
Assessment of High Conservation Value on the SGSOC Concession for Oil Palm Development in South-Western Cameroon



Prepared By

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Cameroon Concession for Oil Palm Development in South-Western
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Cover Photo: the Fade village at the Western end of the Concession

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Executive Summary

Oil palm (*Elaeis guineensis*) is one of the rapidly increasing crops with large areas of forest in Southeast Asia and Sub Sahara Africa being converted into oil palm plantation. The oil palm industry is, without doubt, making significant socio-economic contributions to the economies of the countries where it is cultivated.

In spite of its immense socio-economic benefits, the oil palm industry can be a major contributor to the increasing deforestation of moist lowland tropical forests and consequent erosion of local and regional biodiversity by being the primary motive for clearance and replacement of forests.

Being mindful of the environmental degradation associated with irresponsible large-scale oil palm plantation development, SG Sustainable Oil Cameroon (SGSOC) proposes to develop its oil palm plantation on a recently acquired 73,086 ha concession in South-Western Cameroon (the Concession) in an environmentally sustainable manner by adopting and complying with existing national and global best practices and standards. SGSOC plans to develop the Concession over a period of 10 years, starting with approximately 9370 ha in the first year and adding on average about 10,000 ha each year thereafter.

Pursuant to its commitment to certified sustainable oil palm production, SGSOC commissioned Augustus Asamoah to carry out an assessment of the High Conservation Value (HCV) of the Concession. The assessment was carried out using the results of baseline biodiversity and socio-cultural studies prepared by SGSOC consultants for the Concession as well as observations made during a study visit to the site.

The Concession forms part of Cameroon's national agricultural land and has been logged at various times since 1972. It now consists primarily of fragmented and degraded landscape devoid of any large tracts of the original moist evergreen lowland forest with its characteristic dense and continuous closed canopy.

The Department of Forestry (DoF) of the Ministry of Forestry and Wildlife as well as the Institute of Agricultural Research and Development (IRAD) of the Ministry of Scientific Research and Innovation, based on the results of their assessment of habitat condition and field study on soil condition and land suitability for oil palm plantation on the Concession respectively, concluded separately that Concession is devoid of any significant tracts of primary forest.

The Concession is located within the moist evergreen and the moist semideciduous lowland forest zone in South-Western Cameroon, a large area of high conservation importance that encompasses most of South-Western and Eastern Cameroon. The moist evergreen and moist semideciduous lowland forest subtype of Cameroon covers a total area of 179150km² of which 13180km² are under permanent protection in wildlife protected areas and forest reserves.

The region of the Concession which includes the Korup National Park, Bayang Mbo, Rumpi and Bakosi Wildlife Sanctuaries has high diversity of fauna and flora. About 16, 14 and 2 globally threatened large mammal, bird and frog species respectively, are known to occur in this region but none of these species was recorded on the Concession in the baseline study.

The baseline flora study recorded a total of 403 plant species of which 27 are globally threatened and includes 24 Vulnerable and three Near Threatened species. The flora species recorded also included four endemic plant species. All of these species are well represented in areas outside of the Concession in South-Western Cameroon as well in the other moist lowland forest zones of Cameroon.

The relatively high concentration of flora species of global conservation concern on the Concession makes it important for HCVF under criteria 1.2 and 1.3 – **Forest area that contains outstanding concentrations of globally threatened and endemic species respectively.**

In terms of global rarity, the flora species recorded included one **Black Star** species *Cylicomorpha solmsii* which is endemic to Cameroon in a monotypic genus as well as six **Gold Star** species

(*Afrostryax lepidophyllus*, *Amanoa strobilacea*, *Cola buntingii*, *Dicranolepis disticha*, *Dasylepis racemosa* and *Dichapetalum tomentosum*) throughout the Concession. The Concession on the whole does not have high concentration of globally rare plant species and is consequently low in bioquality value.

The average Genetic Heat Index (GHI) of 56.9 obtained for the Concession is insignificant on national scale by comparison with some of the biodiversity Hot Spot such as Mount Cameroon which has GHI of 300.

The Concession as a whole is not a protected area and hence does not constitute HCVF under criterion 1, however presence of globally threatened as well as endemic plant species and evidence of temporal use of some parts of the Concession by elephants implies that the Concession is important for HCVF criteria 1.2, 1.3 and 1.4 respectively.

Results of socio-economic studies indicate that the inhabitants of the thirty-eight communities within the Concession have a high dependence on the natural resources of the Concession and that their livelihood needs are inextricably linked to the natural resources on the Concession. The Concession is therefore important for an HCVF under criterion 5 - **Forest areas fundamental to meeting basic needs of local communities.**

The socio-economic study on the Concession found a strong traditional belief system among the inhabitants of the communities on the Concession. Sites and features of traditional worship in the form of ponds, waterfalls and sacred forests exist in ten of the 32 inhabited communities on the Concession. The sacred sites form the basis of the traditional belief systems based on their belief that the souls of their ancestors live at these sites and are able to call for their help in times of trouble. These sacred sites and features on the Concession constitute HCVF under criterion 6 - **Forest areas critical to local communities' traditional cultural identity.**

To minimize the potential for future land use conflicts due to the inevitable growth within existing communities and to ensure continued compliance with HCV-5, SGSOC should consider relocating some of the communities from the core areas of the Concession to the periphery or

completely outside of the concession. SGSOC should also consider providing preferential employment opportunities to people presently living within the Concession as well as anyone resettled from the Concession.

It is also recommended that some of the small isolated patches of forest fragments in relatively good condition at inaccessible areas of the concession be left out of planting to serve as biodiversity plots. This would ensure that local biodiversity in the concession area is not entirely eroded with the plantation development, but conserved.

Portions of the Concession with concentration of endemic plant species especially *Cylicomorpha solmsii* which has the tendency for gregariousness and occurs in clusters at some portions of the Concession are recommended to be excluded from planting. Specifically forest patches within 200m radius of the point N511893/E569663 where the endemic *Cylicomorpha solmsii* was recorded in high density must be excluded from land clearing and set aside as biodiversity plot.

The baseline information on fauna is more in respect of the wildlife protected areas than on the Concession. Considering the proximity of the Concession to the wildlife protected areas, the probability of some fauna species in the protected areas including those of conservation concern occurring on the Concession cannot be ruled out. It is recommended that a more site (Concession) specific fauna study with focus on mammals (small and large), birds, amphibians and reptile as well insects be carried out. This will help to determine whether or not any of the globally threatened fauna species with occurrence in the region occurs on the Concession, which will then inform appropriate mitigation measure.

The Concession is important for HCV criteria 5 and 6 along with 1.2, 1.3 and 1.4 and SGSOC in its commitment to responsible development will implement the following measures to safeguard these HCVs on the Concession:

- SGSOC will collaborate with respective communities to delineate all sacred sites and set them apart from the area to be developed for the plantation. SGSOC will also work to

ensure that the sacred sites are not desecrated or trespassed in the course of plantation development activities.

- SGSOC will also develop and implement a policy that makes it mandatory for all SGSOC staff to stay clear of these sacred sites.
- SGSOC is committed to and will respect the terms of the memorandum of understanding (MoU) that it has entered into with the communities by which SGSOC has agreed to leave out the resource areas of each community on the Concession. By this MoU, each of the inhabited communities on the Concession is guaranteed access to their livelihood needs along with the development of the plantation.
- In view of the proximity of the Concession to the wildlife protected areas, SGSOC will as part of its environmental policy develop and enforce a no-hunting regulation on the Concession. This will ensure that the Concession does not constitute a ***sink*** where fauna species from the neighboring wildlife protected areas disappear through hunting.
- SGSOC will set aside all patches of forest fragments at ecologically sensitive areas such as on steep slopes and headwaters and manage them as biodiversity plots to serve as refugia for fauna and flora. This will guide against erosion of local biodiversity on the Concession.
- SGSOC will manage all biodiversity plots on the Concession as an integral part of the plantation and all forms of habitat degrading activities such as hunting, farming, and logging will be prohibited.

Table of Contents

Acknowledgement 2

Executive Summary..... 3

1. General Introduction 9

 1.1 Background of the High Conservation Value Forest..... 10

 1.2 Study Area 14

2. Biodiversity Status of the Concession Area 17

 2.1 State of the Habitat in the Concession 17

 2.2 State of Fauna 18

 2.3 Large Mammal Fauna..... 19

 2.4 Avifauna of the Concession Area..... 19

 2.5 Overview of the Flora Diversity of the Concession Area..... 20

3. Socio-economic and Cultural Diversity of the Site..... 22

 3.1 Level of Dependence of Local People on the Concession 22

4. Assessment of High Conservation Value Forest on the 80000ha Concession..... 24

 4.1 HCV 1: Globally or Nationally Significant Concentrations of Biodiversity Values 24

 4.2 HCV 2: Globally or Nationally Significant Large Landscape Level Forests..... 26

 4.3 HCV 3: Forest Areas that contain rare threatened and Endangered Ecosystems 26

 4.4 HCV 4: Forest Areas that Provide Basic Services of Nature in Critical Situations..... 27

 4.5 HCV 5: Forest Areas Fundamental to Meeting Basic Needs of Local Communities 28

 4.6 HCV 6: Forest Areas Critical to Local Communities Traditional Cultural Identity..... 29

5. Conclusions and Recommendations 31

 5.1 Conclusions..... 31

 5.2 Recommendations..... 34

References 37

Appendix 1: Attestation from the Ministry of Forestry and Wildlife..... 39

Appendix 2: Attestation from the Institute of Agricultural Research for Development..... 40

Appendix 3: Checklist of bird species recorded on the 80000ha SGSOC Concession..... 41

Appendix 4: Checklist of plant species recorded on the 80000ha SGSOC Concession 44

1. General Introduction

Vegetable oils are among the most rapidly expanding agricultural sectors in the world (Clay, 2004) and more palm oil is produced than any other vegetable oil. Oil palm (*Elaeis guineensis*) is one of the world's most rapidly increasing crops with large areas of forest in Southeast Asia and Sub Sahara Africa been converted into oil palm plantations. Global palm oil production is increasing at an annual rate of about 9%, prompted largely by the expanding biofuel markets in the European Union (E.C, 2006) and by food demand in Indonesia, India and China (Clay, 2004). Oil palm is grown across more than 13.5 million hectares (ha) of high-rainfall, low-lying tropical forest regions of the earth, the most biologically diverse terrestrial ecosystem on earth (MEA, 2005). The oil palm industry is without doubt making significant socio-economic contribution to the economies of the countries where it is cultivated. In countries such as Indonesia, the oil palm sector employs over 3.5 million people and contributes significantly to the gross domestic product (Darussamin, *et al.*, 2003).

Notwithstanding its immense socio-economic benefits, oil palm plantation development contributes to deforestation and erosion of local and regional biodiversity when it is the motive for clearance of intact forests or the replacement of forests previously degraded by logging or fire (Green, *et al.* 2005). The response of biodiversity to land-cover change depends upon the extent to which natural habitat features are replicated and upon variation in the sensitivities of species to change (Fischer and Lindenmayer, 2007). Oil palm plantations, which are typically cleared and replanted on a 25–30 year rotation cycle, are structurally less complex than natural forests, with a uniform tree age structure, lower canopy, sparse undergrowth, less stable microclimate and greater human disturbance (Danielsen and Heegaard, 1995).

SG-Sustainable Oil Cameroon (SGSOC) has acquired an approximately 73,086 ha concession in the Toko and Ndian Divisions of the South-Western Region of Cameroon for the development of oil palm plantation (the Concession). SGSOC is mindful of the environmental degradation that can be associated with large scale oil palm plantations and proposes to develop its

Cameroon plantation in an environmentally sustainable and socially responsible manner by adopting and complying with existing national and global best practices and standards.

Sustainable palm oil production is comprised of legal, economically viable, environmentally appropriate and socially beneficial management and operations. This is delivered through the application of a set of principles and criteria that have been developed by the Roundtable on Sustainable Palm Oil (RSPO). RSPO guidelines and principles require that strict social and environmental standards be met during the production of certified sustainable palm oil. In meeting these standards, producers are required, among other things, to secure and respect the rights of local communities, smallholders and workers, and to protect the habitats of threatened species. The RSPO guidelines and principles also prohibit the conversion of primary forest into oil palm plantation after November 2005.

1.1 Background of the High Conservation Value

Pursuant to its commitment to responsible development, SGSOC has embarked on the process of conforming to the requirements for certified sustainable oil palm production. Such certification requires SGSOC to adopt and comply with the principles and guidelines for sustainable palm oil production which among other things include safe-guarding High Conservation Values (HCV).

HCV is a global toolkit developed by the Forest Stewardship Council (FSC) to safeguard forest ecosystems that contain critical landscape, ecological, biological and socio-economic and cultural elements of high conservation value, in timber production. The parameters of these critical elements have been defined in six sets of criteria, which are the main reference points for an HCV assessment of an area. The toolkit was originally developed for timber production but has been adopted by the RSPO as a consistent methodology among all areas. HCV assessment of a proposed development area is an evaluation of that area to determine the presence or likely presence of any ecological, biological, landscape or cultural element of high conservation value

within the proposed area. If the available information suggests that an important conservation value is present, then there are two options available that are consistent with RSPO:

- i) make recommendation for the proposed development not to be implemented; or
- ii) propose remedial measures to maintain the value while implementing the project.

When the second option is adopted, the developer must propose and implement a system of monitoring to evaluate the immediate and long-term effects of the development activity and the effectiveness of the remedial measures.

SGSOC commissioned Augustus Asamoah, an approved RSPO Assessor of the Ghana Wildlife Society to carry out an HCV assessment of the Concession. This assessment was carried out using the results of baseline biodiversity and socio-economic studies prepared by SGSOC consultants as well as a site visit by Mr. Asamoah. HCV assessment involves a review of all available biodiversity, socio-cultural and economic information from either primary or secondary source in respect of the intended project area to identify the actual or potential existence of any element that defines any of the six HCV criteria. The assessment must be based on reliable information of the proposed project area. An important output of HCV assessment is recommendation of a set of mitigation measures to safe-guard and maintain local biological, ecological and socio-cultural elements of high conservation value.

