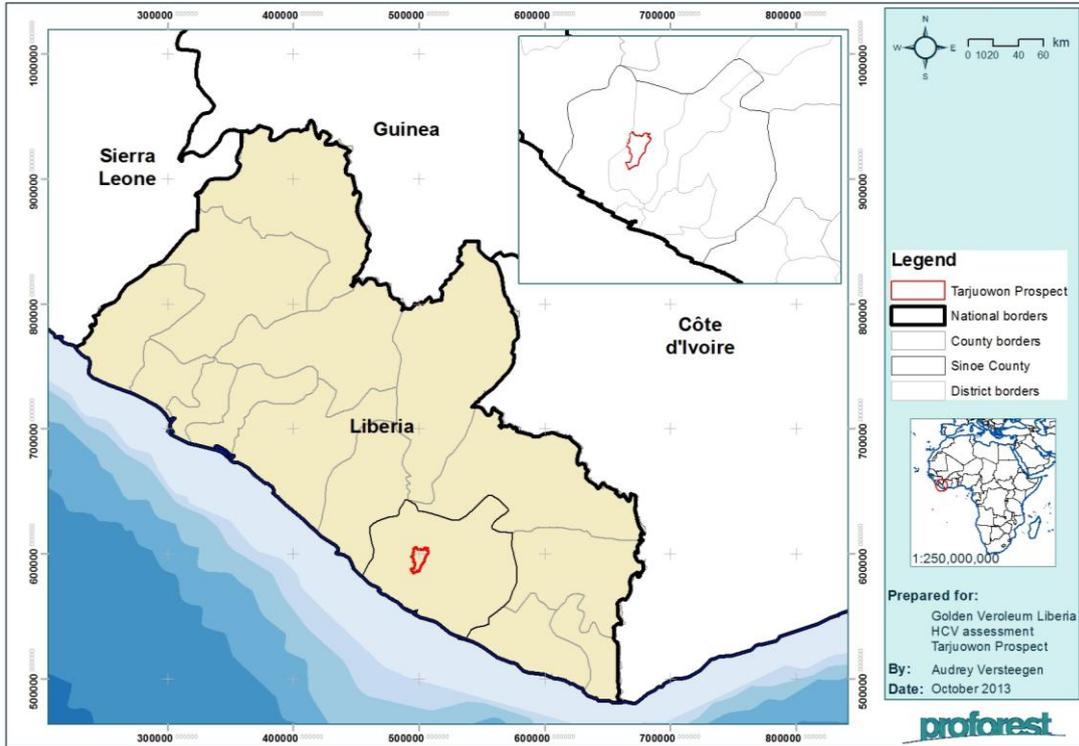


Figure 1: Location of the GVL proposed area in Liberia

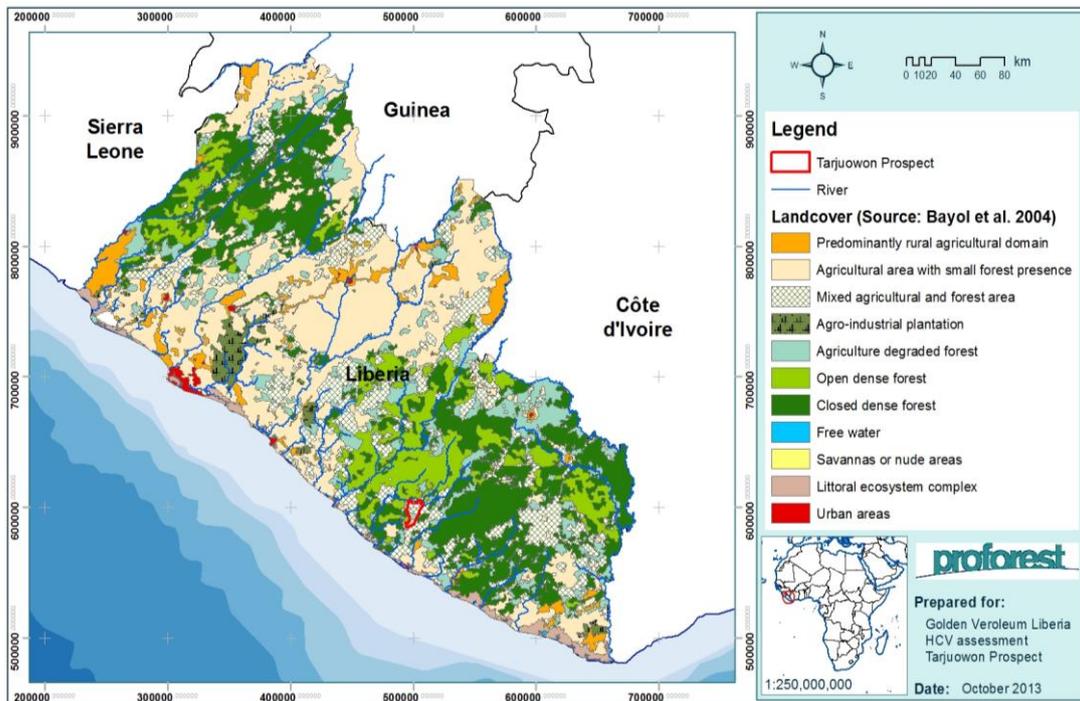


Figure 2: Location of the proposed concession

