ROUNDTABLE ON SUSTAINABLE PALM OIL NEW PLANTING PROCEDURES SUMMARY REPORT OF SEIA and HCV ASSESSMENT

FOR

GHANA OIL PALM DEVELOPMENT COMPANY LIMITED (GOPDC KWAE AND OKUMANING ESTATES)

Focus: Okumaning Estate

KWAE, EASTERN REGION GHANA

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1. Executive Summary

Introduction and summary findings

The Ghana Oil Palm Development Company (GOPDC) Limited is a subsidiary company of the Siat Group. The Siat Group of companies have oil palm plantations in three main countries in Africa including Ghana (GOPDC), Nigeria (Presco and Siat) and Gabon (Siat). The Group has committed to ensuring that its operations meet international best practices as well as social and environmental sustainability requirements.

The Ghana Oil Palm Development Company (GOPDC) is engaged in large-scale cultivation of oil palm on nucleus estate and outgrower/small-holder schemes for local farmers as well as operating a 60 ton/hour capacity palm oil mill. As part of measures towards ensuring that the company maintains the production levels, GOPDC acquired about 5,600 ha of land at Okumaning which was originally leased to the erstwhile State Farms Corporation through the Divestiture Implementation Committee (DIC) and intends to develop a portion for a new oil palm plantation.

The GOPDC is located at Kwae in Kwaebibirem District of the Eastern Region of Ghana about 112km north-west of Accra. The area is located in the High Forest Zone precisely within the Moist Semi-Deciduous Forest Zone of Ghana where timber production and cultivation of cash crops particularly cocoa, cola nuts and oil palm are the principal forest-land-use activities. Siat Ghana became the owner of the estate through the acquisition of erstwhile State Farm under the government of Ghana divestiture implementation programme. The State Farm was established by the government of Ghana in 1975 after acquisition of the land under an Executive Instrument-30 (El. 30). The original lease agreement for the Kwae land consisting of land belonging to Kwae, Asuom, Anweam, Minta, Mamang and Otumi stools (lease agreement dated March 1976 taking effect from 1st April 1976 for a 50-year period). The GOPDC entered into lease agreement with the government of Ghana for the Okumaning concession on 15th December 2008 for a 50-year lease period also encompassing all that parcels of land belonging to Okumaning, Takorowase and Kusi stools. However, the Okumaning agreement takes retrospective effect from 1st January 2000. Although these concessions were officially established in 1976 for Kwae concession and 2000 for Okumaning, there are still around 5,395 ha of unplanted land available for planting oil palm.

As part of the company's strategy to develop the unplanted areas, GOPDC initiated a process for planting the undeveloped areas at Okumaning. As a member of the Roundtable on Sustainable Palm Oil (RSPO), GOPDC has committed to achieving full compliance with the RSPO requirements for sustainability in all of its existing and future operations. The company also intends to ensure all its new plantings are in compliance with the RSPO New Planting Procedure (NPP). Therefore, GOPDC engaged Proforest, a RSPO approved High Conservation Value (HCV) assessors to undertake a HCV assessment for the undeveloped areas prior to land conversion.

This report provides a brief summary and conclusions of the HCV assessment conducted in 2010 and the social impact assessment which was conducted in 2005 for the Okumaning Estate.

Primary forests in the assessment area

There are no primary forests in the landscape: Besides the gazetted forest reserves in the area, the estate is mainly a farmland with mosaic of cocoa, oil palm and citrus plantations interspersed with food crops such as maize, cassava and plantain. The forest reserves represent the main forest cover in the area although they are generally degraded. The forest reserves in the landscape include AuroRiver, Mamang, Bediako, Esukawkaw, Nsuensa and Aiyaola forest reserves. None of these reserves is located within the estate or adjoins it although they are within a range of 20 kilometres

from the estates, all the other forest reserves are quite far from the estates. Besides, the gazetted secondary forest reserves including Nsuensa and Aiyaola which are a few kilometres from the estates, there are no primary forests in the landscape.

Areas of peat soils

There are no areas of peat soils in the estate or the landscape.

Local people's land

The land was originally acquired by government for oil palm plantation development in 1975 and has since remained government land. There is *no local people's land within the boundaries of the concession* although local population have been using parts of the land for food crop farming since it was acquired. Patches of active farms on the land were duly recognised with the Government of Ghana through the Lands Commission and on behalf of GOPDC agreed with the affected parties for fair compensation rates that were have since been paid out to the affected farmers.

The findings of the social impact assessment carried out 2005 suggest that the proposed agroindustrial oil palm plantation development will create employment and other business opportunities for the local communities and the general population in the project catchment area and beyond. The intervention is also consistent with the Government of Ghana's vision and land use plan for the area which was acquired for the establishment of agro-industrial oil palm plantations.

This notwithstanding, conversion of the land to agro-industrial oil palm plantations was also identified to come along with some challenges for the local communities and the population who live in those communities. The challenges were identified to include displacement of squatter farmers, loss of farmlands and shortage of farmlands for food crop farming. The loss of farmlands could potentially affect food crop production which when occur could jeopardize the food security potential of the area and possible high prices of food crops. However, the expected impact on agricultural lands and food security is expected to be very minimal since farmers were aware that they were using the land temporary. Also most native communities in the area have their farmlands located outside of the concession.

The outcome of the communities' Consultation during the social impact assessment indicated that majority of opinion leaders and inhabitants of communities fringing the concession area are much in favour of the project because of its contribution to local development.

From the environmental impact assessment carried out by AY & A Consult Limited it is discernible that themain environmental media to be influenced include ecology, soil, streams, landscape and air.

Assessment result

The social and environmental impact assessments were professionally carried out and therefore generally very comprehensive and detailed. The resulting management plans include the findings of the various impact assessments conducted by separate independent consultants including the environmental impact assessment, the high conservation value assessment conducted by consultant accredited and approved by the RSPO to lead HCV assessments. GOPDC has thus adhered strictly to the RSPO New Planting Procedures and has documented the assessments and plans according to the RSPO templates issued in May 2011.