Biodiversity and socio-cultural and economic studies of a proposed project area do not represent HCV assessment, but they form the basis or source of information for the assessment. Biodiversity study in a proposed project area must be rigorous enough so as to provide comprehensive information on the biological and ecological entities and features on the intended project area especially in instances where such information does not already exist. Similarly socio-cultural and economic studies commissioned for the purpose of HCV assessment must be designed to determine, among others:

- The socio-cultural structure of communities in the proposed project area.

- The socio-economic activities of the people in the proposed project area.
- The interests of the people in the proposed project area and how development of the project would interfere with those interests.
- The existence of any sites of special cultural significance within the proposed project area.

A socio-economic study, titled **Socio Economic and Needs Assessment Survey** Commissioned by SGSOC with the specific objective to:

- enable a sound understanding of the potential impact of the project in question and other project components on the socio-economy and ecology of the concerned communities or villages
- assess current and potential needs of the impacted communities and households so as to better understand the strategies of addressing them as the project is gradually being implemented.

The socio-economic study carried out by H&B, was completed in February, 2011 and has been the source of socio-economic and cultural information for this assessment.

Similarly, SGSOC hired H&B to conduct a biodiversity survey with the following objectives and deliverables:

Objectives:

- To accurately describe the current status of plant and animal species with attention to species that may be listed in the International Union for Conservation of Nature (IUCN), as critically endangered, vulnerable, and lower risk, and species listed on appendix II of the International Trade in Endangered Species (CITES) list, present inside the project's zone and protected areas within its sphere of influence.
- To determine whether the area overlaps any protected areas, and has critical and/or unique ecosystems essential for survival of species in the area,
- To ascertain as far as possible from the available biodiversity data, whether any critical habitat (as defined by IFC's Performance Standard 6 – Biodiversity Conservation and Sustainable Natural Resource Management) is present in the concession area.
- To ascertain if the existence and identification of any High Conservation Value (HCV) criteria in the concession areas.

Deliverables:

- i. A scientific analysis describing the habitat types of the SGSOC concession area and species present, with emphasis on species of conservation interest in the surrounding protected areas and in the Project zone.
- ii. Analysis of the findings, based on the available information/data, as to whether any critical habitat (as defined by IFC's Performance Standard 6) is present in the Project zone. Critical habitat is defined as habitat required for the survival of critically endangered or endangered species (as defined by the IUCN Red List of Threatened Species, by CITES, or as defined in any national legislation); areas having special significance for endemic or restricted-range species; sites that are critical for the survival of migratory species; areas with unique assemblages of species or which are associated with key evolutionary processes or provide key ecosystem services; and areas having biodiversity of significant social, economic or cultural importance to local communities.
- iii. An analysis of the impact on the biodiversity characteristics of the Project zone, with regard to the maintenance of the biodiversity value of the larger region surrounding the Project zone.
- iv. Proposed mitigation measures required to effectively manage the Palm Oil Project which appropriately addresses the potential impacts on biodiversity.
- v. Recommendations on which indicator species should be the focus of any future ecological monitoring.
- vi. This biodiversity survey, titled **Impact Assessment of Fauna and Flora in the SGSOC Concession Area near to the Kurop National Park and the Nguti area of Cameroon**, was completed in September 2010 and has been the main source of biodiversity information of this assessment.

1.2 Study Area

The SGSOC Concession is located within the Moist Evergreen and Moist Semideciduous Lowland Forest vegetation zone of Cameroon and forms part of a large national agricultural land area in the Toko and Ndian Sub-Divisions of South-Western Cameroon (Fig. 1 & 2). Most of the Concession has been logged at various times since 1972 with the resultant habitat consisting of fragmented and degraded landscape devoid of the characteristic dense and continuous closed canopy of intact Moist Evergreen Lowland Forest. The existing vegetation is predominantly a mosaic of actively cultivated farmlands, fallows, secondary forest and relic patches of evergreen forest at various stages of degradation. Small isolated patches of forest in relatively good condition are restricted to areas such as hilltops, steep-sided ridges ranging in altitudes between 300-800m, at locations further away from settlements and where commercial logging was not practicable.

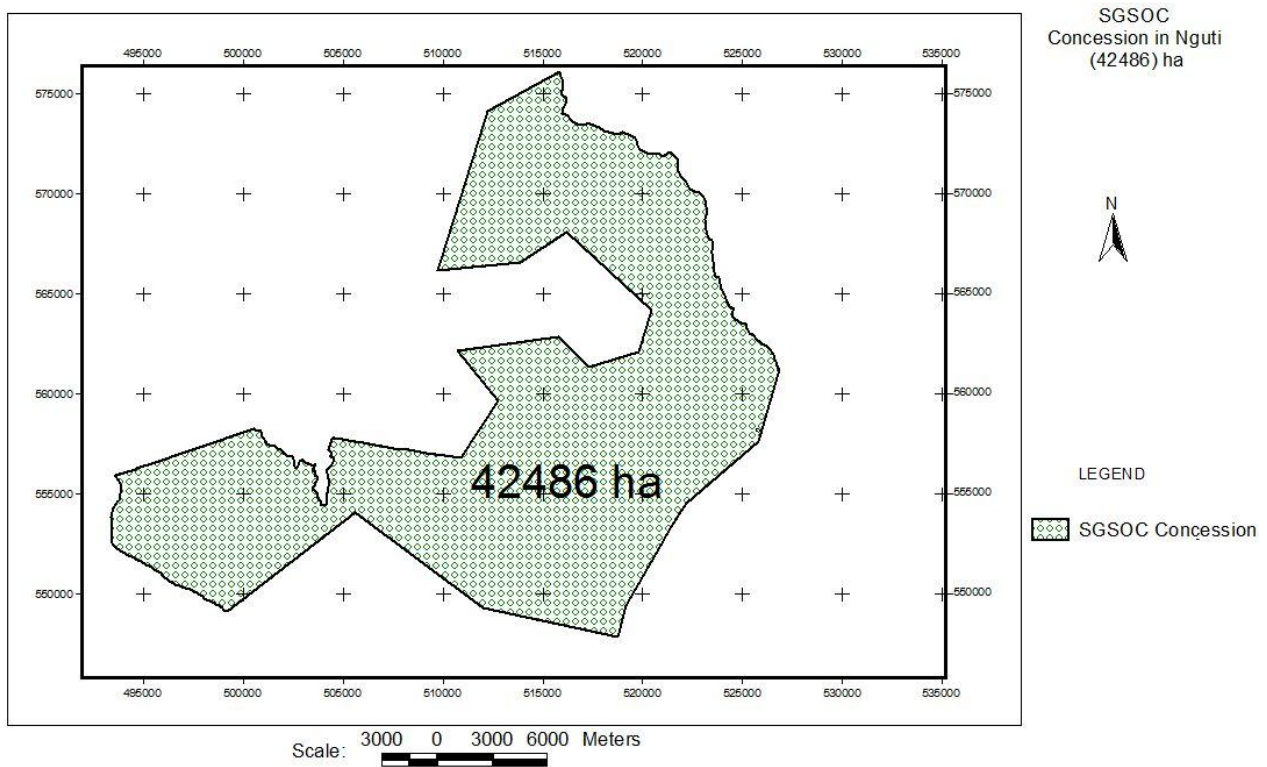


Figure 1. Map of the Nguti portion of SGSOC concession for oil palm development

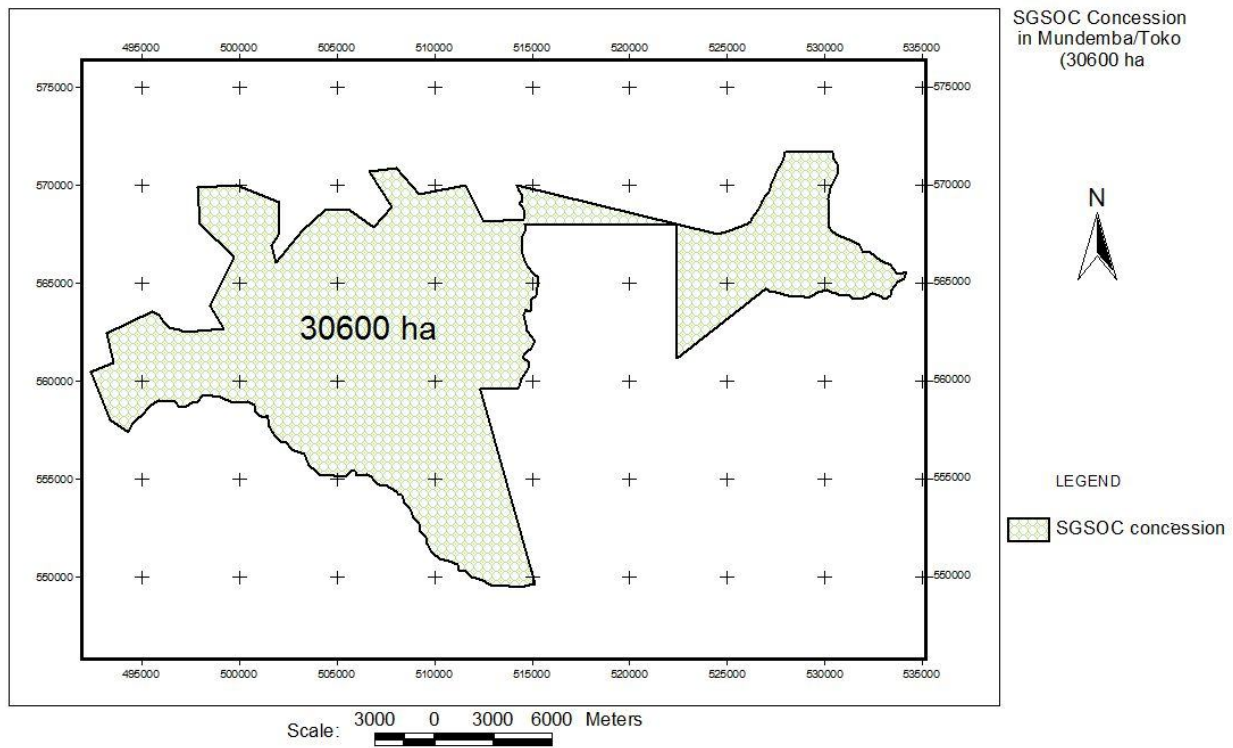


Figure 2. Map of the Mundemba/Toko portion of SGSOC Concession for oil palm development

Farming is the most extensive form of land use in the area and it involves cultivation of food crops such as maize, cassava, plantain, coco yam and commercial crops includes cocoa (*Theobroma cacao*), oil palm (*Elaies guineensis*) and coffee (*Coffea arabical/canephora*) at varying scales. The practice of shifting cultivation which allows secondary succession on abandoned farmland is evident in the area.

Besides the legally sanctioned logging, there is also illegal chain sawing, which appears to be wide spread through the Concession. Chain sawing, along with farming and settlement development, are the obvious driving force behind the secondary and tertiary fragmentation and degradation on the Concession. Severely degraded areas of the Concession are characterized by pioneer species such as the umbrella trees (*Musanga cecropioides*), *Pycnanthus angolensis*, *Anthocleista spp*, *Alchornea cordifolia*, vine and climber species. The relatively

undisturbed areas with advanced secondary growth are dominated by primary succession species of the Moist Evergreen Lowland Forest, with emergent Moist Evergreen Lowland Forest species such as the *Lophira elata* and *Cyanomitra spp*, *Piptadenistrum africanum*, *Entandrophragma spp*, being quite common in the relatively undisturbed areas of the Concession. These relatively undisturbed areas are small isolated patches of forest fragments, mostly in the inaccessible areas such as along steep slopes and valleys, where the forest cover is in relatively good condition.

2. Biodiversity Status of the Concession

2.1 State of the Habitat in the Concession

Although the Concession is located within the zone typically associated with moist evergreen lowland forest, the existing vegetation lacks the characteristic contiguous forest with tall emergent trees with deep canopy. Nearly forty years of selective logging has deprived most of the Concession of its original vegetation cover. In many areas, primary habitat disturbance from logging followed by secondary and tertiary disturbances from farming and settlement development have reduced the once contiguous moist evergreen lowland forest of the area to degraded area. Relics of the original forest exist in small isolated patches in mainly the inaccessible parts of the Concession where logging is not practical.

Besides the observations made during a field visit in September 2010, information from the SGSOC commissioned baseline biodiversity study and existing documentation such as the Bikié, *et al.*, (2000) indicate that the Concession is degraded and devoid of its original contiguous primary forest cover. Based on a methodical assessment of the logging history and the current habitat condition of the Concession by the Department of Forestry (DoF) of the Ministry of Forestry and Wildlife as well the result of field study of soil condition and suitability of the Concession for oil plantation by the Institute of Agricultural Research and Development (IRAD) of the Ministry of Scientific Research and Innovation (MINRESI), the two institutions have separately concluded that the Concession is devoid of any primary forest and have each issued attestation letter (Appendix 1 and 2) to confirm this. The attestation letter from the DoF confirmed that the area of the concession has been degraded through decades of logging, settlement development and farming and that the existing vegetation cover is mainly secondary and devoid of any primary forest.

2.2 State of Fauna

The Concession is located within the Congolian Coastal Forest region, which is known for its extensive tracts of lowland humid forest. The Congolian Coastal Forest is one of Africa's richest in forest birds, mammal and plant diversity. The forest is home to half of the endemic plants of tropical Africa, including six families of plants that are found only in tropical Africa (WWF, 2003). The Kurop National Park (KNP) and the Bayang-Mbo Wildlife Sanctuary are key biodiversity hot spots in the South-Western Cameroon. Several fauna and flora species, which are endemic to Cameroon, are known to occur in these protected areas.