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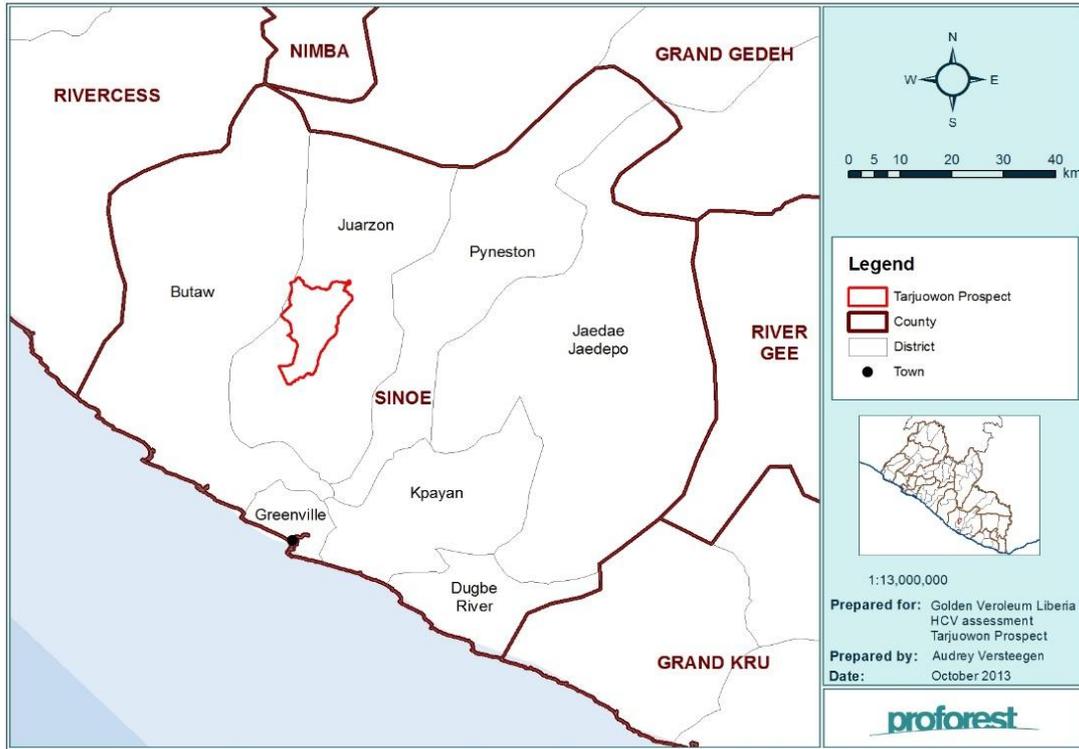


Figure 3: Location of the GVL proposed area in Tarjuowon Statutory District of Liberia