2. Scope of the SEIA and the HCV assessments

Organisational information/contact person

Contact details of the company are detailed below:

Company Name	Ghana Oil Palm Development Company Limited			
Address	Kwae, Kwaebibirem District Eastern Region			
	P.O. Box M428 Accra, Ghana			
Contact person	Eric de Foresta			
Telephone	+233244330090			
Email	eric.deforesta@siat-group.com			
Status	Foreign investment company			
Status of Business land	Government Lease			
Total Area	5,395 ha			

Reference documents

List of reports

- a. Social Impact Assessment of Okumaning Oil Palm Plantation Programme, December 2005
- b. Environmental Impact Assessment of GOPDC operations, May 2003
- The High Conservation Value Assessment for Kwae and Okumaning Estates for GOPDC, July 2010
- d. Compensation records from the Government of Ghana
- e. Concession and estates maps
- f. Biodiversity and socio-cultural survey for HCV assessment by Ghana Wildlife Society

List of legal documents, regulatory permits and property deeds related to areas assessed Legal documents

- a. Environmental Protection Agency Act, Act 490 of 1994
- b. Environmental Assessment Regulation of 1999
- c. Lands Commissions Act of 1994
- d. Lands Commission Act, Act 767 of 2008
- e. Labour Act, Act 651 of 2003
- f. Labour Regulation LI 1833 of 2007
- g. Environmental Assessment Regulations LI 1652 of 1999
- h. Environmental Assessment (Amendment) Regulations, LI 1703 of 2002
- i. Buffer Zone Policy of 2011
- j. National Wildfire Policy 2006

Regulatory permits and property deeds

The relevant legal documents, regulatory permits and property deeds reviewed as part of this assessment are listed in the Table below:

Table 1: Relevant legal documents, regulatory permits for GOPDC

Permits/legal document type	Remarks
Land acquisition by Government of Ghana under	Government Instruments for acquisition of
the Executive Instrument Number 30	land from traditional authorities in 1975
The lease agreement between the Government	Lease agreement between the Government of
of Ghana and the Traditional Authorities	Ghana and Traditional Chiefs dated March
	1976 taking effect from 1st April 1976 for a
	50-year period
The lease agreement between the Government	Lease agreement dated 15 th December 2008
of Ghana and the GOPDC	for Okumaning effective 1 st January 2000
Divestiture Implementation PNDC Law 326 for	Agreement dated 1995
SIAT to acquire initial shares of GOPDC	
Environmental Impact Assessment and the	Environmental Management Plans reviewed
management plan permit	by EPA and environmental permit issued on
	10 th of July 2014

Location maps- both at landscape and property levels

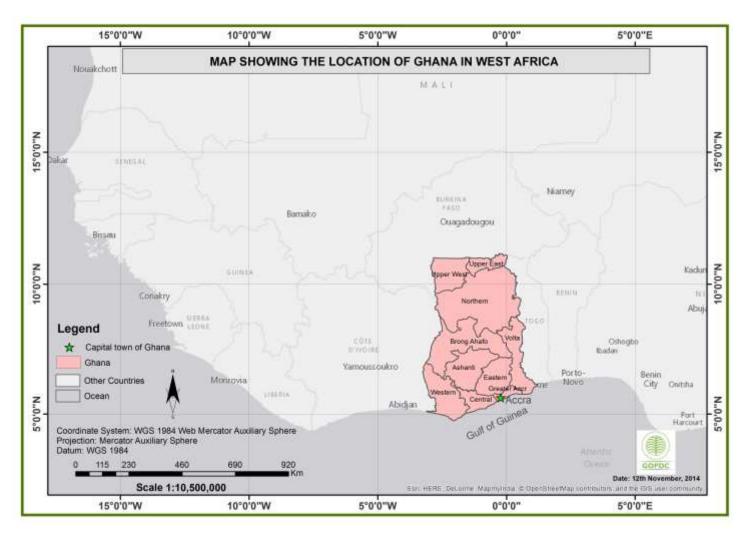


Figure 1: Map of West Africa showing the location of Ghana

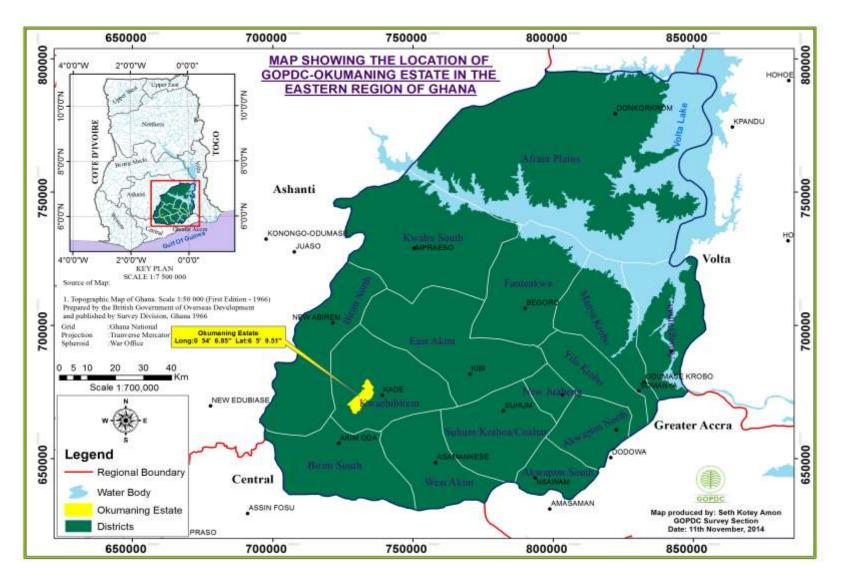


Figure 2: Map of GOPDC Okumaning Estate in the Easter Region, Kwaebibirim District, Ghana

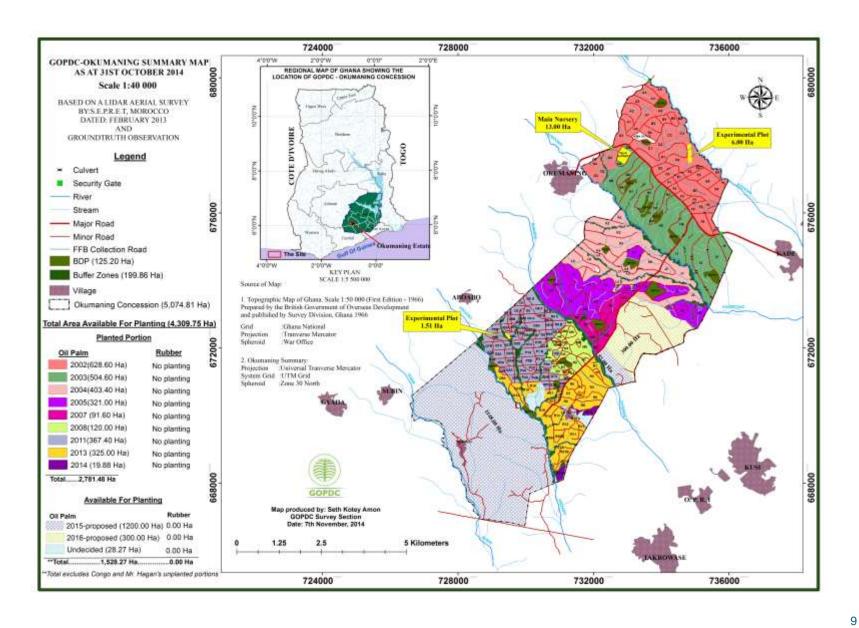


Figure 3: Summary map of GOPDC Okumaning Estate in the Eastern Region, Kwaebibirim District, Ghana