Unlike the adjoining protected areas whose fauna and flora are well known through the numerous studies that have been carried out over the years (e.g. Waltert, *et al.*, 2002, Waltert, *et al.*, 2005), not much is known about the fauna and flora of the Concession by way of systematically documented work. A baseline fauna and flora study commissioned as part of Environmental Impact Assessment (EIA) for the proposed oil palm plantation project, (H&B, 2010), is therefore the primary source of biodiversity information for the Concession. Inputs from local people on the state and composition of fauna species of the area were a key component of the baseline biodiversity study. Although a number of large, medium and small mammals, reptiles and birds of global conservation concern and listed on the International Union for Conservation of Nature (IUCN) Red List are known to occur in the region, none was reported to be present or encountered on the concession.

2.3 Large Mammal Fauna

Globally Threatened species that are known to occur in the region of the Concession, including the two nearby protected areas (Korup National Park and the Bayang Mbo Wildlife Sanctuary), include the African forest elephant (*Loxodonta Africana*) (Near Threatened), Preuss's red colobus (*Procolobus badius preussi*) (Endangered), Preuss's guenon (*Cercopithecus preussi*) (Vulnerable), russet-eared guenon (*Cercopithecus erythrotis*), Leopard (*Panthera pardus*) (Near Threatened), Allen's Bushbaby (*Galago alleni*) (Near Threatened), Collared Mangabey (*Cercocebus torquatus*) (Near Threatened), Yellow-backed Duiker (*Cephalophus silvicultor*) (Near Threatened), and Bay Duiker (*Cephalophus dorsalis*) (Near Threatened).

However, with the exception of the forest elephant, of which feeding activity was reported in the eastern side of the Concession near the Bayang Mbo Wildlife Sanctuary, there was no sign of the presence of any of the other large mammal species of global conservation concern in the Concession area during the baseline studies. Furthermore, interviews with local hunters and farmers during the baseline fauna study did not indicate the presence of any of these species within the Concession. This suggests a rather high hunting pressure and a consequent severe decline of fauna resources within the Concession.

2.1 Avifauna

Besides the large mammals, the region is ornithological very important with the Korup National Park (KNP) and the Bayang Mbo Wildlife Sanctuary being designated as Important Bird Areas (IBA), (Fishpool & Evans 2001) in recognition of the presence of the large number of bird species of global conservation concern and the general biodiversity importance of the sites. The KNP is reputedly to be the most diverse lowland site in Africa (Rodewald *et al*, 1994) in terms of birds with 410 bird species from 53 families. Bird species of global conservation concern that occur in the area include, Mount Kupe Bush-shrike (*Telophorus kupeensis*) (Endangered), Grey-necked Picathartes (*Picathartes oreas*) (Vulnerable), Green-breasted Bush-Shrike (*Malaconotus gladiator*)

(Vulnerable), White-throated Mountain-Babbler (*Lioptilis gilberti*) (Near Threatened), and the Yellow-footed Honeyguide (*Melignomon eisentrauti*) (Near Threatened), Yellow-casqued Hornbill (*Ceratogymna elata*) (Near Threatened), Ursula's mouse-colored sunbird (*Nectarinia ursulae*) (Near Threatened), Grey-headed Greenbul (*Phyllastrephus poliocephalus*), Cameroon Mountain greenbul (*Andropadus montanus*) (Near Threatened), White-tailed Warbler (*Poliolais lopezi*) (Near Threatened), White-throated Mountain-babbler (*Kupeornis gilberti*) (Endangered) and Crossley's Ground-thrush (*Zoothera crossleyi*) (Near Threatened) (Fishpool & Evans (2001), H & B Consulting, (2010).

The baseline avifauna study of the Concession recorded a total of 98 species, but none of these is globally threatened. The checklist of bird species recorded in the baseline study is presented in Appendix 3. The absence of any bird species of global conservation concern on the Concession could be due to the level of habitat degradation on the Concession, although some bird species of conservation concern could be found in degraded forest areas. Most of the forest-dependent bird species of conservation concern are associated with pristine forest habitat or relatively less degraded forest, a condition that is not common in the Concession.

2.5 Flora

Unlike fauna species that are more susceptible to habitat disturbances, many plant species can continue to exist in degraded areas, although they may be out-competed by the more robust and often fast growing pioneer species, which usually dominate degraded areas. The baseline flora study, which focused on all vascular plants on the Concession, recorded a total of 403 plant species from 81 families and 272 genera. Included in the plant species recorded are 27 species that are listed on the IUCN Red List of threatened species. This comprises of 24 Vulnerable [VU] species and four Near Threatened [NT] species (Table 1). Also included in the flora species recorded on the Concession are four plant species that are endemic to Cameroon. All of the Red List species are quite abundant in the lowland rain forest region of Cameroon, (IUCN, 2006) therefore it is not expected that the plantation development will have any significant impact on distribution and long-term survival of these species. The checklist of plant

species recorded in the baseline flora study and their conservation status is presented in Appendix 4.

No.	Species Name	IUCN Status/ & Global Distribution
1	<i>Afrostryax kamerunensis</i>	Vulnerable
2	<i>Afrostryax lepidophyllus</i>	Vulnerable
3	<i>Albizia ferruginea</i>	Vulnerable
4	<i>Amanoa strobilacea</i>	Vulnerable
5	<i>Angylocalyx oligophyllus</i>	Vulnerable
6	<i>Antrocaryon micraster</i>	Vulnerable
7	<i>Baillonella toxosperma</i>	Vulnerable
8	<i>Berlinia hollandii</i>	Endemic
9	<i>Cola butingii/umbratilis</i>	Vulnerable
10	<i>Cola megalophylla</i>	Endemic
11	<i>Cylicomorpha solmsii</i>	Vulnerable/ Endemic
12	<i>Entandrophragma angolense</i>	Vulnerable
13	<i>Entandrophragma cylindricum</i>	Vulnerable
14	<i>Garcinia epunctata</i>	Vulnerable
15	<i>Garcinia kola</i>	Vulnerable
16	<i>Guarea cedrata</i>	Vulnerable
17	<i>Hallea ledermannii/stipulosa</i>	Vulnerable
18	<i>Irvingia gabonensis</i>	Near Threatened
19	<i>Khaya anthotheca/ivorensis</i>	Vulnerable
20	<i>Leptoderris leddermannii</i>	Endemic
21	<i>Lophira alata</i>	Vulnerable
22	<i>Lovoa trichilioides</i>	Vulnerable
23	<i>Milicia excelsa</i>	Near Threatened
24	<i>Orcia suaveolens</i>	Near Threatened
25	<i>Placodiscus boya</i>	Vulnerable
26	<i>Pouteria aningeri</i>	Near Threatened
27	<i>Rhektophyllum camerunense</i>	Least concern
28	<i>Sapium aubrevillei</i>	Vulnerable
29	<i>Schumanniophyton problematicum</i>	Vulnerable
30	<i>Terminalia ivorensis</i>	Vulnerable
31	<i>Turraeanthus africanus</i>	Vulnerable
32	<i>Warneckia memecyloides</i>	Vulnerable

Table 1. Plant species of Global Conservation Significance Recorded on the Concession

3. Socio-economic and Cultural Diversity

There are about 38 farming communities within the Concession with varying sizes and populations ranging in size from settlements with only a few huts and inhabitants to those with relatively large number of houses and people up to about 6000 inhabitants. Agriculture is the main economic activity of the villages and accounts for over 90% percent of individual and household income source. Besides farming, some of the inhabitants are also engage in hunting, gathering and processing of non-timber forest products (NTFPs), and livestock rearing to support and sustain rural livelihoods (Nature Cameroon, 2010, H&B, 2011). The communities are highly dependent on the land in the Concession for their livelihood.

Social infrastructure is poorly developed or non-existent. Road networks are poorly developed and also non-existent in many of the communities, hence some of them can only be reached by foot. Most of the 38 communities are without basic schools and health facilities, and their inhabitants trek long distances to access these services (H&B 2011). Portable water supply is quite limited and most of the communities on the Concession are therefore entirely dependent on springs, streams and rivers as the main source of drinking water. The inhabitants of the communities cultivate food and cash crops on relatively small scale for subsistence as well as for sale.

3.1 Level of Dependence of Local People on the Concession

There is an obvious high degree of social and economic dependence on the land in the Concession. Most rural communities benefit substantially from off-farm resources such as plant medicine, wood fuel, wild fruit and nuts, mushrooms, snails, bush meat, etc. to supplement farm produce. In addition to farming, which is the main source of livelihood, the inhabitants on the Concession are highly dependent on the land for bush meat, which is their main source of animal protein, building materials (chain-sawn lumber) and non-timber forest products (NTFP). Among several NTFPs recorded in this floral study, *Irvingia gabunensis* (Bush Mango), *Afrotyrax lepidophyllus* (Country Onion), *Ricinodendron heudelotii* (Gyasan) and *Gnetum africanum* (a leafy vegetable) are reported to make significant contributions to the economy and

livelihood of the local people. According to Nkwatoh, (2010) a total of 607,862.5 metric tons of *Gnetum africanum* valued at about US \$1,312,828 was collected from the wild and traded between 2002 and 2008. *Gnetum africanum* was recorded on the Concession at areas with forest patches in relatively good condition especially at sampling sites SGHT03 (N511044/E568525) and SGSL02 (N512616/E568877) but in low density. Studies on household consumption of NTFPs point out the importance of supplies from farm bush, fallow areas, and managing farmland trees (Falconer, 1992; Townson, 1995). Loss of relic patches of forest through oil palm plantation development could contribute to the increasing decline of such resources.

Apart from the timber and non-timber forest products, the forest is also of cultural and religious importance for the inhabitants of the local communities. The baseline socio-economic study on the Concession found a strong traditional belief system among the inhabitants of the communities on the concession. Sites and features of traditional worship were identified in ten of the 32 inhabited communities on the Concession and they include sacred forest, sacred ponds and springs. The inhabitants of the communities generally regard these sites as places where the souls of their ancestors live and from where they call on the spirit of their ancestors in times of trouble. It is also a general belief among the communities on the Concession that the souls of their dead transmigrate in to the bodies of animals or reincarnate in plants (large trees) and hence regard these sites and their plants and animals as sacred. Communities on the Concession where there exist sacred sites include Babensi, Ndiba, Mokango, Meta Ngolo, Ofrikpabi, Babiabaga, Banyo Butanga, Lipanja, Many Batanga, Ekenge, Osirayib and Timbe Batanga.

4. Assessment of High Conservation Value

The Concession is located within an area that has been extensively logged at various times over a period of about forty years. Logging of the area paved way for human settlement and agriculture. Subsistence food crop farming as well as cash crop farming, which are primarily practiced through the slash and burn shifting cultivation system, has replaced the original Moist Evergreen Lowland Forest with degraded patches of secondary growth. The Concession is therefore largely an agro-ecological landscape devoid of primary forest. There are however several small isolated patches of forest fragments dotted throughout the Concession, especially in inaccessible areas, some of which are in relatively good condition. The current state of the Concession as a whole does not constitute a HCV Forest. This, notwithstanding the assessment was carried out since some non-forest areas are known to contain the qualities HCVF.

An evaluation of the results of the biodiversity and socio-economic studies of the Concession as well as observations made during a site visit have formed the basis of this assessment of the presence or likely presence of any of the six HCV elements on the Concession. Cameroon has a national HCV interpretation toolkit for small and low intensity managed forest. The national interpretation along with the six global generic HCV criteria was used in this assessment.

4.1 HCV 1: Globally or Nationally Significant Concentrations of Biodiversity Values

This HCV criterion refers to protected areas, which frequently contain high concentrations of biodiversity values and are often, though not always, established to protect biodiversity. There are different types of protected areas that have been identified and defined by IUCN. These include Strict Nature Reserve, National Parks, Resource Reserves, Global Protection Reserves, and Habitat/Species Management Area (Dudley, 2008).

Besides protected areas, the interpretation of this HCV also relates to the presence or likely presence of threatened and endemic plants and animals species. That is, a forest area is considered HCV (1.2), if it contains concentrations of species that are globally threatened or nationally listed as protected or HCV (1.3) if it contains concentration of endemic species of

plants and animals. This HCV is triggered by the presence of species that are listed on the IUCN red-list of threatened species and are naturally resident in Cameroon or a population of nationally protected species, as well as endemic species. All forest-dependent species listed on the IUCN Red List, in all threat categories, are considered relevant to this HCV.

A further interpretation of this HCV **(1.4)** relates to critical temporal use. Many species use a variety of habitats at different times or at different stages in their life-history. These may be geographically distinct or may be different ecosystems or habitats within the same region. The use may be seasonal or the habitat may be used only in extreme years, when it is critical to the survival of the population. This component includes critical breeding sites, migration sites, migration routes or corridors or forests that are globally important for seasonal concentrations of species. This element is included to safeguard important concentrations of species that use the forest only occasionally.

In the review of existing available document and results of the baseline survey, no protected area system was found to exist within the Concession. The area has existed over the years as a national agricultural land on which the Government of Cameroon has allowed logging through the issuance of logging permits to both local and international logging companies. A number of wildlife protected areas and forest reserves such as the Korup National Park, Bayang Mbo Wildlife Sanctuary and several others exist in the neighboring areas.

With the exception of the African forest elephant, for which feeding activity was identified at the eastern side of the concession near the Bayang Mbo Wildlife Sanctuary, no globally threatened or nationally protected fauna species known to occur in the region of the Concession was identified within the Concession during the baseline survey. The baseline flora study however identified 27 globally threatened plant species, comprised of 24 Vulnerable and three Near Threatened plant species as well as four endemic plant species on the Concession. All the globally threatened and the endemic plant species are common and abundant within the moist evergreen lowland Congolian forest.

All globally threatened fauna species with somewhat migratory tendencies, such as the African forest elephant, are most likely found within the protected areas in the vicinity of the Concession. The elephants in the Bayang Mbo occasionally wander outside the reserve in search of food. This is typical of elephants in the wild.

The Concession as a whole is not and does not contain protected area hence does not constitute HCVF under criterion 1, but some parts of the Concession are important for HCV criteria, 1.2, 1.3, and 1.4 (**Forest area that contains outstanding concentrations of globally threatened ,endemic species and critical temporal use respectively**). Appropriate mitigation measures, such as a buffer zone between the Concession and protected areas, buffer along streams and rivers as well as the establishment of biodiversity plots at ecologically sensitive areas are required to safeguard these high conservation values on the Concession.