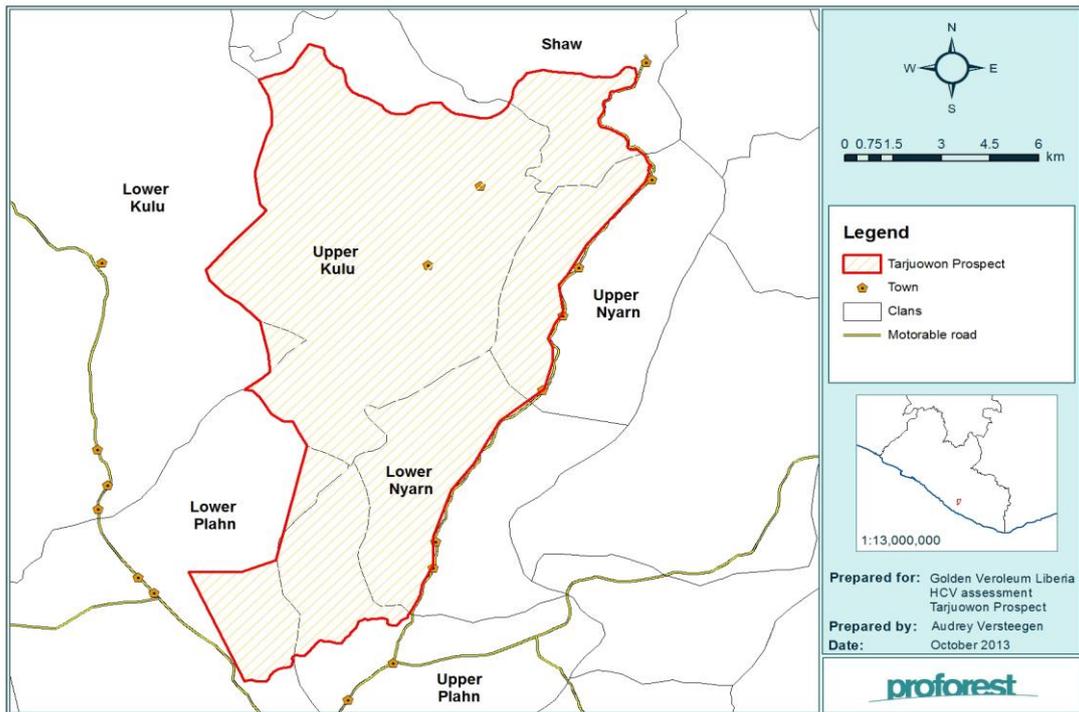


Figure 4: Property level map of the GVL proposed development area

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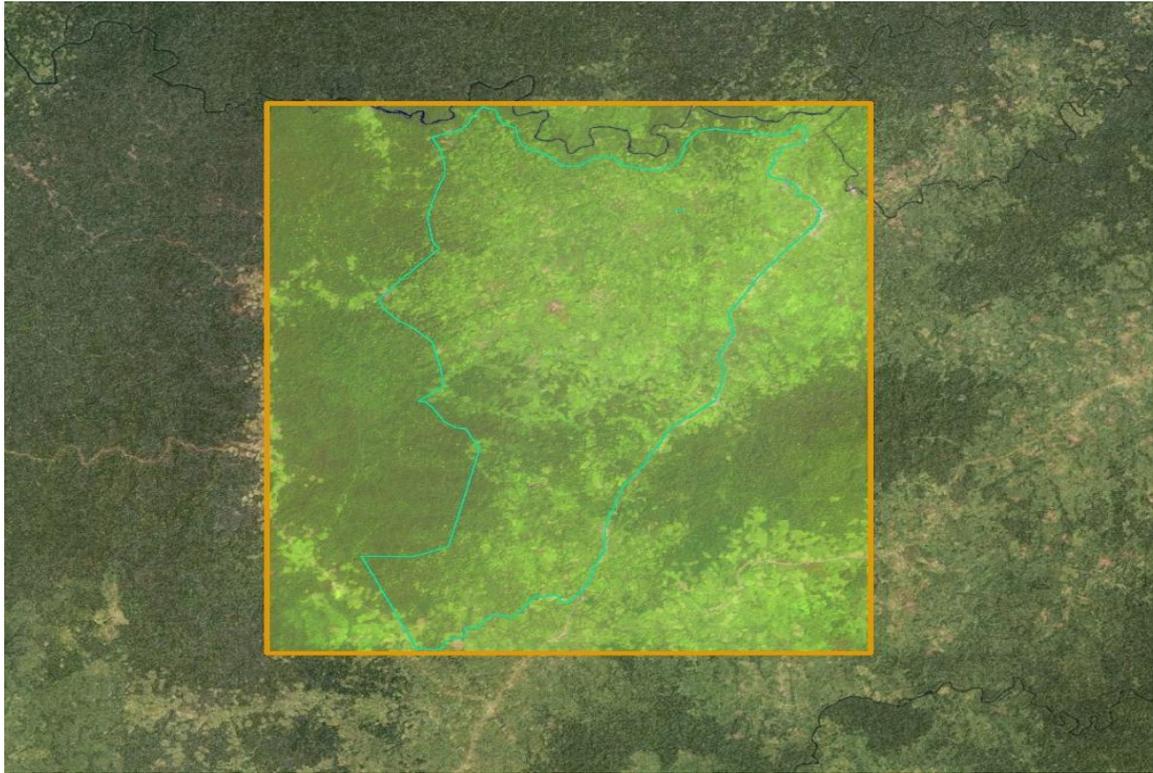


Figure 5: Landsat image (1991) of the GVL proposed development area



Area of new plantings and time plan for new plantings

GVL has incorporated the findings and recommendations from the HCV and Social and Environmental Impact assessments by Proforest and Green Consulting into the company's development and operations plans to be implemented in the proposed development area. GVL has finalised management plans the identified HCV areas and management plans for addressing potential negative social impacts for this proposed development. Based on the plans, GVL is expected to plant about 8,000 ha out of the total area of 15,482 ha.

GVL intends to commence development activities during Q1 2014, after the RSPO notification period. The company has planned to commence land preparations for field planting during Q1 2014 with an estimated annual planting of 5,000 ha in the first year. With this planting programme, GVL expects to complete field planting of the 15,482 ha of land within two years with field planting operations estimated to be completed during 2015. The company intends to plant all areas of the proposed development area with oil palm except the identified HCV management areas including recommended buffer zone limits for water bodies and set-aside areas for communities and for conservation purposes.

At present no clearing to facilitate transplanting has commenced. In line with the RSPO guidelines and procedures, clearing is expected to commence systematically upon certification and approval of the reports in line with the new planting procedure. These systematic clearing is one of management strategies to remedy the impact on destroying and trapping wildlife, and better preparation of land area.

Within three years, approximately 15% (1200 Ha) of the planned planting area will be structured for the communities' benefit under the out grower program as per the Concession Agreement. The exact areas will be decided upon further consultations and agreement with the respective communities.

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GVL Block Area (Ha)	Left out of Planting		Net area of cultivation of palm oil (forecast)	Activity	Planning (Ha)			TOTAL
	Description	Ha			2013	2014	2015	
Gross Area: 15,400 hectares	HCV/riparian zone/old town	7,000	Concession area	Land Preparation	0	5,000	1,800	6,800
	Road & other infrastructure	400		Planting	0	4,500	2,300	6,800
	Nursery	-	Out grower area	Land Preparation	0	500	700	1,200
	Others and balance area	-		Planting	0	500	700	1,200
			TOTAL	Land Preparation	0	5,500	2,500	8,000
				Planting	0	5,000	3,000	8000