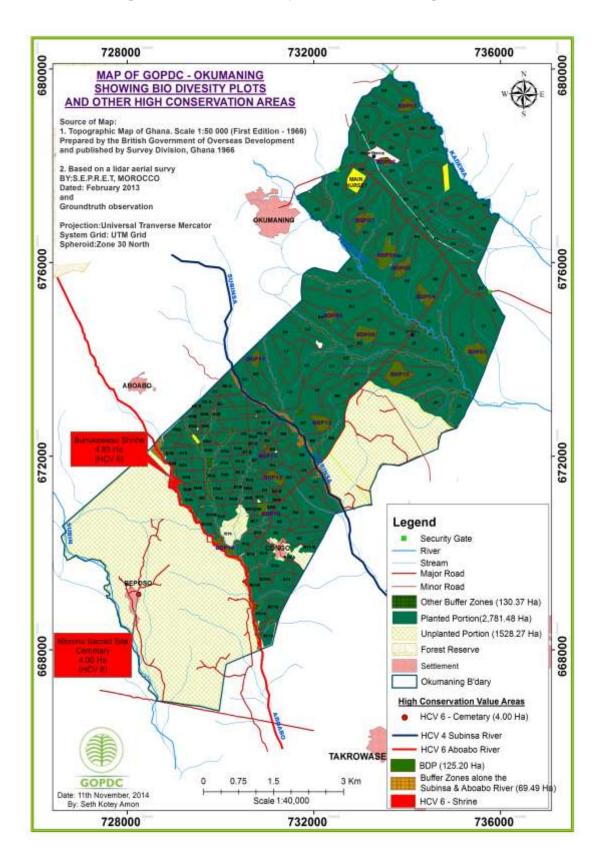


Figure 4: Map of GOPDC Okumaning Estate showing identified High Conservation Value area, Biodiversity Plots (BDP) and Bufferzones

The estates are located within the High Forest Zone and in the Eastern Region of Ghana. The estates lie in a predominantly farming areas surrounded by a number of towns and villages. As shown in Figure 1 above, a number of forest reserves are located in the landscape with GOPDC concessions. Those reserves represent the main forest cover in the area, the remaining areas being agricultural land with high population density. Apart from Auro River, Mamang, Bediako, Esukawkaw, Nsuensa and Aiyaola forest reserves which are within a range of 20 kilometres from the estates, all the other forest reserves are quite far from the estates.

The GOPDC concessions were established in a landscape highly transformed by human activities, on lands that were already used for agricultural purposes. Figure 3 shows the position of the two concessions on a Landsat image. Although the actual date for this Landsat image is unknown, anecdotal evidence suggests that it was taken prior to land clearing at Okumaning by GOPDC in 2002.

Areas of new plantings and time-plan for new plantings – Okumaning Estate

In line with the RSPO Procedure for New Planting Guidance document dated 12 May 2010, only the unplanted areas after2010 is subject to the new planting procedure. This consists 2240,55ha of 51% of the total Okumaning estate. A total of 2069,2 ha representing 48% of the Okumaning estate was also planted during 2002 and 2009 and are also not subjected to the RSPO New Planting Procedures. The entire Kwae estate was planted in 1970s and 1980s and are therefore not subject to the new planting procedure.

Tables below indicate time-plan for planting the areas assessed under this NPP

Table 2: Summary of area planted before and after 2010

Total area - ha - available for planting	4309,75
Unplanted area – to be planted	1528,27
Total ha planted before 2010	2069,2
Total ha planted after 2010 to date	712.3

Table 3: Summary of area planted per year in Okumaning Estate

Year	Ha planted
2002	628,6
2003	504,6
2004	403,4
2005	321
2007	91,6
2008	120
2011	367,4
2013	325
2014	19,88

Total hectares identified being HCV area sums up to 78.34ha in Okumaning estate (GOPDC total HCV area is 197.771ha).

	Kwae		Okumaning	
	HCV specification	ha	HCV specification	ha
HVC				
4	Bufferzone Bobri	41.58	Bufferzone Subinsa	34.56
4	Bufferzone Abena	22.51		
			Bunukesieso	
6	Labadi Shrine	0.911	Shrine	4.85
			Ntonmu Sacred	
6	Atobriso Shrine	2.03	Site Cemetery	4
6	Apaam Shrine	41.64	Aboabo River	34.93
6	Nsonieso Shrine	1		
6	Bobri Shrine	2.21		
6	Kwae Cemetery	4.65		
	Anweam			
6	Cemetery	2.9		
Total		119.431		78.34

3. Assessment process and procedures

HCV and social and environmental impact assessment team and their credentials

The HCV assessment was carried out by a team of 4 specialists and 3 technicians with diverse academic and professional background with wide range of experience appropriate to the task. The team consisted of professionals from various fields including ecology, botany, sociology, ornithology, mammalogy, forestry and GIS mapping. The list of specialist members of the team and their roles in the assessment is presented in the Table below.

Table 4: Assessment team members and their roles in the assessment

Name of expert	Organisation	Role
Abraham Baffoe Proforest		Assessment team leader, RSPO approved HCV
		assessment team leader
Remi Duval	Proforest	Biological survey and conservation planning.RSP
		as discipline specialist for HCV assessment.
Isaac Abban-Mensah	Proforest	Socio-economic study team lead
Anni Vuohelaenen	Proforest	GIS and mapping
Yaw Gyamfi	Independent consultant	Social expert
Thomas Takyi	Independent Consultant	Fauna survey expert
Adjei Yeboah	Independent Consultant	Flora survey expert

Assessment methods used in the HCV and Social Environmental Impact Assessment

Assessment methods (data sources, data collection, dates, programme, places visited):

In undertaking this assessment, the team relied on HCV definitions, methods and interpretation as outlined in the Ghana HCV Toolkit. Preliminary findings show that there has been conversion of natural forest into oil palm plantations since 1977. Initial data and information gathering also observed that there have been several studies including soil, flora and fauna as well as social studies of the area. Environmental Impact Assessment of the estates have also been completed and approved by the Ghana Environmental Protection Agency. There have also been studies on wildlife with ongoing wildlife monitoring in the Biodiversity Plots set up by the GOPDC. Given the availability of recent primary data on the areas needed to be covered for a full HCV assessment, the assessment process did not include a detailed primary biological data collection. The team carried out a review and compilation of available data on the concession areas, stakeholder consultations including communities within and fringing the permit area, and field verifications through ground thruthing and field visitations to special sites of interest.

Specifically, the HCV assessment methodology followed two process steps. First, there was a rapid fauna and flora survey carried out by the Ghana Wildlife Society led by Mr Augustus Asamoah to identify the fauna species and their presence in the concession. The next was the pre-assessment which consisted mainly of desk and web-based research aimed at gathering further information of the area and review of those information including the land acquisition documents and legal requirements that must be met including social issues such as compensations to affected farmers. The third part, which was the main assessment, consisted largely of field assessments and surveys to identify the different types of HCVs present in the permit areas. This was carried out alongside series of stakeholder consultations particularly the affected communities. Below is a brief summary of the main activities that constituted the methodology used for this HCV and social impact assessments.