4.2 HCV 2: Globally, Regionally or Nationally Significant Large Landscape Level Forests

This HCV refers to an Intact Forest Landscape, which is defined by Greenpeace, Rainforest Action Network, and World Resources Institute as an area of at least 50,000 ha of forest that is not fragmented by roads or other forms of man-made disturbance. The Concession, which is approximately 80,500 ha in total area, consists largely of degraded secondary forest and is completely devoid of any significant stretch of un-fragmented or undisturbed forest cover. This HCV does not apply to the Concession.

4.3 HCV 3: Forest Areas that are in or Contain Rare or Threatened Ecosystems

The Cameroon national HCV interpretation defines this attribute as threatened, endangered and ecosystem found within forest under management, specific areas habitats considered under this HCV include steep slopes, Marantaceae swamp, raphia swamp, raphia forest, gallery forest. The baseline flora study did not identify any of these habitats on the Concession. There may however be some portion of the Concession with steep slopes and the supplementary flora

survey is expected to provide such information. Available information does not suggest that this HCV in its entirety exists on the Concession.

4.4 HCV 4: Forest Areas that Provide Basic Services of Nature in Critical Situations

Basic services of nature in critical situations as considered under this HCV include watershed and headwaters, erosion control, barriers to destructive fire, and local climate regulation. All forests affect the watersheds and headwaters in which they occur. However, the watershed protection function of individual forests is not always critical. Forests can be considered critical to watershed protection when a particular forest area protects against:

- potentially catastrophic floods or drought;
- widespread loss of irreplaceable water for drinking, agriculture, hydroelectric schemes and other uses;
- the destruction of fisheries where spawning grounds had been protected by mangroves or riparian forests; or
- changes to the hydrology of a catchment that would seriously and irreversibly degrade a protected area.

Some forest types are particularly important in regulating stream flow, and so more likely to be critical to headwater functioning. Headwaters of streams and rivers are ecologically sensitive areas that must be protected from habitat degradation. Although the baseline study does not have much information of the relief and hydrology of the Concession, there exist a number of rivers and streams on the Concession. The area containing the Concession is generally gently undulating with few isolated hills. Terrain models of the site show that some areas of the Concession are at altitudes in excess of 650 metres above sea level. Isolated peaks with steep slopes are usually prone to erosion especially when their natural cover vegetations are removed. The baseline flora study identified areas in and around sampling sites SGHT03 (N544511/E570791), a steep sided forested hill south of Talangaye as well as SGRS02 (N542365/E569831) a strip riparian forest south-east of Talangaye village as ecologically

sensitive areas on the Concession. These areas meet the criteria for HCV 4 and must therefore be excluded from land clearing for plantation and set aside as biodiversity plots.

4.5 HCV 5: Forest Areas Fundamental to Meeting Basic Needs of Local Communities

An area of forest may be considered HCV if it is required to meet the basic livelihood needs of local communities in or at the fringes of the forest. These needs may include requirements such as food, indigenous building materials, and medicines that are inextricably linked with the forest and there are no affordable alternatives or complementary sources providing these needs. In other words, if the forest provides products or services that the local people cannot obtain from any other source and that product or service is critical to their livelihood, the forest is considered HCV.

The baseline socio-economic study on the concession showed that the thirty-eight communities have a high degree of livelihood dependence on the resources on the Concession. Being primarily farmers, the people are dependent on the land for farming, which is their main livelihood occupation, bushmeat from the forest and fish from the streams and rivers for animal protein, herbal medicine for their health care, and streams and rivers for their daily water needs. The communities also depend primarily on chain-sawn wood for the construction of their houses. Thus, the livelihoods of the people in the thirty-eight communities are inextricably linked to the natural resources on the Concession. The Concession, in general, therefore meets the requirements for HCV 5. Appropriate intervention measures are required to manage the situation and avoid potential land use conflicts.

Exclusion of farmland areas of the communities from the plantation so that they can continue with their livelihood activities or resettling the residents to another location where they could practice their present livelihood activities, or providing acceptable alternative livelihood activities are all possible mitigation options. SGSOC has in a memorandum of understanding signed with the communities, has agreed to exclude the resource areas of the inhabited communities from the plantation. The communities will therefore not be deprived of the means

of livelihood with the development of the plantation. SGSOC should consider setting aside and manage as biodiversity plots the patches of forest in relatively good condition at sampling points **SGHT03** (N511044/E568525) and **SGSL02** (N512616/E568877) in view of the concentrations of *Gnetum africanum*, a plant species of immense socio-economic significance to the local communities on the Concession.

4.1 HCV 6: Forest Areas Critical to Local Communities Traditional Cultural Identity

Forests often have deep spiritual and cultural significance for local communities in and around them. In particular, forests can play crucial roles in *defining* the cultural and traditional identity of indigenous people. Therefore, in many forest communities, cultural identity, traditional beliefs and religion and norms such as festivals and rituals, burial of prominent traditional figures and folklores, are all associated with the existence of forests. A forest meets the criteria for HCV 6 if it defines the cultural identity of local people such that its absence would lead to 'cultural erosion'. The main characteristics of forests associated with the cultural identity of local people include:

- Traditional burial grounds for chiefs or community leaders, located in forest areas
- Ritual grounds for traditional religious worship of shrines and fetish gods located in forest areas
- No-go areas of forest, possibly overseen by a traditional/religious leader
- Forest animals hunted for festival occasions
- Forest that provides the only habitat for cultural totems
- Forest that is significant for symbol of community leadership and authority

In most parts of Africa, this HCV is usually associated with patches of forests that are often referred to as **sacred groves**, and reverence for traditional religious deity and traditional and cultural rituals are an important part of the belief system and the identity of the local people.

The baseline socio-economic study on the Concession found a strong traditional belief system among the inhabitants of the communities on the concession. Sites and feature of traditional worship were identified in ten of the 32 inhabited communities on the Concession and they include sacred forest, sacred ponds and springs. The inhabitants of the communities generally regard these sites as places where the souls of their ancestors live and from where they call on the spirit of their ancestors in times of trouble. It is also a general belief among the communities on the Concession that the souls of their dead transmigrate in to the bodies of animals or reincarnate in plants (large trees) and hence regard these sacred sites and their plants and animals as sacred. Communities on the Concession where there exist sacred sites include Babensi, Ndiba, Mokango, Meta Ngolo, Ofrikpabi, Babiabaga, Banyo Butanga, Lipanja, Manya Batanga, Ekenge, Osirayib and Timbe Batanga. These sites constitute HCVMs under criterion 6 and they must all be clearly delineated and completely excluded from plantation development activities. These sites must be protected in line specific traditional customary procedures.

5. Conclusions and Recommendations

5.1 Conclusions

The Concession is located in the moist evergreen Congolian lowland forest, which is one of the most species rich ecological regions of Africa. Available information indicates that habitat is quite degraded following years of intense selective logging and subsequent land clearance for farming and settlement development. Although there are small isolated forest fragments, mostly in the inaccessible areas of the Concession and some of which are in relatively good condition, the Concession as a whole is degraded and does not constitute a primary forest. Implementation of the proposed oil palm plantation development will therefore not contravene the existing RSPO principle that prohibits the development of new oil palm plantations on primary forests.

Years of progressive habitat degradation appear to have limited the occurrence of most of the fauna species of conservation concern to the two conservation areas in the region, KNP and Bayang Mbo Wildlife Sanctuary. While 32 globally threatened fauna species comprising of 16 large mammals, 14 birds and 2 amphibians are expected to occur in the region that contains the Concession, none of these were recorded on the Concession during the baseline study, except African forest elephant, whose feeding activity was observed at the eastern end of the Concession near Bayang-Mbo Wildlife Sanctuary. SGSOC is committed to following the RSPO principle for the conservation of threatened species and avoidance of human-wildlife conflict and will include in its environmental policy, the following measures:

- i. Maintenance of adequate buffer along the boundary with protected area and banks of rivers and streams
- ii. Establishment and maintenance of biodiversity plots at ecologically sensitive areas as well as at areas not suitable for oil palm cultivation on the Concession

- iii. Carry out land clearing in phases and in a manner that would allow fauna species to flee and take refuge in non-activity areas
- iv. Train to patrol plantation and scare away animals like elephant from plantation,
- v. Maintain a no-hunting regulation among others in the company's.

While no fauna species of global conservation concern was recorded on the Concession during the baseline studies, 27 of the 403 plant species recorded in the baseline flora survey are of global conservation concern, and comprised of, **24 Vulnerable and three Near Threatened** species as well as **four Endemic species**. With the exception of *Cylicomorpha solmsii* an endemic plant species with tendency for gregariousness, the other threatened and endemic plant species are widespread in larger geographic range. The establishment of a network of buffer zones and biodiversity plots will conserve these species on the Concession and hence will not be completely lost on the Concession. A portion of the Concession with significant concentration of *Cylicomorpha solmsii*, a monotypic endemic genus has been recommended to be excluded from site clearing and set aside as biodiversity plot.

The Concession is not and does not contain any legally established wildlife protected area or any area under reservation hence the concession area as a whole does not meet the criteria for HCV 1. It is however important for HCV criteria, 1.2, 1.3 and 1.4, **(Forest area that contains outstanding concentrations of globally threatened, endemic species and critical temporal use respectively)**.

The socio-economic study showed a high degree of dependence of the local people on the resources of the concession for their livelihood needs. Thus, the livelihood needs of the people in the thirty-eight communities located within the Concession are inextricable linked to the natural resources on the Concession. The area of the Concession on which the communities depend for livelihood needs therefore constitutes an HCVF under criterion 5, for as far as there are no readily available alternatives.

The Socio-economic study also showed that there exists strong traditional religious belief system with sacred sites that constitute HCVFs under criterion 6 in about ten of the communities on the Concession. Trespassing or desecrating these sacred sites could be a source of conflict on the Concession.

The development of the oil palm plantation will create very significant employment opportunities in the region, a situation that is likely to trigger rapid growth of the communities as both non-resident indigenes return and outsiders come in seeking direct and indirect employment. Growth of human communities comes with increase demand for natural resources. For the communities within the Concession, any increase in demand for land for farming and other livelihood needs may come at the expense of the land meant for the oil palm plantation. This risk can be reduced through at least a partial transition to a sustainable cash economy supported by the plantation.

Although some portions of the concession are at elevations in excess of 650 metres, the landscape in those areas is generally flat and therefore can be planted. Planting should, however, be excluded from areas along steep slopes with gradients above 25 degrees. Any area within the Concession that is left out of oil palm development due to an ecological consideration should be allowed to stand as a biodiversity plot and protected for that reason.

5.2 Recommendations

Considering the ecological and environmental disturbances associated with oil palm plantation development vis-à-vis the conservation significance of the surrounding region, it is strongly recommended that SGSOC develops and implements an environmental and social management plan to guide its plantation development. The plan should, among other things, incorporate the recommendations of the various baseline studies on the Concession as well as the relevant and applicable principles and requirements of RSPO. The major recommendations are summarized below:

- Establish a buffer at the interface between the Concession and each of the two nearby protected areas. The decision of SGSOC to establish a 3km buffer zone across the northern boundary of Block B of the Concession is commendable and should off-set any direct and indirect ecological impact on the Korup National Park. In Block A of the Concession, River Boa forms the boundary and a buffer between the Concession and the Bayang Mbo Wildlife Sanctuary, there should however be adequate buffer along the banks of the river.
- Although SGSOC has signed MoU with the local communities to exclude the current resource areas of each community from the oil palm development, it may be beneficial to relocate some of the communities from the core areas of the Concession to the periphery or completely outside of the Concession for the avoidance of potential land use conflicts on the Concession in the future. It is important to avoid as many community enclaves in the plantation matrix as possible.
- Alternatively, SGSOC may, in consultation with the communities and local government authority, demarcate the land of the local framers and provide a buffer zone between the boundaries of the plantation and community farmlands. This will result in a reduction in the usable area of the Concession for plantation purposes.

- More people are expected to move into the communities due to the expectation of emerging employment opportunities from the oil palm plantation development. Appropriate development plans should be put in place in collaboration with local government authority, to provide adequate social infrastructure and services to make the people less dependent on the natural resources of the area.
- All the small isolated patches of forest fragments at ecologically sensitive areas such as along steep slopes, headwaters as well as strip of forest left as buffer and areas of the concession that are not suitable for oil palm cultivation for must remain undeveloped to serve as biodiversity plots which must be managed as integral part of the plantation. Biodiversity plots serve as refuge for remnant fauna and flora and are important for the maintenance of local biodiversity on the Concession hence all forms of habitat degrading activities such as hunting, farming and logging must be prohibited from the biodiversity plots.
- In view of the immense importance that most communities attach to traditional and religious sites, SGSOC should work with the communities with sacred sites to delineate these sites so that they are not trespassed or desecrated in the course of plantation development activities. All the sacred sites should be clearly indicated on the plantation map.
- Considering the high dependence of local people on the rivers and streams in the area for their daily water needs and the importance of the streams and rivers to the general hydrology of the area, all headwaters and springs on the Concession particularly those that communities should be considered as ecologically sensitive area and protected by setting the leaving the specific areas undeveloped. The supplemental floral study is expected to identify headwaters and other ecologically sensitive areas on the Concession that require exclusion from planting and protection.