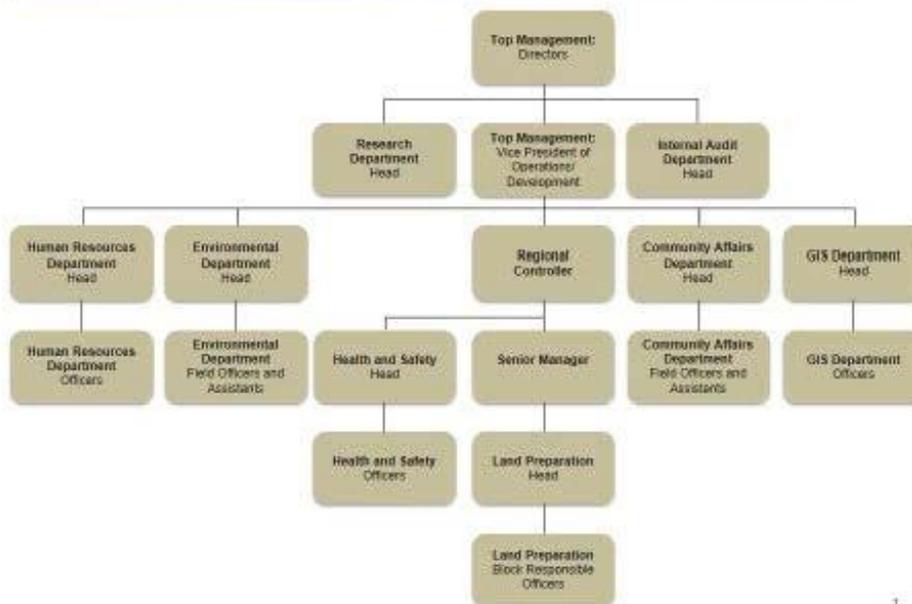
Table 1: Proposed Development Plan

3. SEIA and HCV Management & Planning Personnel

Company information and Contact Person	
Company name:	Golden Veroleum (Liberia) Inc
RSPO Membership number	1-0102-11-000-00, Ordinary member since 29/08/2011
Type of business	Oil palm producer
Administrative and location address	17th Street, Villa Samantha (Beach Side) Sinkor, Monrovia, Liberia
Contact person	David Rothschild, Director, david.rothschild@veroleum.com , +231 88 644 8525 Matt Karinen, Director, matt.karinen@veroleum.com , +231 8866 91676

Personnel involved in planning and implementation

3.2 Personnel Involved in Planning and Implementation - Organization Chart



The involvement of senior executives of the company in ensuring that the HCV identified within the project are monitor is essential in the management of all HCV and the participation of other executives in the process also. The commitment on the part of top executives has led to the training of personnel in the area of community engagement and HCV management even prior to the commencement of the study.

Responsibility of the HCV threats mitigation and HCV enhancement is with the line operating organization. It is considered imperative that actual HCV management is an integral part of the operating organization, and a way of operating, rather than an outside function. Our Sr Vice President of Operations will oversee the Environmental Manager and Community Affairs Managers responsible for managing the Environmental and Community teams who will be responsible for the survey, planning and community liaison and for placing the

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appropriate signage and delimiters to demarcate conservation areas and monitor the areas on a regular basis.

There is commitment on the part of management to ensure that mechanism is in place for monthly ground monitoring/surveillance in the land clearing and plantation development for riparian reserves, road conditions, steep areas, base camp and sensitive areas, inform contractors to comply with all the environmental requirements within the ESIA document and ensure that there is a monthly report on the state of the environment within the permit area.

In order to ensure that the above is achieved, the management of GVL has enlisted the following personnel in the planning, implementation, management and monitoring of the environment within the project area.

Ref	Personnel	General Responsibilities
1	Top management/Director/Vice President of Operations/Development and Regional Controllers/Senior Managers	Allocate financial resources as and when required Plan and manage the overall operation at each level Consult with communities on important matters at senior level and make appropriate adjustments, resolutions and decisions from company part
2	Research and Internal Audit Dept Heads	Supervise and enforce environmental, social and operational requirements, including management, monitoring and audits
3	Environmental Dept Head	Oversee the overall management and operation of the environmental requirements, including HCVs. Coordinate staff and resources in the delivery of remediation measures. Advise Management and contractors on the environmental and HCV issues. Liaise with the relevant Government agencies and stakeholders.
4	Community Affairs Dept Head	Ensure Free Prior and Informed Consent, proper and effective information dissemination between the company and the communities, complaints and grievances are received, noted and addressed
5	Environmental and Community Field Officers and Assistants	Carry out the identification, analysis and agreement with communities on and demarcation of environmental and social HCVs Brief company and contractors supervisors, staff and employees of all the company's and 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.

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Ref	Personnel	General Responsibilities
6	GIS Head and Officers	Coordinate with the Environmental Dept and the Community Affairs Dept to map out all HCVs and environmentally sensitive zone to develop participatory, public and company internal mapping
7	Land Preparation Head and block responsible officer	Liaise with the Environmental, Social and GIS team to ensure development area is surveyed, mapped and untouchable areas demarcated prior to work. Inform Environmental, Social and GIS team, as relevant, of any suspected omissions or errors, and of suspected accidental breaches of the demarcated areas or breaches of agreed practices
8	Health and Safety Head and Officers	Monitor the working areas and the well-being of the workers
9	Human Resource Head and Officers	Hiring, evaluating and training employees from the agreed communities Ensuring HCV training to newly hired employees as well as regular update training of existing employees

Table 2: Personnel and organization roles involved in planning and implementation

Stakeholders Involvement

In order to strengthen the company's environmental and social commitment to its local communities and its national and international partners, the company has cataloged the following stakeholders to serve as monitors in ensuring the company is compliant with local and international guidelines and regulations.