Pre-assessment

The objective of the pre-assessment was to gather all relevant information and data for review in order to identify HCVs and potential social risks and impacts that are likely to be present in the permit areas. This approach was very useful as it enhanced decision making on what additional expertise the team needed for the field verification of HCVs and social surveys. It also allowed the team to get a better understanding of data gaps in terms of research and mapping requirements for the area. The draft methodology was finalized to be used for the field assessment after discussions with stakeholders, experts and members of the assessment team. The main guiding documents for this assessment which comprised the Global HCV Toolkit, the Ghana HCV Toolkit and Good Practice Guidelines for HCV assessment and management were studied during the pre-assessment and critically analysed to help the team develop criteria and checklist for field data collection and stakeholder consultations.

Field assessment

This was based on the understanding of what actually or potentially exists in the area following the desk review and the initial consultations with stakeholders. The field assessment consisted of three parts:

 Field verifications: The assessment team observed the land cover of the area depending on direct observations and holding discussions with farmers on the land. The team also GPS to puck coordinates for verification of concession boundaries and control points for HCVs. The approach was also used to cross check and verify slopes using existing topographical, soil and drainage maps. The field observations also afforded the team the opportunity to verify possible causes of pollution and siltation of rivers and streams in the concessions including the environmental impacts of the company's operations including land preparation and road building techniques. The team also used this approach to undertake direct rapid identification of tree species commonly found in the area.

- Stakeholder consultations in Ghana involving state institutions, conservation and social NGOs: Consultations with wide range of relevant stakeholders is essential part of any HCV assessment. In order to obtain broad-based views and information from stakeholders to inform the HCV management recommendation, a variety of stakeholders including both state and non-state actors were consulted as seen in Table 2. Generally, inputs and comments received from the broader stakeholder groups centred on issues of local communities such as livelihood, pressure on land in the area and environmental services.
- Community consultations: The assessment team visited the landowning communities as well as most of the communities and hamlets located within and around the concessions to solicit the local peoples' views about GOPDC operations and what impacts they perceive the operations of GOPDC will have on high conservation values in the area. The community consultations took the form of meetings, community seminars and durbars with chiefs, elders and local community leaders in all the communities. This part of the assessment was also used to jointly identify with the communities basic needs and cultural practices (particularly HCV 4, 5 and 6) in the area. One of the key objectives of the community consultations was to gather information on the current company-community relationship and the level of use of the resources of the concession area to be converted and whether GOPDC has secured their free, prior and informed consent. During the field visits, information from GOPDC's own community liaison programme and wildlife monitoring activities were reviewed and incorporated.
- Consultative meetings with GOPDC management and staff: the objective of the field visits
 was to establish the level of local knowledge and capacity that is available to GOPDC for the
 management of HCVs. The team has reviewed information that GOPDC has already gathered
 and how this can be best incorporated into a HCVF management plan. Field visits were made
 to relevant planted areas to estimate the feasibility of access, the extent of GOPDC existing
 and planned operations, and the accuracy and usefulness of existing maps.

Socio-economic survey

This was conducted in 2005 as part of the social impact assessment. The report was further supplemented with local populations and communities consultations during the HCV assessment. Data collection for the social impact assessment involved a series of household surveys, focus group discussions, and participatory community mapping and town hall meetings. The aim of these activities was to:

- To obtain some baseline information about the socio-economic dynamics of local communities, including information on demographics, livelihoods, communities' infrastructure, household dependency on resources in the natural environment and a general description of the local economy.
- To assess the impact of the GOPDC operations on local communities and populations in those communities
- To assess communities' dynamics including traditional authorities and political and traditional structures

- To obtain some information on land tenure in the affected communities and how the use of the permit areas for oil palm development affect land use in the area.
- To identify local populations concerns and challenges and to jointly identify mitigation measures

A number of survey tools were employed for the socio-economic survey. These include:

Focus group discussions (FGD): This approach was used for discussions with different groups in each of the communities in the catchment area to get their perspectives on the oil palm establishment, likely impacts on conservation and socio-cultural values and means of mitigating these impacts. The focus group discussions targeted Chiefs/elders, women and youth interest groups, community elites/opinion leaders, farmers, hunters and resource user groups as key informants.

Participatory mapping: Participatory mapping or community-based mapping combines the tools of modern cartography with participatory methods to represent the spatial knowledge of local communities. It is based on the premise that local inhabitants possess expert knowledge of their local environments which can be expressed in a geographical framework which is easily understandable and universally recognised. This approach was adopted for this assessment and was extremely useful in identifying communities' traditional and customary use areas and all other areas of conservation importance to the local population. This exercise helped in identifying local communities' sacred and cultural sites.

Semi-structured interviews: This technique was used to collect information in a fairly open framework which allow for focused, conversational, two-way communication between the interviewer and the interviewees. Semi-structured interviews are useful for providing and/or collecting information as it allows new ideas to be brought up during the interview based on interviewee's response to a particular question. Unlike the structured interview framework, where detailed questions are formulated ahead of time, semi structured interview generally has a theme to explore and usually starts with a more general question or topic. In order to ensure the survey stays focused, informal grouping of topics and questions that could be asked in different ways for different participants were designed prior to the assessment. For this assessment, issues such as land ownership systems, access to land, use rights and compensation systems were initially identified and the possible relationship between these topics and the issues such as farming systems and crops produced, become the basis for more specific questions which do not need to be prepared in advance. Not all questions were designed prior to the survey but this approach allowed for several important questions to be raised for further discussions.

Stakeholder consultation (stakeholders contacted, consultation notices and dates)

A number of stakeholder consultation meetings involving wide range of stakeholders were carried out during this assessment including the pre-assessment stage, the data collection stage and finalisation of the report. Each stage of the consultation process aimed at collecting specific information and data relevant for the assessment. The objective of the first round of stakeholder consultations was to inform them of the project and to elicit their inputs into the assessment methodology and the process. The second round of the consultations aimed at collecting vital information and baseline data as well as soliciting their comments and inputs into the recommendations for GOPDC to adopt and implement.

Consultations with state institutions

Consultations with key government institutions responsible for land administration, natural resource management and environmental protection were made during the assessment process. The aim was to establish ownership and use rights of the permit area. This process was also useful in soliciting

public officials' inputs into the assessment process and to enhance the assessment team's understanding of the company's legal obligation in terms of compensations and other obligations to the local populations who have been using parts of the land for food crop farming. Institutions consulted included the Lands Commission at both national and regional offices, the District Assembly, the Environmental Protection Agency and the Forestry Commission.

Consultations with experts and non-governmental organizations

Relevant stakeholders involved in natural resource management and planning as well as environmental and social NGOs were consulted to obtain some information on key environmental and social issues that the assessment team should focus on during the assessment and also to elicit their inputs into the management recommendations. Organisations consulted included Friends of the Earth, WWF, and Ghana Wildlife Society.

Consultations with local communities

All the local communities with interest in the permit area and within 5 km radius from the permit area were consulted. This included Beposo and Aboabo settler communities, Okumaning, Takorowase and Kusi were also consulted throughout the assessment process.