- Patches of forest in relatively good condition at sampling points SGHT03 (N511044/E568525) and SGSL02 (N512616/E568877) are recommended to be set aside and managed as biodiversity plots in view of the concentration of *Gnetum africanum*, a plant species of immense socio-economic significance in the local communities.
- As a general RSPO principle, planting should not be done in areas of the Concession with gradients in excess of 25 degrees. All such areas should be left out of planting and maintained as biodiversity plot and where necessary existing cover vegetation should be reinforced to prevent erosion. It is more preferable to maintain the natural vegetation cover of such places.
- Ecologically sensitive areas in and around sampling sites SGHT03 (N544511/E570791), a steep sided forested hill south of Talangaye as well as SGRS02 (N542365/E569831) a strip riparian forest south-east of Talangaye village must be excluded from land clearing and set aside as biodiversity plots.
- A mandatory buffer of about 20 metres of natural vegetation should be maintained on either side of all major river and streams within the Concession. This is important to avoid siltation of streams and rivers and the disruption of their flow.
- The existing baseline information on fauna is not site (Concession) specific and hence difficult to recommend specific mitigation measures for the conservation of biodiversity on the Concession as required by RSPO. It is recommended that a detailed fauna survey with focus on mammals (large and small, birds, reptiles and amphibian and insects be carried. Results of such study will provide site specific input in the environmental management plan for the Concession

References

Clay, J. (2004) *World Agriculture and the Environment: A Commodity by-Commodity Guide to Impacts and Practices*, Island Press

Dudley, N. (Editor) (2008). *Guidelines for Applying Protected Area Management Categories*. Gland, Switzerland. IUCN. x + 86pp

Danielsen, F. and Heegaard, M. (1995) Impact of logging and plantation development on species diversity: a case study from Sumatra. In *Management of Tropical Forests: Towards an Integrated Perspective* (Sandbukt, Ø., ed.), pp. 73–92, Centre for Development and the Environment, University of Oslo

Darussamin, A., Ardiansyah F., and Suhandri, (2003). *Impact Assessment on Oil Palm Development; Projects and activities on sustainable Palm Oil*. WWF Indonesian and Indonesian Palm Oil Commission

European Commission (2006). *An EU Strategy for Biofuel*, Commission of the European Communities

Falconer, J. (1992). *Non-Timber Forest Products in Southern Ghana: The Main Report*. Forestry Department / ODA, Accra / London.

Fischer, J. and Lindenmayer, D.B. (2007) Landscape modification and habitat fragmentation: a synthesis. *Glob. Ecol. Biogeography*. 16, 265–280

Fishpool, L. D. C. and Evans, M. I., eds. (2001): *Important Bird Areas in Africa and associated Islands: Priority sites for conservation*. Newbury and Cambridge, UK: Pisces Publication and BirdLife International BirdLife Conservation Series N°. 11). BirdLife International, (2009)

Green, R.E. et al. (2005) Farming and the fate of wild nature. *Science* 307, 550–555

Bikié, H., Collomb, J-G., Djomo, L., Minnemeyer, S, Ngoufo, R., and Nguiffo, S. (2000). *An Overview of Logging in Cameroon*, a Global Forest Watch Cameroon Report. Global Forest Watch is an Initiative of the World Resources Institute.

H & B Consulting, (2010). *Impact assessment of Fauna and Flora in the SGSOC Concession Area near to the Korup National Park and the Nguti area of Cameroon: Baseline report for SG Sustainable Oils Cameroon Ltd.*

Millennium Ecosystem Assessment (2005). *Ecosystems and Human Well-Being: Biodiversity Synthesis*, World Resources Institute

Nature Cameroon, (2010). Rapid socio-economic survey report of some villages in Nguti Sub-Division and Mundemba Sub-Division in the South West Region of Cameroon. A report presented to SG Sustainable Oil, Cameroon.

Nkwatcho, A.F., (2010). Harvesting and marketing of *Gnetum* spp (Engl) in Cameroon and Nigeria. *Journal of Ecology and Natural Environment*, Vol. 2 (9) 187 – 193.

Rodewald, P.D., DeJaifve, P.A. and Green, A.A. (1994). The birds of the Korup National Park and Korup Project Area, Southwest Province, Cameroon. *Bird Conservation International* 4: 1-68.

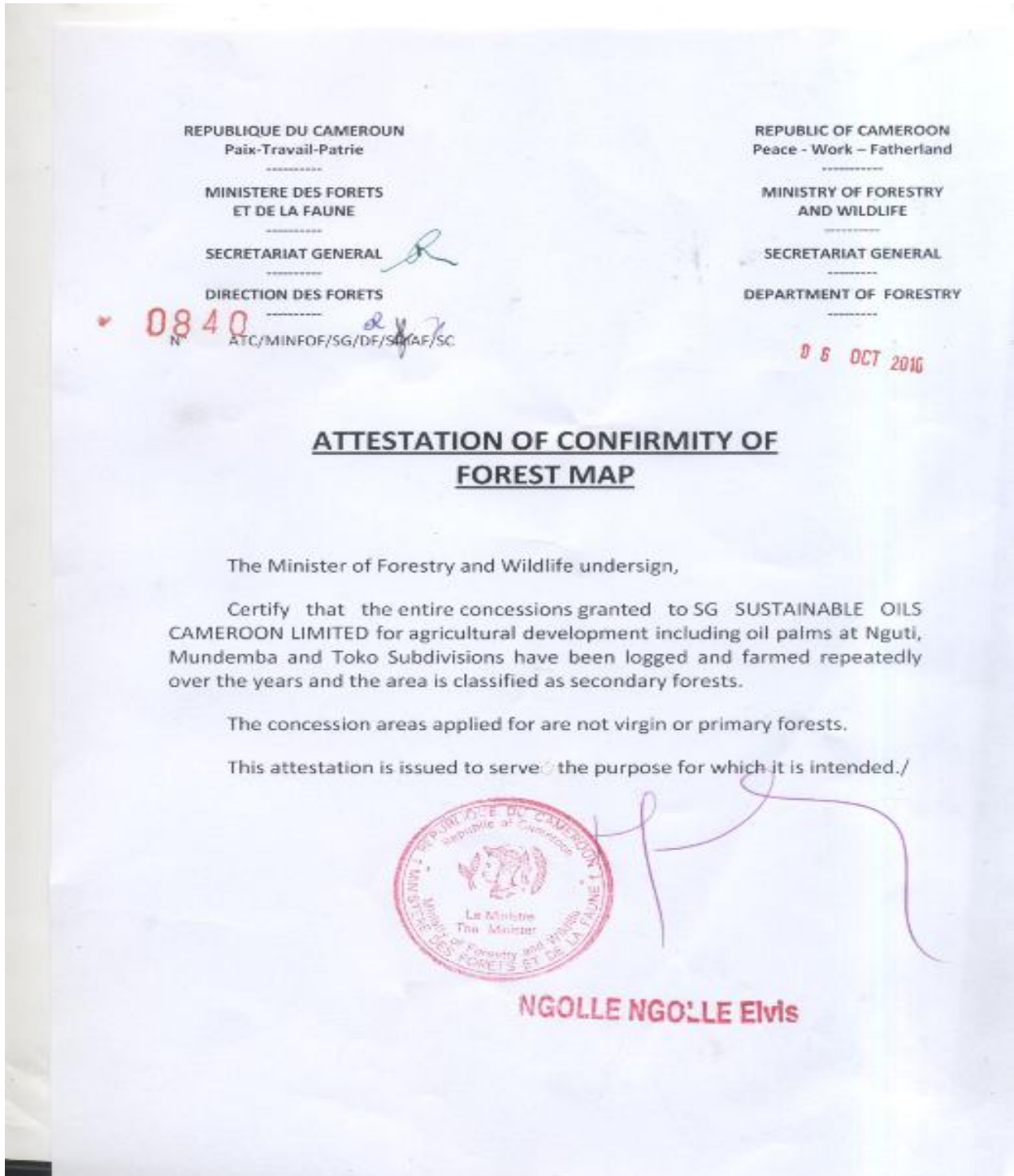
Townson, I.M. (1995). Incomes from Non-timber Forest Products: Patterns of Enterprise Activity in the Forest Zone of Southern Ghana: Main Report. Report to ODA Forestry Research Programme, Oxford Forestry Institute, Oxford.

WWF (2003). Biological Priorities for Conservation in the Guinean-Congolian Forest and Freshwater Region. Proceedings of Workshop held on March 30 - April 2, 2000 in Libreville,.

Waltert, M., Lien, M. Faber, and M. Muihlenberg. 2002. Further declines of threatened primates in the Korup Project Area, south-west Cameroon. *Oryx* 36:257-265.

Waltert, M., Bobo, K. S., Sainge, M. N, Fermon, H. and Mühlenberg, M. (2005): From Forest to Farmland: Habitat Effects on Afrotropical Forest Bird Diversity. *Ecological Applications*, Vol. 15, No. 4 pp. 1351-1366

6. Appendix 1: Attestation from the Ministry of Forestry and Wildlife



7.

Appendix 2: Attestation from the Institute of Agricultural Research for Development

<p>REPUBLIQUE DU CAMEROUN Paix - Travail - Patrie <i>Ministère de la Recherche Scientifique et de l'Innovation (MINRESI)</i> INSTITUT DE RECHERCHE AGRICOLE POUR LE DEVELOPPEMENT <i>Centre Régional de Recherche Agricole d'Ekona</i> PMB 25 BUEA - Tel : 332 29 22</p>		<p>REPUBLIC OF CAMEROON Peace - Work - Fatherland <i>Ministry of Scientific Research and Innovation (MINRESI)</i> INSTITUTE OF AGRICULTURAL RESEARCH FOR DEVELOPMENT <i>Ekona Regional Research Centre</i> PMB 25 BUEA - Tel : 332 29 22</p>
<p>Ref: No. <u>19249-11</u> /IRAD/DG/CRRA-E/RCC/11/09</p>		<p>Date: <u>20 NOV. 2009</u></p>
<p>The Regional Chief of Centre Le Chef de Centre Régional</p>		
<p>To: SITHE GLOBAL USA THRO: Dr. ISIDORE TIMTI</p>		
<p>Subject: Supplement to our report entitled: ‘SOIL CONDITIONS AND LAND SUITABILITY OF THE NGUTI – MANYEMEN- TOKO AREA OF THE SOUTH WEST REGION OF CAMEROON FOR PLANTATION OIL PALM’</p>		
<p><u>VEGETATION AND LAND USE</u></p>		
<p>The survey area is covered by secondary forest. The original forest has been heavily exploited for valuable timber species and as these are villages here and there in the area subsistence farming for food crops is common. From our observation there are no economic tree species left in the forest.</p>		
<p> REGIONAL CHIEF OF CENTRE JOSEPH MASE Joseph, Ph.D Senior Research Officer (Maître de Recherche)</p>		

Appendix 3: Checklist of bird species recorded on the 80000ha SGSOC Concession

Common name	Scientific name	IUCN Status	Abundance	MINFOF Class
Cattle Egret	<i>Bubulcus ibis</i>	LC	Abundant	C
Black Kite	<i>Milvus migrans</i>	LC	abundant	C
African Fish Eagle	<i>Haliaeetus vocifer</i>	LC	Rare	B
Palm-nut Vulture	<i>Gypohierax angolensis</i>	LC	Uncommon	B
African Harrier Hawk	<i>Polyboroides typus</i>	LC	Uncommon	B
White-spotted Flufftail	<i>Sarothrura pulchra</i>	LC	Rare	C
African Green Pigeon	<i>Treron calva</i>	LC	Common	C
Blue-headed Wood Dove	<i>Turtur brehmeri</i>	LC	Uncommon	C
Tambourine Dove	<i>Turtur tympanistria</i>	LC	Uncommon	C
Blue-spotted Wood Dove	<i>Turtur afer</i>	LC	Common	C
Red-eyed Dove	<i>Streptopelia semitorquata</i>	LC	Common	C
Common Sand Piper	<i>Actitis hypoleucos</i>	LC	Rare	C
Grey Parrot	<i>Psittacus erithacus</i>	LC	Uncommon	A
Green Turaco	<i>Tauraco persa</i>	LC	Rare	A
Great Blue Turaco	<i>Corythaeola cristata</i>	LC	Uncommon	B
Yellow-billed Turaco	<i>Tauraco macrorhynchus</i>	LC	Quite Common	C
Dusky Long-tailed Cuckoo	<i>Cercococcyx mechowi</i>	LC	Rare	C
African Emerald Cuckoo	<i>Chrysococcyx cupreus</i>	LC	Uncommon	C
Klaas's Cuckoo	<i>Chrysococcyx klaas</i>	LC	Uncommon	C
Didric Cuckoo	<i>Chrysococcyx caprius</i>	LC	Uncommon	C
Yellowbill	<i>Ceuthmochares aereus</i>	LC	Uncommon	C
Senegal Coucal	<i>Centropus senegalensis</i>	LC	Quite Common	C
Cassin's Spinetail	<i>Neafrapus cassini</i>	LC	Rare	C
African Palm Swift	<i>Cypsiurus parvus</i>	LC	abundant	C
Little Swift	<i>Apus affinis</i>	LC	abundant	C
Woodland Kingfisher	<i>Halcyon senegalensis</i>	LC	Quite Common	C
Little Bee-eater	<i>Merops pusillus</i>	LC	Uncommon	C
Red-billed Dwarf Hornbill	<i>Tockus camurus</i>	LC	Uncommon	C
African Pied Hornbill	<i>Tockus fasciatus</i>	LC	Quite Common	C
Piping Hornbill	<i>Bycanistes fistulator</i>	LC	Uncommon	C
White-thighed Hornbill	<i>Bycanistes albotibialis</i>	LC	Uncommon	C
Black-and-white-casqued Hornbill	<i>Bycanistes cylindricus</i>	LC	Uncommon	C
Black-casqued Wattled Hornbill	<i>Ceratogymna atrata</i>	LC	Uncommon	C
Speckled Tinkerbird	<i>Pogoniulus scolopaceus</i>	LC	Uncommon	C
Red-rumped Tinkerbird	<i>Pogoniulus atroflavus</i>	LC	Quite Common	C
Yellow-throated Tinkerbird	<i>Pogoniulus subsulphureus</i>	LC	Quite Common	C
Yellow-rumped Tinkerbird	<i>Pogoniulus bilineatus</i>	LC	Quite Common	C
Yellow-spotted Barbet	<i>Buccanodon duchailloi</i>	LC	Quite	C
Hairy-breasted Barbet	<i>Tricholaema hirsuta</i>	LC	Rare	C