Stakeholder	Engagement
The Environmental Protection Agency of Liberia (EPAL)	Compliance reporting; Permit inspections; Joint research and enhancement projects
Lands, Mines and Energy Ministry (LME)	Mapping (as required)
The Liberia Water and Sewer Corporation (LWSC)	Water management on habitation and operations (as required)
Forestry Development Authority (FDA)	Management of forested areas
Ministry of Agriculture (MOA)	Compliance reporting; Inspections; Food security improvement; Training programming; Joint research and enhancement projects
Land Commission	As required in case of land issue
Local authorities of the County (County Superintendent, Paramount, clan and town chiefs)	Information on all company activities affecting county and communities; local regulatory matters; Social contracts matters; Receipt and addressing any concerns or grievances; Monthly meetings
Village and towns representatives	Project host communities-Information on all company matters affecting communities or taking place nearby; Employment and training matters; School and Health Care matters; Social contracts matters; Receipt and addressing any concerns or grievances; Monthly meetings.
Community Relations Committee representing the District	<p>District level committees are to be set up with representation from as follows</p> <ul style="list-style-type: none"> GVL Tarjuowon Community Relations Committee Typically Semi-Monthly routine meetings but can be called up for any issue. <p>Objective/Function</p> <ul style="list-style-type: none"> To represent the voices and convey the issues and concerns of each village and village/town chief in the project area; To provide a platform that will enhance a smooth and harmonious working relationship between GVL and the project host communities To provide a platform for the villages to engage with GVL regularly, through their representatives; with regards to future economic displacement matters and issues relevant to the project; To formalize a system for submitting grievances to GVL, as well as for resolution of such grievances; To support initiatives in the identification of

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Stakeholder	Engagement
	employment and business opportunities; To act as a body which can take discussions further with GVL regarding the company's proposed out growers/smallholders' scheme; and To regularly provide feedback and information to the affected communities on the project
Local and locally present International Non Governmental Organizations	Including NGOs that may establish activities in the areas, SAMFU, GA, FPP, CI, and FFI. Consultations and information periodically; Receipt and addressing any concerns or grievances;
Local advocacy groupings	Consultations and information periodically; Receipt and addressing any concerns or grievances;

4. Summary of Management and Mitigation Plans (SEIA)

Based on the analysis of the environmental impacts of the proposed Tarjuwon Oil Palm Development project, mitigation measures have been proposed. These mitigation measures are intended to reduce all potentially significant effects of the preferred alternative to less than significant levels. These mitigation measures have been developed in respect to the following general rules:

- a) Avoidance of major potential impacts: major impacts are impacts where an accepted limit or standard may be exceeded, or large magnitude impacts occur to highly valued/sensitive resources/receptors.
- b) Reduction of major and moderate potential impacts: moderate impacts are impacts within accepted limits and standards. Moderate impacts may cover a broad range, from a threshold below which the impact is minor, up to a level that might be just short of breaching an established (legal) limit.
- c) Minor potential impacts occur where effects are experienced, but the impact magnitudes are sufficiently small and well within accepted standards, and/or the receptors are of low sensitivity/value.

Potential Impact	Receptors	Proposed Mitigation Measures
Land acquisition and compensation issues	Land owners (Tarjuwon Community)/ farmers	<p>Ensure that appropriate documents are in place with record of community consent (FPIC) to offer land.</p> <p>Participatory map prepared for project land offered by community.</p> <p>Appropriate compensation procedures will be followed to ensure that payments made to Project-Affected-Persons (PAPs) are within legal requirements. The MOA framework to be followed for compensation payment has been presented in Appendix 12 of the ESIA report.</p> <p>Monetary compensations will be paid to people whose farms or crops will be destroyed due to the development. GVL will assess the farms and crops to be affected and evaluate these properties accordingly with the assistance and guidance of local MOA assigned personnel. Appropriate budgetary allocations have been considered to take care of this issue.</p> <p>Compensation payment will be made directly to affected farmers and individuals to avoid future problems from other people purporting to be family members. To facilitate this therefore, a committee has been formed to ensure that fair compensation are paid to the right individuals. The committee comprises farmers and representatives selected from each town.</p> <p>Community Sensitization Program The Company has established a community affairs department to engage with community people on various project related activities and undertake community sensitization programs which are ongoing.</p>

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		Working groups have also been established comprising of community selected representatives who will liaise with the company on an ongoing basis for peaceful coexistence, community relations for project implementation, resolution of grievances and dissemination of project information.
Land issues	Local communities/ land owners Other resource users	<p>Survey and mapping of all project lands and land set aside for community farms, and HCVs. Privately own plots to be mapped and information documented for future reference.</p> <p>GVL to conduct regular monitoring of Concession to determine if there are any illegal activities, including mining and logging, and any evidence of such activities observed will be communicated to the relevant regulatory agencies.</p> <p>GVL should notify authorities of any emerging issues and work with public agencies to address same.</p> <p>GVL intends to maintain a cordial relationship with communities and frequently engage the NGO on planned activities as it relates to the developmental and operational activities of the Company.</p> <p>The Company will abide by the guidelines. GVL does not intend to prevent Tarjuwonians from accessing the Concession area The communities would be kept abreast of the development plans of the project would also be consulted by GVL for advise based on their experiences within the project environment in the planning and implementation of the project.</p>
Land clearing and development ☒☒Limit local access to forest resources including land in the project area ☒☒Limit access to available land for farming, collection of NTFP, hunting and fishing ☒☒Desecration of sacred sites and graves as well as their loss during operation activities	Local communities	<p>Engage staff/communities/residents in discussion and consultations to address <i>mutual concerns</i>, whether these relate to GVLs operations or not. Monitor any evolving land use in the area and report any illegal activities. Develop smallholders program as soon as possible to give communities a sense of ownership in the project. Work with communities to identify and demarcate reserve areas for community agriculture, NTFP, hunting and fishing purpose. Jointly identify and map all areas of high social conservation values including sacred sites and graves and develop program for jointly managing and monitoring these sites with communities.</p>
Threats to resident crops	Local communities/ Farmers	Crop farms within the concession will not be cleared and the necessary extension services will be provided to ensure an all-year-round food production in the District.
Livelihood issues	Local communities/ farmers	<p>-A compensation action plan to be implemented.</p> <p>-The project will not clear any land which is</p>