4. Summary of assessment findings for SEI

Social Impact Assessment (SIA)

Summary of findings relating to socio-economic impacts on local communities, the Eastern Region and Ghana

The findings of the socio-economic study suggested that the project will have both positive and negative impacts on the local communities, the region and the country in general. It was also identified that the most significant positive impacts from the socio-economic study were that the project will overall contribute to the socio-economic development of the local communities in the landscape. Specific potential positive impacts include direct and indirect employment creation, provision of infrastructure particularly, electrification road network and other business opportunities for the population in the project catchment area and beyond during the plantation development and processing of Fresh Fruit Bunches (FFBs). However, it was also identified that implementation of the project will lead to displacement of squatter communities such as Aboabo and may potentially leads to reduction in available farmland for food crop cultivation, destruction immature crops etc. These potential negative impacts could affect food security of the area which exacerbate given that the population in the area are predominantly farmers.

At the national level, the project has the potential to contribute to enhancing the national economy through improved revenue from corporate and personal income tax due to the company meeting its tax obligations and employments that will be generated for the local population. The project will also be a source of revenue to the local communities through payment of land rents and corporate social responsibility commitments.

Summary of key findings in respect of socio-economic impacts in respect of emergent communities (workers, suppliers, etc.)

Ordinarily, the potential risk to local family structures and social systems and networks could be significant if a majority of the plantation workers are sourced from afar and in particular outside of the communities in the project catchment area. Bringing workers from afar will lead to interaction of people of different cultures in the project area which may lead to changes in values and behaviour in the local communities. This could potentially lead to social conflicts and long-term erosion of the indigenous communities' culture, norms and values. The risk could be more significant if influx of

people with different cultures, background and traditional practices occur in a way that their practices and behaviour overshadow those of the natives. Further, bringing workers from afar to work on the plantations could potentially lead to a rise in unwanted/unplanned pregnancies and sexually transmitted diseases such as the HIV and AIDS since most of those workers may not come along with their families. Influx of plantation workers could potentially put pressure on infrastructure such as schools, water supply, housing etc.

Impacts on traditional environment and conservation areas

The local communities in GOPDC which have traditional rights over the permit area have high traditional and cultural links to the land and these are likely to be significantly affected if appropriate measures are not taken for the design and implementation of the project. A number of cultural and spiritual sites including Bunkesesu so on Aboabo River at Aboabo and Apaam shrine for Kwae were identified. Some rivers such as Rivers Bobri and Abenaare sacred for the people of Kwae whiles River Aboabo is sacred for the people of Aboabo community. Finally, other value of importance for communities are the "taboo days", and ancient burial grounds. The local people explained that they are concerned that the project might destroy these traditional conservation areas and including pollution of the major rivers in the area.

Potential positive impacts

A number of positive impacts were identified with this project. Significant among the numerous potential socio-economic benefits include:

- Creation of employment. The social impact assessment estimated the planted areas of
 Okumaning project has created one thousand jobs and that several hundreds of new jobs will
 be created with the Okumaning expansion project. The various activities including nursery
 development and oil palm seedling maintenance, plantation land preparation, planting and
 harvesting are all labour intensive activities and can also give employment to the rural
 communities, a potential tool for reducing rural unemployment and rural poverty.
- Provision of infrastructure and amenities for communities in the catchment area e.g. electrification for Okumaning community
- Opening and linking up of communities through improved road network and opening up of new roads
- Improvement in Communication Systems e.g. provision of MTN communication mast leading to extension of MTN coverage to the area.
- Enhanced petty trading and other commercial activities as a result of increased income to the local people
- Revenue to local communities through royalties payment to local communities
- Increased tax revenue for the for national government
- Commercial opportunities for small and medium scale business including petty trading

Potential negative impacts

Potential socio-economic and environmental negative impacts include:

- Displacement of farmers and squatter villages within the concession area.
- Reduction and loss of farmlands being used by the local people for food crop farming
- Potential destruction of immature crops on the land during land preparation for oil palm development
- Food shortages as a result of loss of farmlands and a shift to employment by GOPDC as against direct farming.

- High prices of food products due to reduced farming activities and food crop production.
- Pollution from dust, occupational hazards vehicular traffic etc.
- Land conflicts and disputes over stool land boundaries.
- Potential delayed and inadequate compensation payment for houses and other properties
- Potential influx of plantation workers
- Potential exposure to health risk including HIV AIDS and adulteration of traditional culture
- Potential pressure on public facilities

Environmental Impact Assessment (EIA)

The main anticipated from the environmental impact assessment are:

Ecological Impacts

The site preparation activities will cover an estimated area of 4,550 ha both for nucleus and small-holder plantings. Site clearing for the plantation development including provision of roads may influence the habitat of a broad range of terrestrial flora and fauna. Increased sediment transport into streams will reduce stream channel, and also destroy the spawning and nestling grounds of fishes.

Soil Impacts

Soil Erosion: The removal of the protective vegetation cover will induce soil erosion. There is the potential of up-slope soils (Bekwai and Nzema) to be lost through erosion and therefore the risk classification of such exposed soil series is relatively high. About 24% of the concession are prone to high erosion risk.

Road construction

The total road layout will result in a surface occupation of about 3.9km/100 ha. This means the development of about 5000 ha of land will encompass a total road network of 195km.

Soil Fertility

The soils are inherently low in fertility and, therefore may require the application of fertilizers. Fertilizers applied on upland soils may be transported to streams thus affecting stream water quality.

Water impacts

Hydrological Regime: Vegetation removal during site preparation activities may temporarily alter the hydrological regime because of disturbance in the evapo-transpiration process. About 38% of the Kadepong, 27% of the Subinsa and 32% of the Aboabo catchments are within the concession.

Flooding

The Kadepong and the Aboabo Streams usually overflow their banks during the months of June and July. The removal of vegetation cover may result in an increased incidence of flood during the rainy period.

Water pollution due to soil erosion

Eroded soil or sediment deposited in waterways may increase the Total Suspended Solids (TSS) and turbidity of the receiving water bodies. Increased sediment deposition in the receiving streams may greatly reduce channel capacity.

Water pollution due to use of agro-chemicals

The estimated total areal nutrient inputs into the Aboabo, Subinsa and Kadepong Streams are calculated to be 1025 kg/yr for phosphorus and 8200kg/yr for nitrogen in the ration 37%: 22%: 41% respectively for the three streams.

Water pollution due to domestic waste

About 600 people will be employed for the site preparation activities and most of them will be maintained for the field maintenance aspects. Indiscriminate disposal of human wastes especially during site preparation activities by field workers may pollute nearby water bodies with fecal matter.

Impact on Groundwater Regime

Oil palm trees develop fibrous root system. These are usually shallow in depth barely exceeding 2m. Aquifer depth within the upper Birimian ranges from 4m to 59m. Groundwater quality may be threatened by nitrate pollution from fertilizer application.

Impacts on Air quality from burning

Standard practices at GOPDC do not permit burning of biomass and therefore this impact is eliminated.

Impact on Air quality from Traffic and Transportation

Traffic and transportation activities within, to and from Kwae may result in dust and noise pollution as well as addition to the existing traffic volume. Traffic to be associated with site reparation activities ranges from 2-4 motor cycles for field workers/supervisors, 6-9 transporting vehicles such as trucks and tractor-trailer combination and 4-6 four-wheel drives (mainly pickups).