HCV Assessment of SGSOC Concession for Oil Palm Plantation

Yellow-billed Barbet	<i>Trachyphonus purpuratus</i>	LC	Quite Common	C
Square-tailed Saw-wing	<i>Psalidoprocne nitens</i>	LC	Quite Common	C
Lesser Striped Swallow	<i>Hirundo abyssinica</i>	LC	Quite Common	C
Barn Swallow	<i>Hirundo rustica</i>	LC	abundant	C
Blue Cuckoo-Shrike	<i>Coracina azurea</i>	LC	Rare	C
Little Greenbul	<i>Andropadus virens</i>	LC	Quite Common	C
Little Grey Greenbul	<i>Andropadus gracilis</i>	LC	Uncommon	C
Ansorge's Greenbul	<i>Andropadus ansorgei</i>	LC	Uncommon	C
Yellow-whiskered Greenbul	<i>Andropadus latirostris</i>	LC	Quite Common	C
Honeyguide Greenbul	<i>Baeopogon indicator</i>	LC	Uncommon	C
Spotted Greenbul	<i>Ixonotus guttatus</i>	LC	Quite Common	C
Simple Greenbul	<i>Chlorocichla simplex</i>	LC	Uncommon	C
Swamp Palm Bulbul	<i>Thescelocichla leucopleura</i>	LC	Uncommon	C
Xavier's Greenbul	<i>Phyllastrephus xavieri</i>	LC	Uncommon	C
Red-tailed Bristlebill	<i>Bleda syndactyla</i>	LC	Uncommon	C
Lesser Bristlebill	<i>Bleda notata</i>	LC	Uncommon	C
Eastern Bearded Greenbul	<i>Criniger chloronotus</i>	LC	Uncommon	C
Red-tailed Greenbul	<i>Criniger calurus</i>	LC	Uncommon	C
Common Bulbul	<i>Pycnonotus barbatus</i>	LC	Common	C
Forest Robin	<i>Stiphornis erythrothorax</i>	LC	Rare	C
White-tailed Ant Thrush	<i>Neocossyphus poensis</i>	LC	Rare	C
Chattering Cisticola	<i>Cisticola anonymus</i>	LC	Common	C
White-chinned Prinia	<i>Schistolais leucopogon</i>	LC	Quite Common	C
Buff-throated Apalis	<i>Apalis rufogularis</i>	LC	Uncommon	C
Yellow-browed Camaroptera	<i>Camaroptera superciliaris</i>	LC	Rare	C
Olive-green Camaroptera	<i>Camaroptera chloronota</i>	LC	Uncommon	C
Yellow Longbill	<i>Macrosphenus flavicans</i>	LC	Common	C
Green Crombec	<i>Sylvietta virens</i>	LC	Common	C
Lemon-bellied Crombec	<i>Sylvietta denti</i>	LC	Uncommon	C
Green Hylia	<i>Hylia prasina</i>	LC	Quite Common	C
African Paradise Flycatcher	<i>Terpsiphone viridis</i>	LC	Common	C
Red-bellied Paradise Flycatcher	<i>Terpsiphone rufiventer</i>	LC	Common	C
Chestnut Wattle-eye	<i>Dyaphorophya castanea</i>	LC	Common	C
Scarlet-spectacled Wattle-eye	<i>Platysteira cyanea</i>	LC	Common	C
Brown Illadopsis	<i>Illadopsis fulvescens</i>	LC	Uncommon	C
Collared Sunbird	<i>Anthreptes collaris</i>	LC	Uncommon	C
Blue-throated Brown Sunbird	<i>Nectarinia cyanolaema</i>	LC	Uncommon	C
Olive-bellied Sunbird	<i>Nectarinia chloropygia</i>	LC	Common	C
Superb Sunbird	<i>Nectarinia superba</i>	LC	Rare	C
Yellow White-eye	<i>Zosterops senegalensis</i>	LC	Rare	C
Western Black-headed Oriole	<i>Oriolus brachyrhynchus</i>	LC	Uncommon	C
Black-shouldered Puffback	<i>Dryoscopus senegalensis</i>	LC	Rare	C
Lühder's Bush Shrike	<i>Laniarius luehderi</i>	LC	Rare	C
Western Nicator	<i>Nicator chloris</i>	LC	Quite Common	C
Velvet-mantled Drongo	<i>Dicrurus modestus</i>	LC	Quite Common	C
Pied Crow	<i>Corvus albus</i>	LC	Common	C

HCV Assessment of SGSOC Concession for Oil Palm Plantation

Purple Glossy Starling	<i>Lamprotornis purpureus</i>	LC	Quite Common	C
Grey-headed Sparrow	<i>Passer griseus</i>	LC	Quite Common	C
Black-necked Weaver	<i>Ploceus nigricollis</i>	LC	Uncommon	C
Vieillot's Black Weaver	<i>Ploceus nigerrimus</i>	LC	abundant	C
Village Weaver	<i>Ploceus cucullatus</i>	LC	abundant	C
Blue-billed Malimbe	<i>Malimbus nitens</i>	LC	Rare	C
Yellow-mantled Whydah	<i>Euplectes macrourus</i>	LC	Rare	C
Red-headed Antpecker	<i>Parmoptila woodhousei</i>	LC	Uncommon	C
White-breasted Negrofinch	<i>Nigrita fusconota</i>	LC	Uncommon	C
Orange-cheeked Waxbill	<i>Estrilda melpoda</i>	LC	Common	C
Common Waxbill	<i>Estrilda astrild</i>	LC	Common	C
Bronze Mannikin	<i>Lonchura cucullata</i>	LC	Common	C
Black-and-white Mannikin	<i>Lonchura bicolor</i>	LC	Common	C
Black-crowned Waxbill	<i>Estrilda nonnula</i>	LC	Uncommon	C

Appendix 4: Checklist of plant species recorded on the Concession

Scientific Name	Family	Lifeform	Guild	Star	SGSL01	SGSL02	SGSL03	SGSW01	SGRS01	SGRS02	SGRS03	SGRS04	SGHT01	SGHT02	SGHT03	SGHT04	SGFL01	SGFL02
<i>Acacia kamerunensis</i>	Leguminosae-Mim.	L		gn	0	0	0	0	0	0	0	0	1	0	0	1	0	0
<i>Acacia pennata</i>	Leguminosae-Mim.	L		gn	0	0	0	0	0	0	0	1	1	0	0	0	0	1
<i>Afromomum arundinaceum</i>	Zingiberaceae	H			1	0	0	0	1	0	0	1	0	1	0	1	0	1
<i>Afromomum sceptrum</i>	Zingiberaceae	H	pi		0	0	0	0	0	0	0	0	0	0	0	0	0	0
<i>Afrostryax kamerunensis</i>	Huaceae	T	sb	GD	0	0	1	0	1	1	0	0	0	0	1	0	0	0
<i>Afrostryax lepidophyllus</i>	Huaceae	T	sb	GD	0	0	0	1	0	1	0	0	1	0	1	1	0	1
<i>Agalaea paradoxa</i>	Connaraceae	L		gn	0	0	1	1	0	1	0	1	0	0	1	1	1	1
<i>Agalaea pentagyna</i>	Connaraceae	L		gn	1	1	0	1	0	1	0	0	0	0	0	1	1	0
<i>Albizia adianthifolia</i>	Leguminosae-Mim.	T	np	gn	0	0	1	0	0	0	1	0	0	0	0	1	0	1
<i>Albizia ferruginea</i>	Leguminosae-Mim.	T	np	SC	0	0	0	0	0	0	0	0	0	0	1	0	0	0
<i>Albizia zygia</i>	Leguminosae-Mim.	T	np	pk	0	0	1	0	1	0	0	0	1	1	0	1	0	1
<i>Alchornea cordifolia</i>	Euphorbiaceae	S	pi	gn	0	0	0	1	1	0	1	0	0	0	0	0	0	1
<i>Alchornea floribunda</i>	Euphorbiaceae	S	sb	gn	0	0	1	1	1	0	0	1	1	0	1	1	0	1
<i>Allophyllus sp</i>	Sapindaceae	T			0	0	0	0	0	0	0	1	0	0	0	0	0	0
<i>Alstonia boonei</i>	Apocynaceae	T	pi	gn	1	0	0	1	1	0	0	1	0	0	0	1	0	0
<i>Amanoa strobilacea</i>	Euphorbiaceae	T	sw	GD	0	0	0	0	0	1	0	0	0	0	0	0	0	0
<i>Amphimas pterocarpoides</i>	Leguminosae-Pap	T	np	gn	0	0	0	0	0	0	0	1	1	0	0	0	0	0
<i>Anchomanes difformis</i>	Araceae	S		gn	0	0	0	1	0	0	0	1	1	1	1	1	1	1
<i>Ancistrocladus sp</i>	Ancistrocladiaceae	L			0	0	0	0	0	0	0	0	0	0	0	0	0	1
<i>Angylocalyx oligophyllus</i>	Leguminosae-Pap	T	sb	gn	1	0	1	0	0	1	0	1	1	1	0	1	1	1
<i>Anisophyllea meniaudi</i>	Anisophylleaceae	T			1	0	0	0	0	1	0	0	0	0	0	0	1	0
<i>Anisophyllea purpurascens</i>	Anisophylleaceae	T		bu	1	0	0	0	0	0	0	0	0	0	1	0	1	1
<i>Annickia chlorantha</i>	Annonaceae	T	sb	pk	1	1	1	0	0	1	0	0	1	0	1	0	0	0
<i>Anonidium mannii</i>	Annonaceae	T	sb	gn	0	1	1	0	0	1	0	0	1	0	1	0	0	0
<i>Anthocleista nobilis</i>	Gentianaceae (Loganiaceae)	T	pi	gn	0	1	0	0	0	0	0	0	0	0	0	0	0	0
<i>Anthocleista vogelii</i>	Gentianaceae (Loganiaceae)	T	sb	gn	0	0	0	0	1	0	1	1	0	0	0	0	0	0
<i>Anthonotha fragrans</i>	Leguminosae-Caes.	T	np	gn	1	0	1	0	1	0	0	0	0	0	0	0	0	0
<i>Anthonotha macrophylla</i>	Leguminosae-Caes.	T	sb	gn	0	0	1	1	0	1	0	0	1	1	1	1	1	0
<i>Anthonotha sassandraensis</i>	Leguminosae-Caes.	T	sb	bu	0	1	1	1	0	0	0	1	0	0	0	0	0	0
<i>Anthonotha sp</i>	Leguminosae-Caes.	T	sb		0	0	0	0	0	0	1	0	0	0	0	0	0	0
<i>Anthostema aubryanum</i>	Euphorbiaceae	T	sb	bu	0	0	0	0	1	0	0	0	0	0	0	0	0	0
<i>Antiaris toxicaria</i>	Moraceae	T	np	pk	1	0	1	0	0	0	0	0	1	1	0	1	0	0
<i>Antidesma laciniatum</i>	Euphorbiaceae	T	sb	gn	1	1	0	0	0	1	0	0	0	0	0	1	0	0
<i>Antrocaryon klaineanum</i>	Anacardiaceae	T	pi	bu	0	0	0	0	0	0	0	0	0	0	0	0	0	0
<i>Aphanocalyx pteridophyllus</i>	Leguminosae-Caes.	T	sb	bu	0	0	0	0	0	0	0	1	0	0	1	0	0	0
<i>Aphanostylis mannii</i>	Apocynaceae	C	sb	gn	0	0	1	0	0	1	0	0	0	1	0	1	0	0
<i>Asplenium africanum</i>	Aspleniaceae	E		gn	0	0	1	0	0	0	0	0	0	0	0	0	0	1
<i>Asystasia macrophylla</i>	Acanthaceae	H	pi	bu	0	0	0	0	0	0	0	0	1	0	0	0	0	0