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		<p>currently being farmed.</p> <ul style="list-style-type: none"> -Ensure appropriate compensations are paid to PAPs. -People living on the concession will not need to be relocated. They will also be allowed to farm on their own plots of land within the acquired concession.
Community structure and security issues	Local communities	<ul style="list-style-type: none"> -Ensure close collaboration with the local police personnel to reduce the incidence of crime in the project area and its immediate environs. -Ensure close collaboration with traditional authorities on the issue of community security.
Employment issues	Local communities	<p>Members of the communities to be given priority for employment by GVL as much as possible.</p> <p>GVL to consider the hiring of women in its operation.</p> <p>Adequate medical and insurance coverage to be made available to all employees</p> <p>GVL to work with local education authorities to identify persons who can be sponsored by the Company to pursue further training in the field of Agriculture.</p>
Cultural sites	Local communities (Bestnewlu/Sonuohn)	The sacred sites including graves and cemeteries on the concession will, with the agreement of the community be well demarcated and the area not cleared for development.
Influx resulting to inappropriate interaction with communities, crime, use of alcohol and disagreeable behavior	Local communities	<p>GVL will respect the legal, social and ecological integrity of all Tarjuwonians lands.</p> <p>The communities would be kept abreast of the development plans of the project</p> <p>GVL to ensure that personnel are properly informed on the correct protocol for interaction with the local communities</p> <p>GVL to ensure workers interference with the communities is minimal.</p> <p>Drugs and alcohol use by workers within the Concession during work hours would be prohibited.</p>
Occupational health and safety issues	Workers	<p>Provision of Personal Protective Equipment (PPE)</p> <p>Personal protective equipment/apparels such as Wellington boots/safety boots, respirators/nose masks, gloves, overalls and raincoats will be supplied to field workers in suitable and adequate proportions. Supervisors will be charged to enforce the use of these gears.</p> <p>Personnel in charge of pesticide application will wear all the PPE specified on the product labeling for —pesticide applicators and other handlers. All PPE will be inspected each day of use for leaks, holes, tears, or worn places. Damaged PPE will either be repaired or discarded.</p> <p>Use of Experienced Personnel in handling Machinery</p> <p>Only experienced personnel will be engaged to operate any machine or equipment. The project</p>

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		<p>will ensure that drivers and earth-moving equipment handlers possess certificate <u>A</u> driving license and license weight requirement of at least 160kg respectively.</p> <p>Initial training in machinery handling and safe working procedures will be given to all new drivers, operators and other field workers to help minimize the occurrence of accidents on site.</p> <p>Safety Training for Agro-chemical Handling The Company will conduct safety training for pesticide handlers and all agricultural workers. The training program will include handling of agro-chemicals, use of PPE and what to do in the case of pesticide exposure.</p>
Sanitation problems	Workers	<p>A place of convenience will be provided at the site to discourage free-range defecation. In addition, field workers will be encouraged to use places of convenience available at nearby communities. Waste bins will be provided at appropriate and convenient places to minimize littering of the site. Wash rooms and changing rooms will also be provided for workers.</p>
Aesthetics and visual intrusion	Workers/ Local communities	<p>Phasing of the clearing of the site will help reduce this impact</p>
water quality deterioration and change in local hydrology	Aquatic flora and fauna	<p>Buffer Zone Ensure appropriate buffers are set aside along rivers and streams to ensure its integrity and other aquatic life forms. The buffer reserves will serve as natural filters for surface runoff from the plantation areas. The reserves will also play a major role in protecting the banks of the waterways from channel erosion. In addition the reserves will create aesthetic scenes along the watercourse.</p> <p>Fertiliser Application at the Plantation Judicious use of both organic and inorganic fertilisers will be ensured as much as possible. The fertilisers will be applied around each oil palm tree in shallow rings. This is to ensure that the fertiliser is available to the young transplanted oil palm trees. No broadcasting of fertilisers will be undertaken.</p> <p>The use of herbicides will not be encouraged on the plantation. Control of weeds will be done manually. Labour-intensive approach using simple farm tools like hoes and cutlasses will be employed. Organic farming practices will help eliminate the use of inorganic fertilisers and herbicides that are major contributors to surface water quality deterioration.</p> <p>The use of pesticides on the plantation will be minimised. The main control methods for pests</p>