Visual and Landscape Impacts: With the development of the project, the land cover is expected to be skewed towards oil palm (>55%) against cocoa and citrus. The project is expected to blend with the existing plantation landscape of the area.

Climate Change Impacts:

The development of the oil palm plantation within the area will provide additional tree cover needed to reduce the damaging effect of storms associated with strong winds, which is a common event in the area. The impact on the local climate from vegetation clearing with large biomass generation is expected to be temporary. The re-vegetating of the cleared areas through the cultivation of oil palm is expected to restore and improve the local CO2concentration in the atmosphere through a much better tree (oil palm trees) cover.

The potential impacts and their sources from the project operational activities is presented in the table below:

Table 5: Summary of social and environmental imapets in Okumaning expansion project

Source of impacts	Medium to be affected/Effect of impacts			
Oil Palm Nursery	Development phase and Production of Seedlings			
Nursery site preparation,	Loss of vegetation			
development and maintenance	Water pollution			
	Soil erosion			
	Plantation Development Phase			
Plantation site preparation and				
construction of plantation	Loss of local population farmlands			
internal roads	Water pollution due to surface runoff			
	Destruction of immature crops			
Soil erosion				
Use of agrochemicals	Run off into water bodies which may affect water quality and			

(fertilizers, pesticides etc)	potentially make them unsafe for consumption
	Pollution of water bodies which may impact on aquatic life
	forms
Working in high risk areas	Potential exposure to injuries such as cuts and snake bites
including chemical application,	Risk of workers from chemical contaminations
brushing etc	
Influx of plantation workers	Health related risks such as HIV AIDS
	Potential impacts on native people's culture and tradition
На	rvesting and transportation of FFB
Harvesting of FFB	Risks from snake and other poisonous animals attack
	Potential injuries from sickle and falling fruits
Smoke, dust and particulate	Air pollution
pollution from transportation of	
FFB to the mill	
Emission of methane from	Air pollution
ponds as a result of POME	Rivers and streams pollution
digestion	
Discharge of untreated effluent	Rivers and streams pollution
	Air pollution from stench
Solid wastes from workers	Soil pollution
	Air pollution from decay and stench
	Generalised Impacts
Displacement of squatter	Displacement of squatter villages such as Aboabo and the
communities	inhabitants
Food security	Conversion of food crop lands to oil palm
Damage to public facilities and	Potential damage to existing public roads, water etc due to
infrastructure	increased use and pressure
Exposure to health risks	From pollution and exposure of local population to infectious
	diseases

Issues raised by stakeholders and assessors comments to those issues

Although the local population particularly the natives generally believe that the Okumaning expansion project will contribute to the socio-economic development of the area and therefore very much want the project to take off. This said, they together with the migrant farmers were concerned that the expansion project could impact negatively on available farmlands for food crop production and also their traditional conservation areas and other protected areas such as watersheds, riparian vegetation and sacred sites. They were also concerned about the delayed compensation for their immature crops and other properties. Additionally, they expressed concerns about the impact of pollution from POME and other agro-chemicals on water bodies especially the ones they depend on for their household water need such as the Aboabo River.

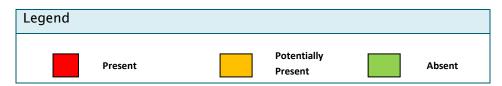
In response to the issues raised by the local population, the assessment team explained that GOPDC has indicated that they will not start land conversion until all arrangements including compensations have been fully paid by the government's Lands Commission. It was also explained that GOPDC is committed to implementing the RSPO requirements which include best management practices for the protection of HCVs including social and environmental values and that all the areas identified will be excluded from conversion activities. It was further explained that the company will consult and agree with them the management areas required for the traditional conservation areas before any conversion activities start. This way, their traditional conservation areas will be preserved.

5. Summary of assessment findings for HCV assessment

HCV identification and proposed measures to maintain and enhance the identified values.

All the categories of HCVs present, potentially present and absent in the permit area is presented in the table below. The HCV assessment was independently carried out. The status of the HCVs identified have been colour-coded red, yellow and green to demonstrate absent, potentially present and present.

Table 6: Summary of HCVs identified in Okumaning expansion permit areas



HCV	Description	Present	Potentially	Absent
			Present	
HCV1.1	Protected areas			
HCV 1.2	Concentrations of threatened or endangered species			
HCV 2	Large landscape level forests			
HCV 3	Rare or threatened ecosystems			
HCV 4.1	Areas critical to water catchments			
HCV 4.2	Areas critical to erosion control			
HCV 4.3	Areas providing barriers to destructive fire			
HCV 4.4	Areas that play a critical role in climate regulation			
HCV 5	Areas fundamental to meeting basic needs of local communities			
HCV 6	Areas critical to local communities traditional cultural identity			

Proposed measures to maintain and enhance the identified values

As the permit area has been heavily modified by a long history of human occupation and farming, there are not many biological features of conservation importance. However, it is crucial that GOPDC ensures that its activities in the concession are executed in a manner that maintains ecological health and quality of rivers and streams that are the main sources of water and act as spiritual sites for the communities within and fringing the permit area. In this regard, a strict adherence to the Ghana buffer zone policy of 2008 is highly recommended. Water quality management will need to be fully integrated with all aspects of plantation operations in the field, including road building, land clearing and preparation, terracing and buffer zone protection for rivers and streams.

With regards to HCV 5, discussions with local communities suggested that there is very low dependency on the landscape for protein through hunting. Local communities claimed this has resulted from previous conversion of the land into farms. This notwithstanding, the wildlife monitoring reports from the biodiversity plots in the planted areas indicate that wildlife population in

the plots is increasing. In order to ensure that these plots act as "safe havens" for wildlife species in the area, GOPDC needs to collaborate with the local communities to ensure that hunting is prohibited in these plots. Management of HCV 6 areas will require a pro-active, genuine commitment to community engagement to jointly delineate and protect from conversion all areas identified as social HCVs. These areas are of spiritual and cultural importance to the local communities. Their protection is crucial for local cultural identity.

In order for GOPDC to meet the RSPO certification requirements particularly those related to the NPP, it is strongly recommended that the company implements the recommendations described in the HCV and social impact assessment reports as well as those in the environmental management plans. To ensure that the field operations follow the steps indicated in the report, GOPDC will designate a person responsible for monitoring practical implementation in the field for measures for protecting and maintaining HCVs in the permit area. This person will be given the authority, time and resources to train staff properly, prepare robust Standard Operating Procedures (SOPs) including recommendations contained in the detailed HCV report and to organize the plan activities before the conversion operations, and to monitor them in the field. Summary of the Mitigation Plan will be elaborated and adopted by GOPDC to ensure effective maintenance and enhancement of the identified HCVs.