HCV Assessment of SGSOC Concession for Oil Palm Plantation

<i>Ataenidia conferta</i>	Marantaceae	H	pi	gn	0	1	0	0	0	0	0	0	0	1	0	0	0	
<i>Aubrevillea kerstingii</i>	Leguminosae-Mim.	T		gn	0	1	0	0	1	0	0	0	0	0	0	0	0	
<i>Aulacocalyx jasminiflora</i>	Rubiaceae	T		gn	1	1	0	0	1	0	0	0	1	0	0	1	0	0
<i>Baissea bailonii</i>	Apocynaceae	C	sb	gn	0	0	0	0	0	0	0	0	0	0	1	0	0	0
<i>Baissea multiflora</i>	Apocynaceae	C	np	gn	0	0	0	1	0	0	0	0	0	1	0	0	0	0
<i>Baissea zygodioides</i>	Apocynaceae	C	np	gn	1	0	0	0	0	0	0	0	1	1	0	0	0	0
<i>Bambusa vulgaris</i>	Graminae	T		pk	0	0	1	0	1	0	0	0	0	0	0	0	0	0
<i>Baphia nitida</i>	Leguminosae-Pap	T	sb	gn	1	1	0	0	0	0	0	0	1	0	1	0	0	1
<i>Baphia pubescens</i>	Leguminosae-Pap	T	sb	gn	0	1	0	0	0	0	0	0	0	0	0	0	0	0
<i>Begonia sp</i>	Begoniaceae	H	sb	bu	1	0	0	0	0	0	0	0	0	1	0	0	0	0
<i>Beischemedia mannii</i>	Lauraceae	T	sb	gn	0	0	0	0	0	1	0	0	0	1	1	1	0	1
<i>Berlinia bracteosa</i>	Leguminosae-Caes.	T		gn	0	0	0	0	0	1	0	0	0	0	0	0	0	0
<i>Berlinia cf. auriculata</i>	Leguminosae-Caes.	T		bu	0	0	0	0	1	0	0	0	0	0	1	0	0	0
<i>Berlinia grandiflora</i>	Leguminosae-Caes.	T		gn	0	0	0	0	1	0	0	0	0	0	0	0	0	0
<i>Bersama abbyssinica</i>	Meliantaceae	T		gn	0	0	0	0	0	0	0	0	0	0	0	0	0	0
<i>Betiera racemosa</i>	Rubiaceae	T	pi	gn	0	0	1	0	0	0	0	0	0	0	0	0	0	0
<i>Blighia welwitschii</i>	Sapindaceae	T	np	gn	1	1	0	1	0	0	0	0	1	0	0	0	0	1
<i>Bridelia grandis</i>	Euphorbiaceae	T	pi	gn	0	0	0	0	1	0	1	0	0	0	0	0	0	0
<i>Bridelia micrantha</i>	Euphorbiaceae	T	pi	gn	0	0	0	0	0	0	0	1	0	1	0	0	0	0
<i>Buchholzia coriacea</i>	Capparaceae	T	sb	gn	1	1	0	0	0	1	0	0	0	0	0	0	1	0
<i>Caloncoba echinata</i>	Flacourtiaceae	T	sb	gn	0	0	0	0	0	0	0	0	0	1	0	0	0	0
<i>Calycobolus africanus</i>	Convolvulaceae	C	np	gn	0	0	0	0	0	0	0	0	0	1	0	0	0	1
<i>Campylospermum elongatum</i>	Ochnaceae	S			1	1	1	0	1	0	0	1	1	0	1	1	0	0
<i>Campylospermum flavum</i>	Ochnaceae	S		gn	0	1	0	0	0	0	1	1	1	0	0	1	0	0
<i>Canarium sweinfurthii</i>	Burseraceae	T	np	RD	0	0	0	0	0	1	0	0	0	0	1	0	1	0
<i>Canthium hispidum</i>	Rubiaceae	S	sb	gn	0	0	0	0	0	1	0	0	0	0	0	1	0	0
<i>Carapa procera</i>	Meliaceae	T	sb	gn	1	1	1	0	1	1	0	1	1	0	0	1	1	1
<i>Carpolobia lutea</i>	Polygalaceae	T	sb	gn	1	1	1	1	0	0	0	1	1	1	1	1	1	1
	Malvaceae																	
<i>Ceiba pentandra</i>	(Bombacaceae)	T	pi	pk	0	0	0	0	0	0	1	0	0	1	0	0	0	0
<i>Celtis philippensis</i>	Ulmaceae	T	sb	gn	0	1	0	0	0	0	0	0	1	1	0	0	0	0
<i>Celtis zenkeri</i>	Ulmaceae	T	sb	gn	0	0	0	0	0	0	0	0	0	0	0	0	0	0
<i>Cercestis ivorensis</i>	Araceae	C	sb	bu	0	0	0	0	0	0	0	1	0	0	0	0	1	1
<i>Cercestis kamerunensis</i>	Araceae	C	sb	bu	1	0	0	1	0	0	0	0	1	0	0	0	0	1
	Malvaceae																	
<i>Christiana africana</i>	(Tiliaceae)	T	pi	gn	0	0	0	0	1	0	1	0	0	0	0	0	0	0
<i>Chrysophyllum pentagonacarpum</i>	Sapotaceae	T	sb	gn	0	0	0	0	0	0	0	0	1	0	1	0	0	1
<i>Chrysophyllum subnudum</i>	Sapotaceae	T	sb	gn	1	0	0	0	1	0	0	0	1	0	1	1	1	1
<i>Chytranthus angustifolius</i>	Sapindaceae	S	sb	gn	0	0	0	0	0	1	0	0	1	1	1	1	0	1
<i>Chytranthus carneus</i>	Sapindaceae	S	sb	gn	0	1	0	0	0	0	0	0	1	1	1	1	0	0
<i>Chytranthus macrobotrys</i>	Sapindaceae	T	sw	gn	0	0	0	1	1	0	1	0	0	0	0	0	0	0
<i>Cissus oreophila</i>	Vitaceae	C	pi	bu	0	0	0	1	0	0	0	0	0	0	0	0	0	0
<i>Cissus populnea</i>	Vitaceae	C		gn	0	0	0	0	1	0	0	1	0	0	0	0	0	0
<i>Citropsis articulata</i>	Rutaceae	T	sb	bu	1	1	0	0	0	0	0	0	1	1	0	0	0	0
<i>Cleistopholis patens</i>	Annonaceae	T	pi	gn	1	0	0	1	0	0	1	1	0	0	0	0	0	0
<i>Clereodendrum capitatum</i>	Verbenaceae	C	pi	gn	0	0	0	0	0	0	0	0	0	1	0	0	0	1
<i>Cnestis ferruginea</i>	Connaraceae	L	pi	gn	0	1	1	0	0	0	0	0	1	1	1	1	0	1
<i>Coelocaryon preussii</i>	Myristicaceae	T	np	pk	1	0	0	0	1	1	0	0	0	0	1	1	0	1
<i>Coffea sp</i>	Rubiaceae	S			1	0	0	0	0	0	0	0	0	0	0	0	0	0
	Malvaceae																	
<i>Cola butingii</i>	(Sterculiaceae)	T	sb	GD	0	0	0	0	0	0	0	0	1	0	0	0	0	0
<i>Cola chlamydantha</i>	Malvaceae	T	sb	bu	0	1	0	1	1	1	0	1	1	0	0	0	0	1

HCV Assessment of SGSOC Concession for Oil Palm Plantation

	(Sterculiaceae)																	
	Malvaceae																	
<i>Cola chlamydocarya</i>	(Sterculiaceae)	T	sb		0	0	0	0	0	0	0	1	0	0	0	1	0	0
	Malvaceae																	
<i>Cola digitata</i>	(Sterculiaceae)	T	sb	gn	0	0	0	0	0	0	0	0	0	0	0	0	1	0
	Malvaceae																	
<i>Cola lateritia</i>	(Sterculiaceae)	T	sb	gn	0	1	0	0	0	1	0	0	1	0	0	0	0	0
	Malvaceae																	
<i>Cola millenii</i>	(Sterculiaceae)	T	sb	gn	0	0	0	0	0	0	0	1	0	0	1	1	0	0
	Malvaceae																	
<i>Cola nitida</i>	(Sterculiaceae)	T	sb	pk	1	0	0	0	0	0	0	0	0	0	0	0	0	0
	Malvaceae																	
<i>Cola sp</i>	(Sterculiaceae)	S	sb		1	1	0	0	0	1	0	0	0	0	0	0	0	0
	Malvaceae																	
<i>Cola/Octolobus?</i>	(Sterculiaceae)	S	sb		0	0	1	0	0	0	0	1	0	0	0	1	0	1
<i>Combretum bipidense</i>	Combretaceae	L	pi	gn	0	0	0	0	0	1	0	0	0	0	1	0	0	0
<i>Combretum racemosum</i>	Combretaceae	L	pi	gn	0	0	0	0	0	0	0	1	1	0	0	0	0	0
<i>Combretum sp</i>	Combretaceae	C			1	0	0	0	0	0	0	0	0	0	0	0	0	0
<i>Commelina capitata</i>	Commelinaceae	H		gn	0	0	0	1	0	0	0	0	0	0	0	0	0	1
<i>Commelina sp</i>	Commelinaceae	H			0	0	0	0	0	0	0	0	1	0	0	0	0	0
<i>Corynanthe pachyceras</i>	Rubiaceae	T	np	gn	1	0	0	0	0	0	0	1	0	0	1	0	0	0
<i>Costus afer</i>	Costaceae	H	pi	gn	0	0	0	0	1	0	1	1	0	0	0	0	1	0
<i>Costus dubius</i>	Costaceae	H		gn	0	0	0	0	0	1	1	0	0	1	0	0	1	0
<i>Costus englerianus</i>	Costaceae	H		gn	1	0	1	0	1	1	0	1	0	0	0	0	0	1
<i>Craterispermum caudatum</i>	Rubiaceae	S	sb	gn	0	0	0	0	0	1	0	0	0	0	0	0	0	0
<i>Crinum natans</i>	Amaryllidaceae	H	sw	bu	0	0	0	1	0	0	0	0	0	0	0	0	0	0
<i>Crudia gabonensis</i>	Leguminosae-Caes.	T	sb	bu	0	0	1	0	0	0	0	0	0	0	1	0	0	0
<i>Culcasia parviflora</i>	Araceae	C		gn	0	0	0	0	1	1	0	1	1	0	0	0	1	0
<i>Culcasia striolata</i>	Araceae	C		gn	0	0	0	1	1	0	0	0	0	0	0	0	1	0
<i>Cuviera acutiflora</i>	Rubiaceae	T	pi	bu	0	0	1	0	1	0	0	0	0	0	1	0	0	1
<i>Cyathea camerooniana</i>	Cyatheaceae	T		gn	0	0	0	1	1	1	0	0	0	0	0	0	0	0
<i>Cyathula prostrata</i>	Amaranthaceae	H	pi	gn	0	0	0	0	1	0	0	0	0	1	0	0	0	0
<i>Cylicomorpha solmsii</i>	Caricaceae	T			0	0	0	0	0	0	0	0	1	0	0	0	0	0
<i>Cyperus distans</i>	Cyperaceae	H		gn	0	0	0	0	0	0	0	0	0	0	0	1	1	0
<i>Dacryodes klaineana</i>	Burseraceae	T	sb	bu	0	1	1	0	0	0	0	1	1	0	0	0	0	1
<i>Dacryodes macrophylla</i>	Burseraceae	T	sb	gn	0	0	0	0	0	0	0	0	0	0	0	0	1	0
<i>Dalbergia saxatilis</i>	Leguminosae-Pap	L	np	gn	0	0	0	0	0	0	0	0	0	0	1	0	0	0
<i>Dalbergia sp</i>	Leguminosae-Pap	C			0	0	0	0	0	0	0	0	0	1	0	0	0	0
<i>Dalbergiella welwitschii</i>	Leguminosae-Pap	C		gn	0	0	0	1	0	0	1	0	0	1	0	0	0	0
<i>Daniellia ogea</i>	Leguminosae-Caes.	T	pi	bu	0	1	0	0	0	0	0	1	0	0	0	0	0	0
<i>Dasylepis cf. racemosa</i>	Flacourtiaceae	T		GD	0	0	0	1	0	0	0	1	0	0	1	1	0	0
<i>Desplatsia chrysochlamys</i>	Malvaceae (Tiliaceae)	T	sb	gn	0	0	0	0	0	0	0	1	0	0	0	1	0	0
<i>Desplatsia subericarpa</i>	Malvaceae (Tiliaceae)	T	sb	gn	0	0	0	0	0	0	0	0	0	0	0	1	0	1
<i>Dialium aubrevillea</i>	Leguminosae-Caes.	T	np	gn	0	0	0	0	0	0	0	1	0	0	0	0	0	0
<i>Dialium dinklaigei</i>	Leguminosae-Caes.	T	np	gn	1	0	0	0	0	0	0	1	0	0	1	0	0	0
<i>Dichaenthera africana</i>	Melastomataceae	T	pi	bu	0	0	0	1	0	0	0	0	0	0	0	0	0	0
<i>Dichapetalum angolense</i>	Dichapetalaceae	L	np	gn	0	0	1	0	0	0	0	0	0	1	1	0	0	0
<i>Dichapetalum madagascariense</i>	Dichapetalaceae	T		gn	0	0	0	0	0	0	0	0	0	0	0	0	0	0
<i>Dichapetalum</i>	Dichapetalaceae	T	sb	gn	0	0	1	0	0	0	0	0	0	0	0	0	0	0