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		and diseases will involve the use of resistant hybrids, trapping/scaring of animals, protecting young plants with collar wire and destroying nestling/breeding areas of pests. A constant phyto-sanitary observation will be maintained to help prevent the outbreak and spread of any potential disease/pest into the whole plantation.
Air quality deterioration	Workers/ Local communities	Burning of biomass will not be allowed. Most biomass generated will be made available to the local people as fire wood. Remaining trees and cleared under brushes will be chipped and formed into windrows. Windrowing will involve arranging the vegetative wastes in rows following the dominant local wind direction, to facilitate natural decomposition of stacked wastes.
Noise nuisance	Workers/ Local communities	Earthworks and other construction activities will be phased out or controlled to reduce noise generation during construction. -All construction and earthworks will be done during daytime to avoid disturbing the serene nights of the local communities. -Ear muffs will be provided for workers where necessary
Solid waste management issues	Workers	-The proposal to phase the development will generate biomass which could be manageable at a given time. -Salvaging of useable biomass can significantly reduce the volumes of waste that has to be disposed of. -Felled trees and cleared under- brushes will be chipped and formed into windrows and allowed to decompose. -Other solid waste like food wrappers, containers and food waste to be disposed of at the District Assembly's designated dump site.
Loss of biodiversity	Terrestrial flora and fauna	Phasing of Oil Palm Development Clearance of vegetation will be phased to reduce the impacts of vegetation removal on terrestrial flora and fauna. The clearance of the 3,716ha land area will not be carried out all at a go but will be developed in phases. Directional clearing Directional clearing or felling of trees towards the riparian forested areas along the Coonie, Toonie and Wuon Creeks to allow mobile fauna to seek refuge and migrate to densely forested areas such as the sehnkwehn forest and the forest located central east and west of the project area. Biodiversity Plots

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		<p>Biodiversity plots will be established within the oil palm plantation. Biodiversity plots will also be provided along the waterways and streams within the concession. This will include the Tarsue River and the Coonie, Tonnie and Wuon Creeks. The plots will consist of a 10-40m width on both sides of the River/Streams. It is recommended that an additional 2km buffer zone be created away from the Sehnkwehn River. The project will ensure that no installation or works are carried out within the plots.</p> <p>Alternative Fauna Habitats</p> <p>The Biodiversity plots as well as the nearby Sehnkwehn River forest will serve as alternative habitats for fauna at the proposed site. Phasing of development activities will allow some time for mobile fauna to seek refuge in adjacent and similar habitats or establish new ones nearby.</p> <p>According to Payne (1997), biological control of rats may be achieved by leaving about 5% of plantation land under forest in the form of riparian and hill/steep land reserves.</p>
Soil stability and erosion	Soil/ water courses	Sensitive sites with high erosion risk will be identified. Such areas shall not be cultivated and will include hill-tops and very steep slopes having gradient of 25% or more. Vegetation of such areas shall be maintained to help control erosion as well as ensuring soil stability.
Impact on soil fertility and acidification	Soil/water courses	Judicious use of especially inorganic fertiliser will be ensured throughout the life of the project to help conserve the environment. Application will be carried out in August and October of the transplanting year. The fertilisers will be applied around each oil palm tree in shallow rings. This is to ensure that the fertiliser is available to the young transplanted oil palm trees. No broadcasting of fertilisers will be undertaken.
Biomass generation and CO2 balance	Air	The phasing of the project will reduce the impact to the barest minimum.
Pest Infestation	Terrestrial flora	The main control methods for pests and diseases will involve the use of resistant hybrids, trapping/scaring of animals, protecting young plants with collar wire and destroying nestling/breeding areas of pests. A constant phytosanitary observation will be maintained to help prevent the outbreak and spread of any potential disease/pest into the entire plantation.
Solid waste management issues	Workers/ Local communities	Domestic/Office Waste Adequate litter bins will be placed at vantage-points to minimise littering of the site by workers.

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		<p>The contents of these bins would be emptied at an appropriate central point and sent to a designated waste dump site.</p> <p>Biomass Salvaging of useable biomass can significantly reduce the volumes of waste that has to be disposed of.</p>
Food security	Local communities	<p>The local people living on the concession will not be resettled. They will be allowed to farm on their own plots of land within the acquired concession. GVL will engage with communities to provide support for improved farming methods and practices including lowland farming and other forms of sedentary farming practices that maximizes landuse.</p>
Presence of workforce- Loss of wildlife from hunting and conflicts with human	Terrestrial flora and faun/workers	<ul style="list-style-type: none"> Employee education and notification will be implemented to reduce vehicle-wildlife collisions and conflicts Workers of GVL would be prohibited from hunting, trapping, killing, harming or capturing of any wildlife Employee education and notification to be implemented to ensure workers are aware of the need to preserve wildlife and to reduce wildlife/roadway conflicts Warning signs indicating hunting/capturing of wildlife is prohibited would be placed at strategic HCV areas Any occurrences of wildlife trapping and trading observed will be reported to the EPA and FDA
Biodiversity management	Terrestrial flora and fauna/Workers	<p>Management of riparian zones and other HCVs, wildlife conservation awareness for employees and surrounding communities, enforcement of no hunting policy for employees</p>
Occupational health and safety	Workers	<p>Adoption of Health and Safety Policies GVL will educate workers on its health and safety policy. The adoption of a health and safety policy at site will serve as a precautionary measure to prevent/minimise the possibility of accidents and reduce health risks.</p> <p>Ensure workers are properly oriented to the safety and health rules and guidelines</p> <ul style="list-style-type: none"> Well-equipped first aid kits would be provided at all work sites Employ a medical personnel to be stationed at the Base Camp and workers trained in first aid should be present at all campsites Adequate signage should be erected, especially in hazardous areas