6. Summary table of HCV and ESIA management and implementation plan

Table 7: Summary of GOPDC HCV ACTION PLAN

	Streams/HCV/BDP Title	Buffer Zone/BDP actions necessary (Action required)	GOPDC Action plan (Action taken by GOPDC)	Responsibility	Timeline action taken	Statu of implementation	Monitoring activities/ actions
Maintaining	water quality and the HC\	/s it supports					
Protection of rivers/ streams	Apaam, Bobiri, Kotokobon, Abena, Aberewa, Kadepong, Subinsa, Aboabo and Apesika	Buffering of water bodies as well as all riparian areas.	Set aside buffer zones and included in GIS database according to HSE SOP Management of sensible areas	Surveyor	Dec. 2014	Done	Daily and monthly monitoring of buffer zones area by Surveyor
	HCV 4.1 (Bobiri River and its riparian areas)	Accurate mapping of all HCVs and their management areas in the concessions should be carried out.	Availability of accurate maps of all HCVs' management areas.	Surveyor	Dec. 2014	In progress	
	All HCVs and riparian areas	Designation of a responsible person for all HCVs and riparian areas to provide training and ensuring that field workers adhere to management recommendations.		HSE	Dec. 2014	Done	Daily and monthly monitoring of buffer zones area by Surveyor
	HCV 4.1 (Bobiri River) and all riparian areas	Delineation of all buffer zones as well as HCV 5.	Painting of all riparian areas in blue oil paint, leaving about 18-27 metres along each side of streams/rivers. Buffer zones included in GIS database	HSE Surveyor	Dec. 2014	In progress	Daily and monthly monitoring of buffer zones area by Surveyor

		HCV/buffer zone field team to delineate 60 meters buffer zones on each side of major rivers with width greater than 20 m. e.g. the Birim River)	Measure river width/buffer zone width Buffer zones included in GIS database	HSE	Not applicable	Not applicable	Daily and monthly monitoring of buffer zones area by Surveyor
Protection of rivers (HCV 4.1)	All riparian areas	Agric planting team and chemical application teams are trained to respect buffer zones.	Evidence of training and understanding of buffer zones management and monitoring.	HSE	Dec. 2014	In progress	Daily and monthly monitoring of buffer zones area by Surveyor
	All riparian areas	Replanting & maintenance teams are provided with maps of areas identified as protected areas.	Buffer zones are to be respected.	HSE	Dec. 2014	In progress	Daily and monthly monitoring of buffer zones area by Surveyor
	All riparian areas	Replanting & maintenance teams are trained to carry out felling laterally to buffer zones to avoid having it destroyed and blocked by falling trees and shrubs.	No impact on buffer zones	HSE	Dec. 2014	In progress	Daily and monthly monitoring of buffer zones area by Surveyor
	All buffer/riparian zones	Regular monitoring to ensure that buffer zones requirements are respected. If buffer zones are not respected, corrective actions must be taken immediately.	Corrective actions' records	HSE	Dec. 2014	In progress	Daily and monthly monitoring of buffer zones area by Surveyor
Monitoring of water quality	HCV 4.1 (Bobiri River)	Bi-annual surface water quality monitoring and Quarterly effluent monitoring testing for major rivers and all other rivers that are sources of water for host communities.	Test results	HSE		Done	Check bi-annual surface water quality monitoring and Quarterly effluent results
	HCV 4.1	Corrective/Preventive action to be taken in case of degradation	Waste + Pollutant Management Plan	HSE	Dec. 2014	Done	Check bi-annual surface water

Respecting a	nd Maintaining Local Comi	of water quality. Provision of alternative water supply for affected communities/ areas munities' Cultural/Traditional Ident	ity	/Values				quality monitoring and Quarterly effluent results
FPIC	HCV 6: Kwae: BDP 7, 8, 14, 15 (burial grounds), BDP 10 (Apaam Shrine) Okumaning: Bunkesesu Shrine	Identify appropriate management areas for those HCV 6 areas (e.g. burial grounds) and delineate those areas.		Social HCV areas included in GIS database and mapped.	Surveyor/ Community Relations Officer	Dec. 2014	Done	Biannual check of maintenance of HCV 6 ares by CRO and verify if grievance letters are not related to them
		Negotiate management decisions for HCV areas following the company's FPIC procedures.		Agreement with community/concerned people	Community Relations Officer	Dec. 2014	Done	
Fauna/Flora	conservation programme							
Monitoring of fauna/flora species and populations	BDP 10 (Kwae): Mieso Sacred Grove (Apaam Shrine) BDP 10 (Okumaning): Aperawa Junction	Periodic fauna survey of the setaside areas.		Survey report	HSE	Dec. 2014	Done	Periodical survey by HSE
in the protected areas and other established BDPs	Estate	GOPDC shall implement community education programme on hunting and during "no hunting seasons" as stipulated by law.		Records of any educational or any other programme undertaken to address issues with hunting. Records of community educations conducted.	Community Relations Officer/HSE	Dec. 2014	Under consideration	Monthly monitoring of poaching activities
	Estate	Develop and implement "no hunting / poaching" policy for employees including the use of snares and traps for hunting.		Company policy	Estate Managers/ HSE	Dec. 2014	Done	Monthly monitoring of poaching activities

Estate	GOPDC shall strive to prohibit	Company policy	Estate	Dec. 2014	In progress	Monthly monitoring
	hunting within its concessions.		Managers			of poaching
			/HSE			activities

Table 8 : Summary of GOPDC SIA ACTION PLAN (no status of implementation as the plan just started to be implemented)

	Proposed Actions	Objective	Output	Timeline	Estimated budget (GH ¢)	Responsibility	Monitoring& Execution
Minimizing damage to local roads	1. Develop and implement a Road Maintenance Programme	Aim to avoid damage to roads as far as is practicable	Undertake more frequent road maintenance	To start in November lst 2014 and end in February, 2015 Throughout the project	(GH ¢55,000)	General Services Dept. Outgrower Manager Community Relations Officer District Assembly	Undertake frequent maintenance of roads • Keeping records • Periodically review the performances
Reducing pollution	1- Complete construction of biomethanatio n plant that will utilize the POME	1 - Avoid discharge of partially-treated POME into plantation which can flow into streams 2- Reduce NOx/ PM10	1 - Assure all POME will be treated in the biogas plant and appropriate measures will be taken to discharge treated effluent which	1 - September 2014 Commission Biogas plant, monthly monitoring of	1- (GH ¢14million)+ 30,000GHc 2- 30,000GHc 4- To be defined	Project & Utility Manager Technical Director Manager	Pursue cleaner production in the mill Reduces the amount of smoke released, monitoring reports for