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		<ul style="list-style-type: none">• Machines are to be operated by competent, licensed and authorized personnel only and in a manner that does not endanger other employees or the Company's property.• The Emergency Response Plan would be made aware to all relevant personnel and the necessary training and resources required should be provided;• Protective gears and clothes must be provided to employees and should be worn at all times during operation.• Provide potable water for employees• Conduct periodic fogging to prevent mosquito breeding• Educate workers on relevant diseases and preventable and treatment measures• ☑ Providing medical supplies and personnel at Base Camp
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Table 3: ESIA Mitigation and Management Plan Summary

5. Summary of Management and Mitigation Plans (HCV)

The HCV assessment identified the following HCVs as present or potentially present: 1.2; 1.3; 1.4; 4.1; 4.2; 5 and 6. GVL has prepared HCV management and mitigation plans based on the assessment findings and recommendations. The plans have been prepared and will be implemented to ensure those HCVs identified are maintained or enhanced. Below is GVL's plans for monitoring and review of the HCVs found in the proposed area.

HCV	Management objective	Management and monitoring actions	Time period
1.2 1.3	To protect the stretch of secondary forest in the western boundaries of the concession to contribute to ensuring maintenance of habitats and biodiversity values in the area	<ul style="list-style-type: none"> • Delineation of the 375.5 ha and the 3,387.6 ha secondary forests to the north-west and western boundaries of the concession for conservation purposes as proposed by the HCV assessors. • Regular patrol and assessment of species presence and abundance in the set-aside areas • Sensitization local communities to agree on what actions are allowed and forbidden in the set-aside areas • Sensitization of workers on what action is allowed and prohibited in set-aside areas • Development and erection of signboards in the HCV areas • Continual monitoring of the quality of the set-aside areas • Land preparation will be started away and towards set-aside areas 	Q1 2014 Continuous
1.4	To confirm or otherwise of habitats used by temporary used by concentration of seasonal species	<ul style="list-style-type: none"> • The environmental team to verify during land conversion whether there are any habitats in the proposed area temporary used by concentration of species • Areas temporary used by concentration of species if identified will be delineated and excluded from conversion activities • Appropriate management and monitoring plans for such areas if identified will be prepared and implemented in consultation with relevant experts and stakeholders 	Prior to development
4.1 4.2	To avoid erosion and pollution and to ensure continuous flow of clean water for the populations of communities by setting aside and maintaining appropriate buffer zones for all rivers and streams in the concession and to exclude hilly areas and problem soil areas from all plantation activities.	<ul style="list-style-type: none"> • Delineation of all buffer zones as stipulated in the HCV assessment report • Integration of management prescriptions of all such areas into the company's standard operating procedures • Incorporating all buffer zones and set-aside areas into the company's GIS and standard operating procedures (SOPs) • Training of land preparation teams to ensure all set-aside areas and buffer zones are not affected during land preparation • Nursery sites will be established at least 100 metres from water bodies • Periodic evaluation of operational 	Prior to development Continuous

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		<p>compliance with company's SOPs</p> <ul style="list-style-type: none"> • Periodic interview to assess local peoples' views on water quality • All slopes above 20 degrees will be excluded from planting • Erosion prevention measures will be used in all areas with slopes of 15-20° 	
5 and 6	To ensure that the oil palm plantation development programme does not threaten communities' access to water and non-timber forest resources as well as communities sacred sites, spiritual and traditional use areas	<ul style="list-style-type: none"> • Appropriate management areas for HCV 5 and 6 agreed with all affected communities • HCV 5 and 6 areas delineated in collaboration with local communities and excluded from plantation activities • Sign-post prepared and erected for all HCV 5 and 6 areas • HCV 5 and 6 areas mapped and incorporated into GIS system and SOPs • Periodic water quality assessment to monitor quality of water bodies in the concession • Interview-based monitoring of HCV 5 and 6 status will be conducted bi-annually with the first taking place at the beginning of the project, as part of broader social engagement programs. • Communities engagement plans will be collaboratively developed with all communities prior to commencement of project • A minimum frequency of one meeting with each community will be implemented to get their feedback on how the operation is affecting HCV 5 and 6 areas 	<p>Prior to development</p> <p>Continuous</p>
Social Responsibility	Develop Corporate Social Responsibility programmes with active participation of local communities to contribute to developmental programme of the host communities	<ul style="list-style-type: none"> • Conduct consultations with local populations and governmental agencies to understand social needs of local peoples and based on that provide support services • Social development plan to be prepared after social intervention support have been identified • Social development plan will be implemented in collaboration with local communities and local government agencies • Definition of conflict communication and resolution procedures with local communities • Interview-based monitoring of impacts of social intervention programmes 	Continuous
Internal policies	Develop internal policies and procedures to guide operations and to ensure high standards of environmental and safety measures for workers and local population	<p>Internal policies and procedures will be prepared implemented and reviewed periodically to ensure they deliver their intended impacts. Polices to be prepared include:</p> <ul style="list-style-type: none"> • Corporate Social Responsibility Policy • Policy on Health and Safety • Training and capacity building 	Continuous

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Internal Responsibility

Formal signing off of management and mitigation plans

This summary planning and management document for HCVs and other social and environmental aspects of the GVL Tarjuowon proposed oil palm development areas has been approved by the management of GVL

Name

Designation


DAVID ROSENTHAL
Director

Name

Designation