2- Assure boiler	and TSP emissions,	shall meet EPA	effluent	HSE manager	all mentioned aspects
efficiency in	assure compliance to	requirements	parameters		3. GOPDC should
respect to flue	EPA standards by doing				device practical means
gas emission	monitoring		2- continuous,		of reducing dust
3- Reduce GHG relevant	3- Identify and monitor	2	quarterly for ambient air,		pollution.
emissions	GHG relevant activities	2- regular maintenance of	noise and flue		F
4- Improve waste	within operations	boiler, quarterly	gas		To review the
management	•	monitoring of ambient air,	S		EIA & Mitigation
_	4-Reduce waste which	noise and flue gas (in case	3- 4 th Q 2014/		Plan Document
	is transported to	of non-compliance –	2015 for		annually.
	landfill due recycling	corrective actions)	implementati		
	and sorting, identify		on		Respond to EIA
	hazardous waste and dispose of in an		4-1 st Q 2015		
	environmental friendly	3- Implement alternative	4-1 Q 2013		
	manner, monitoring of	operations which reduce			•
	waste sources and	GHG emissions and			
	quantity	monitor closely GHG			Periodic audits will
		producing operations			be conducted to
					identify possible
		4-identified sources of			wastes and to
		waste production,			reduce same.
		implementing methods to			
		re-use, recycle and			
		dispose waste with EPA			
		approved contractors			

Employment	Recruit affected	To address	For job opportunities	Ongoing	-	CRO	1.Keep employment
Opportunitie	inhabitants for	unemployment	priority of employment				data
Opportunitie s for Affected Inhabitants	inhabitants for plantation work. Provide the enable environment for the affected inhabitants to provide other services on the Estate.	unemployment problem and the short term problems associated with displacement.	priority of employment shall be given to affected inhabitants out of stool land communities subject to condition that they qualify for the skill needs.			HRM CAO NES manager	affected inhabitant (ABS) 2. Involved Community Development Committee 3. Review meetings on employment opportunities 4. Involved HR staff in review meetings.
Provision of Infrastructur e in the surrounding Communities	- Established Community Consultative & Development Committee at the surrounding Communities to be involved in the Provision of	Ensure additional Infrastructure provision in the surrounding Communities as social responsibility of GOPDC	Additional infrastructure and other amenities provided at the surrounding communities base on the CSR policy of the GOPDC. -Establishment of Community Consultative and Development	1 st Quarter 2015 start at least 3 projects	Based on 0.5% turnover and 0.5%net profit)allocated for CSR project activities , as per annual results and in line with CSR policy (estimated to be 250,000Ghc for	CRO MD	1. Facilitate community participation and decision making indevelopment project. 2. Monthly visit to project site. 3. Meetings with CCDC members 4.Monthly reports on

Infrastructure.	Committee	2014)	projects execution
- Organised Capacity Building training for Committees established.			

Table 9 : Summary of GOPDC EIA ACTION PLAN

Proposed Actions	Frequency	Timeline	Status	Estimated	Responsibility	Monitoring activities/
				budget (GH ¢)		actions
Compliance with legislation	I		.1		l	
Annual Environmental audit	Annual	2013-2015	Ongoing	3200	HSE	Monthly monitoring of legal requirements by Legal Counsel
Annual Environmental Report	Annual	2013-2015	Ongoing	6300	HSE	Monthly monitoring of legal requirements by Legal CounselConsil
Renew water use permit ESO	Triennial	2013	Done	3000	HSE	Monthly monitoring of legal requirements by Legal Counsel
Submission of environmental monitoring returns	Quarterly		Ongoing		HSE	Monthly monitoring of legal requirements by

					Legal Counsel
One off	2013	Done	30000	HSE	Monthly monitoring of legal requirements by Legal Counsel
Triennial	2013	Done	9,432	HSE	Monthly monitoring of legal requirements by Legal Counsel
	2015	Ongoing	90000	HSE	Monthly monitoring of legal requirements by Legal Counsel
	.		1		
Daily		Ongoing		HSE and Workshop Manager	Monthly check by HSE
One off	2015	Under consideration	20000	Workshop manager	
Daily	2015	Ongoing	3000	Estate Manager	Daily check during dry season
	Triennial Daily One off	Triennial 2013 2015 Daily One off 2015	Triennial 2013 Done 2015 Ongoing Daily Ongoing One off 2015 Under consideration	Triennial 2013 Done 9,432 2015 Ongoing 90000 Daily Ongoing One off 2015 Under consideration	Triennial 2013 Done 9,432 HSE 2015 Ongoing 90000 HSE Daily Ongoing HSE and Workshop Manager One off 2015 Under consideration 20000 Workshop manager

Return of empty agrochemical containers/packaging and used polythene bags materials to suppliers/ contractors.	Continuous	2015	Ongoing	1500	Estate Manager	Monthly checks of delivering slips
	Daile	2015	Onssins	0000	_	
Implement good housekeeping practices at the waste dump site	Daily	2015	Ongoing	9000	Compound	Monthly check at
to avert creating a habitat for mosquitoes and other vermin					supervisor	workers housing and
						monthly clinic reports
						regarding disease
Storm Water/Runoff Management	-1					
Maintain the vegetation in the buffer zone along the water	Continuous	2015	Ongoing	6000	Head Of Agric	Periodical inspection of
bodies to 'sieve off' sediment from runoff that will enter them					Division	buffer zones
Periodic inspection of drains, especially immediately following	Continuous		Ongoing		Estate	Periodical inspection of
significant rainfall events, to remove accumulated sediment and					Manager	drains
debris						
Energy Management						1
Maintaining and analysing monthly records on the consumption	Monthly		Ongoing		Transport	Monthly check of fuel
levels of fuel					Officer	consumption
Continue with routine vehicle maintenance/servicing of vehicles	Continuous		Ongoing		Transport	Keep a monitoring
after every 5,000 km travelled and every 250 hours for heavy-					Officer	table for each vehicle
duty machines						
Water Management						
Monthly records on water consumption from all water meters	Monthly		Ongoing		HSE	Monthly record of
installed will be maintained and analysed						water consumption

Daily check on boreholes	Daily		Ongoing		HSE	Identify a team for checking boreholes and cleaning tanks
Quarterly cleaning and chlorination of tanks	Quarterly	2015	Ongoing	3600	HSE	Identify a team for checking boreholes and cleaning tanks
Biennial Borehole rehabilitation Biennial	Biennial	2015	Ongoing	20000	Workshop manager	Complete biennial report of borehole rehabilitation
Ecological Management			·	•	·	
Development of conservation corridors	Continuous	2015	Under consideration	2400	Estate Manager	Monthly inspection and reports of corridors, conservation areas
Habitat restoration of patches of degraded forest	Continuous	2015	Done	6500	Estate Manager	Monthly inspection and reports of corridors, conservation areas
Environmental education for workers and communities	Continuous		Ongoing	2000	HSE	Complete periodical talks and keep records
Plant trees within the buffer zones along streams in estates	Continuous	2015	Done	6000	Estate Manager	Monthly inspection of buffer zones and report survival rates

Maintenance of Estate Roads									
Continue with the schedule for bi-annual road maintenance	Biennial	2015	Ongoing	8000	Estate Manager	Biannual reports of road maintenance			
Awareness creation and Environmental Training			Ongoing		HSE	Complete periodical training and keep records,			

Internal Responsibility

Formal signing off by assessors and company

Signed on behalf of HCV and SIA assessors

Abraham Baffoe

Proforest

Acknowledgement on internal responsibility by GOPDC Ltd

I, the undersigned, being the legal representative of GOPDC agree with the contents of this report.

Eric de Foresta

Managing Director GOPDC