HCV Assessment of SGSOC Concession for Oil Palm Plantation

<i>pallidum</i>																		
<i>Dichapetalum sp</i>	Dichapetalaceae	T			0	1	1	1	0	1	0	1	1	0	1	0	0	1
<i>Dichapetalum tomentosum</i>	Dichapetalaceae	S		GD	0	0	0	0	0	0	0	0	0	0	0	0	0	1
<i>Dichapetalum toxicarium</i>	Dichapetalaceae	T	sb	gn	1	0	0	0	0	0	0	0	0	1	1	1	0	1
<i>Dicranolepis disticha</i>	Thymeliaceae	S	sb	GD	1	0	0	0	0	0	0	0	1	1	1	0	0	1
<i>Dictyandra arborescens</i>	Rubiaceae	T	sb	gn	0	0	0	0	0	0	0	0	0	0	0	0	0	0
<i>Didelotia brevipaniculata</i>	Leguminosae-Caes.	T		bu	0	0	0	0	0	0	0	1	0	0	0	0	0	0
<i>Dioclea reflexa</i>	Leguminosae-Pap	C		gn	0	0	0	0	1	0	0	0	0	0	0	0	0	0
<i>Dioscorea bulbifera</i>	Dioscoreaceae	C	np	gn	0	0	0	0	0	0	0	0	0	0	0	0	0	1
<i>Dioscorea prahaensis</i>	Dioscoreaceae	C	pi	pk	0	0	0	0	0	0	0	0	0	0	0	0	0	1
<i>Dioscorea smilacifolia</i>	Dioscoreaceae	C	np	gn	0	0	0	0	0	0	0	0	1	1	0	0	0	0
<i>Dioscorea sp</i>	Dioscoreaceae	C			0	0	0	0	0	0	0	0	0	0	0	0	0	1
<i>Diospyros gabunensis</i>	Ebenaceae	T	sb	bu	1	1	0	1	0	1	0	0	1	0	0	0	1	0
<i>Diospyros kamerunensis</i>	Ebenaceae	T	sb	gn	0	0	0	0	0	0	0	0	0	0	0	0	0	0
<i>Diospyros mannii</i>	Ebenaceae	T	sb	gn	1	1	0	0	0	0	0	0	0	0	0	0	0	0
<i>Diospyros precatarius</i>	Ebenaceae	T	sb	gn	1	1	0	0	0	0	0	0	1	0	0	0	1	0
<i>Diospyros soubrena</i>	Ebenaceae	T	sb	gn	0	0	0	0	0	0	0	1	0	0	1	0	0	0
<i>Diospyros sp</i>	Ebenaceae	T	sb		0	0	0	0	0	0	0	0	0	0	0	0	0	0
<i>Discoglypema caloneura</i>	Euphorbiaceae	T	pi	gn	0	0	0	0	0	0	0	0	0	0	0	0	0	0
<i>Distemonanthus benthamianus</i>	Leguminosae-Caes.	T	np	pk	0	1	0	0	0	0	1	1	0	0	0	0	0	0
<i>Dorstenia ciliata</i>	Moraceae	S	sb	gn	0	0	0	0	0	0	0	0	0	0	0	1	0	0
<i>Dorstenia kameruniana</i>	Moraceae	S	sb	gn	1	1	0	0	0	0	0	0	0	0	0	1	1	0
<i>Dracaena camerooniana</i>	Dracaenaceae	T	sb	gn	0	0	0	0	0	0	0	0	0	0	1	0	0	0
<i>Dracaena phrynooides</i>	Dracaenaceae	S	sb	gn	0	0	0	0	1	0	0	1	1	0	0	1	1	0
<i>Dracaena sp</i>	Dracaenaceae	S	sb		1	0	0	0	0	0	0	0	0	0	0	0	1	0
<i>Dracaena surculosa</i>	Dracaenaceae	S	sb	gn	1	0	1	1	0	0	0	0	1	1	0	0	0	0
<i>Drypetes aubrevillea</i>	Euphorbiaceae	T	sb	gn	0	0	0	1	0	0	0	0	0	0	0	1	0	0
<i>Drypetes ivorensis</i>	Euphorbiaceae	S	sb	gn	0	0	0	0	0	0	0	0	0	0	0	0	1	0
<i>Drypetes principum</i>	Euphorbiaceae	T	sb	gn	1	1	0	0	0	1	0	0	0	0	0	0	0	0
<i>Drypetes sp</i>	Euphorbiaceae	T	sb		0	0	0	0	1	0	0	0	0	0	1	1	0	0
<i>Duboscia viridifolia</i>	Malvaceae (Tiliaceae)	T	pi	bu	0	0	0	0	0	0	0	1	0	0	0	0	0	0
<i>Duguetia staudtii</i>	Annonaceae	T	np	gn	1	0	0	0	1	1	0	1	0	0	0	0	1	0
<i>Elaeophoria grandifolia</i>	Euphorbiaceae	T	np	gn	0	0	0	0	0	0	0	0	0	1	0	0	0	0
<i>Elaies guineensis</i>	Palmae	T	pi	pk	1	0	1	1	1	0	0	0	1	1	0	1	0	0
<i>Entanda pursaetha</i>	Leguminosae-Mim.	C	pi	gn	0	1	0	0	0	0	0	0	0	0	0	0	0	0
<i>Entandrophragma angolense</i>	Meliaceae	T	np	SC	1	0	0	0	0	0	0	0	0	0	1	1	0	0
<i>Entandrophragma cylindricum</i>	Meliaceae	T	np	RD	0	1	0	0	0	0	0	1	1	1	0	0	0	0
<i>Eremospatha dransfieldii</i>	Palmae	L	np	RD	1	0	0	1	0	1	0	0	1	0	1	1	1	1
<i>Eremospatha macrocarpa</i>	Palmae	L	np	RD	1	1	1	1	0	1	0	1	1	0	1	0	1	0
<i>Eriocoelum kerstingii</i>	Sapindaceae	T	sb	gn	0	0	0	0	0	0	0	0	0	0	0	0	0	0
<i>Eriocoelum racemosum</i>	Sapindaceae	T	sb	gn	0	1	0	1	0	0	0	1	0	1	0	1	0	0
<i>Erythrophleum</i>	Leguminosae-Caes.	T	np	RD	0	1	1	0	0	0	0	0	0	0	0	0	0	0

HCV Assessment of SGSOC Concession for Oil Palm Plantation

<i>ivorensis</i>					0	0	0	0	0	0	0	0	0	0	0	0
<i>Erythroxylum mannii</i>	Erythroxylaceae	T	pi	gn	0	0	0	0	0	0	0	0	0	0	0	0
<i>Euadenia trifoliolata</i>	Capparaceae	S	sb	gn	0	0	0	0	0	0	0	0	0	0	0	1
<i>Euclinia longiflora</i>	Rubiaceae	S	sb	gn	0	0	0	0	0	0	1	0	1	0	0	0
<i>Eulophia sp</i>	Orchidaceae	H	sb	gn	0	0	0	0	0	0	0	0	1	0	0	0
<i>Farquharia elliptica</i>	Apocynaceae	C	pi	gn	0	0	0	1	0	0	0	0	0	0	1	0
<i>Ficus cyathistipula</i>	Moraceae	T		gn	0	0	0	0	0	1	0	0	0	0	0	0
<i>Ficus exasperata</i>	Moraceae	T	pi	gn	0	0	0	0	1	0	0	0	0	0	0	0
<i>Ficus mucoso</i>	Moraceae	T	pi	gn	0	0	0	0	0	0	0	1	0	0	0	0
<i>Ficus sur</i>	Moraceae	T	np	gn	0	0	0	0	1	0	1	0	0	0	0	0
<i>Friesodielsia enghiana</i>	Annonaceae	L	sb	gn	0	0	0	0	0	0	1	0	0	1	0	0
<i>Funtumia africana</i>	Apocynaceae	T	np	gn	0	0	1	1	0	0	1	0	1	1	0	0
<i>Garcinia epunctata</i>	Guttiferae	T	sb	pk	0	1	1	0	0	0	1	0	0	1	1	0
<i>Garcinia kola</i>	Guttiferae	T	sb	SC	0	0	0	0	0	1	0	0	0	0	1	0
<i>Garcinia mannii</i>	Guttiferae	T	sb	SC	0	0	0	0	1	1	0	0	0	0	0	1
<i>Garcinia smeathmannii</i>	Guttiferae	T	sb	gn	1	0	0	0	0	0	0	1	0	0	0	0
<i>Gardenia hirtella</i>	Rubiaceae	S	sb	gn	0	0	1	0	0	0	0	0	0	0	0	0
<i>Geophila afzelii</i>	Rubiaceae	H	sb	gn	0	0	1	0	0	0	0	0	0	0	1	0
<i>Geophila obvallata</i>	Rubiaceae	H	sb	gn	1	1	1	0	0	0	0	0	1	1	1	1
<i>Geophila repens</i>	Rubiaceae	H	sb	gn	1	1	0	0	0	0	0	0	0	0	1	0
<i>Gilbertiodendron preussii</i>	Leguminosae-Caes. Malvaceae	T			0	0	0	0	0	1	1	1	0	0	0	0
<i>Glyphaea brevis</i>	(Tiliaceae)	T	sb	gn	1	0	0	1	1	0	0	1	1	0	0	1
<i>Gnetum africana</i>	Gnetaceae	C	sb	pk	0	1	0	0	0	0	0	0	0	1	0	0
<i>Greenwayodendron suaveolens</i>	Annonaceae Malvaceae	T	sb	gn	0	0	1	0	0	0	0	0	1	1	0	0
<i>Grewia carpinifolia</i>	(Tiliaceae) Malvaceae	L	np	gn	0	0	0	0	0	0	0	0	0	0	0	0
<i>Grewia malacocarpa</i>	(Tiliaceae)	L	np	gn	0	1	1	1	0	1	0	0	0	0	0	1
<i>Griffonia simplicifolia</i>	Leguminosae-Caes.	L	np	gn	0	0	0	1	0	0	0	0	0	0	0	0
<i>Guarea cedrata</i>	Meliaceae	T	sb	pk	0	0	1	0	0	0	0	0	0	0	1	0
<i>Hallea ledermannii/stipulosa</i>	Rubiaceae	T	sw	RD	0	0	0	1	0	0	1	1	0	0	0	0
<i>Hannoa klaineana</i>	Simaroubaceae	T	pi	gn	0	0	0	0	0	0	0	0	0	0	0	0
<i>Harungana madagascariensis</i>	Guttiferae	T	pi	gn	0	0	0	1	0	0	1	1	0	0	0	0
<i>Homalium africanum</i>	Salicaceae	T	sw	gn	1	0	0	0	1	0	0	0	0	0	0	0
<i>Homalium lestui</i>	Salicaceae	T	np	gn	0	0	0	0	0	0	1	1	0	0	0	0
<i>Hugonia planchonii</i>	Linaceae	L	np	gn	0	0	0	0	1	0	0	0	1	0	0	0
<i>Hugonia platysepala</i>	Linaceae	L	np	gn	0	0	1	1	0	0	0	0	0	0	1	0
<i>Hunteria umbellata</i>	Apocynaceae	T	sb	gn	1	0	0	0	0	0	0	0	1	0	0	0
<i>Hutchinsonia barbata</i>	Rubiaceae	S	sb	gn	0	0	0	0	0	0	0	1	0	0	0	0
<i>Hylocladon gabunense</i>	Leguminosae-Caes.	T	pi	pk	0	0	0	1	0	0	0	1	0	0	1	0
<i>Hymenocoleus hirsutus</i>	Rubiaceae	H	sb	gn	0	0	0	0	0	0	0	0	0	0	1	0
<i>Hymenostegia azfelii</i>	Leguminosae-Caes.	T	sb	gn	0	0	0	0	0	0	0	0	1	0	0	1
<i>Hypselodelphys poggeana</i>	Marantaceae	H	pi	gn	0	0	1	1	1	0	1	1	0	1	0	1
<i>Irvingia cf. grandifolia</i>	Irvingiaceae	T	np	gn	0	0	0	0	0	0	1	0	0	0	0	0
<i>Irvingia gabonensis</i>	Irvingiaceae	T	np	pk	0	1	0	0	0	0	0	0	0	0	0	0
<i>Isolona sp</i>	Annonaceae	L	np	gn	0	0	0	0	0	0	0	1	0	0	0	0
<i>Khaya anthothea/ivorensis</i>	Meliaceae	T	np	SC	1	0	0	0	0	0	0	0	0	0	0	0
<i>Khaya grandifolia</i>	Meliaceae	T	np	SC	0	0	1	0	0	0	0	0	0	0	0	0
<i>Klainedoxa gabonensis</i>	Irvingiaceae	T	np	gn	0	0	0	0	0	1	0	0	0	0	0	0
<i>Laccosperma</i>	Palmae	L	np	pk	0	0	0	0	0	0	0	1	0	0	1	0

HCV Assessment of SGSOC Concession for Oil Palm Plantation

<i>opacum</i>																	
<i>Landolphia barteri</i>	Apocynaceae	L	np	gn	0	0	0	0	0	0	0	0	0	0	1	0	0
<i>Landolphia dulcis</i>	Apocynaceae	L	np	gn	0	1	1	0	1	0	0	1	0	0	0	1	0
<i>Landolphia sp</i>	Apocynaceae	L	np	gn	0	0	0	0	0	1	0	0	0	1	0	0	0
<i>Lecaniodiscus cupanioides</i>	Sapindaceae	T	sb	gn	0	1	0	0	0	0	0	0	1	0	0	0	0
<i>Leea guineensis</i>	Leeaceae	S	pi	gn	0	0	0	1	1	1	0	0	1	0	0	0	0
<i>Leptoderris miegii</i>	Leguminosae-Pap	L	pi	gn	0	0	0	0	0	1	0	0	0	0	0	0	0
<i>Leptonychia pubescens</i>	Malvaceae (Tiliaceae)	T	np	gn	0	0	0	0	0	0	0	0	0	0	0	0	1
<i>Letaspis cochleata</i>	Graminae	G	sb	gn	0	1	0	0	0	0	0	0	1	1	0	0	1
<i>Lindackeria dentata</i>	Flacourtiaceae	T	pi	gn	0	0	0	0	0	0	0	1	0	0	0	0	0
<i>Lophira alata</i>	Ochnaceae	T	pi	RD	1	1	0	0	1	0	0	0	0	1	1	0	0
<i>Lovoa trichilioides</i>	Meliaceae	T	np	RD	0	0	1	0	1	0	0	0	0	0	0	0	0
<i>Macaranga barteri</i>	Euphorbiaceae	T	pi	gn	0	0	0	0	0	0	1	1	0	1	0	0	0
<i>Macaranga heretophylla</i>	Euphorbiaceae	T	pi	gn	0	0	0	0	0	0	0	0	0	0	0	0	0
<i>Macaranga heurifolia</i>	Euphorbiaceae	T	pi	gn	0	0	0	0	1	0	0	0	0	0	0	0	0
<i>Maesobotrya barteri</i>	Euphorbiaceae	T	sb	gn	1	0	0	0	0	0	0	0	0	0	1	0	1
<i>Mallotus oppositifolius</i>	Euphorbiaceae	T	sb	gn	0	0	0	0	0	0	0	0	1	1	0	0	0
<i>Manniophytom fulvum</i>	Euphorbiaceae	L	np	gn	0	0	0	0	0	0	0	1	0	0	0	0	1
<i>Mapania baldwinii</i>	Cyperaceae	H	sb	gn	1	0	1	0	1	0	0	1	0	0	0	1	1
<i>Maranthes aubrevillei</i>	Chrysobalanaceae	T	sb	bu	0	1	0	0	0	1	0	0	0	0	0	1	0
<i>Maranthes chrysophylla</i>	Chrysobalanaceae	T	sb	bu	0	1	0	0	0	0	0	0	0	0	0	0	0
<i>Marantochloa congensis</i>	Marantaceae	H	pi	bu	0	0	0	0	0	0	0	1	0	0	0	0	0
<i>Marantochloa leucantha</i>	Marantaceae	H	pi	gn	0	0	0	0	0	0	0	0	0	1	0	0	1
<i>Marantochloa purpurea</i>	Marantaceae	H	pi	gn	0	0	0	0	0	0	0	0	0	0	0	0	0
<i>Marattia fraxinea</i>	Marattiaceae	F	sw	gn	0	0	1	0	0	0	0	0	0	0	0	0	0
<i>Massularia acuminata</i>	Rubiaceae	T	sb	gn	1	1	1	0	1	1	0	1	1	1	1	1	1
<i>Megaphrynium macrostachyum</i>	Marantaceae	H	pi	gn	0	0	0	0	0	0	0	0	0	0	0	1	0
<i>Memecylon lateriflorum</i>	Melastomataceae	T	sb	gn	0	0	1	0	0	0	0	0	0	1	0	1	0
<i>Microdesmis puberula</i>	Pandaceae	T	sb	gn	1	1	1	1	0	1	0	0	1	0	1	1	1
<i>Microsorium punctatum</i>	Fern?	E		gn	0	0	0	0	0	0	0	0	0	0	0	0	0
<i>Millettia chrysophylla</i>	Leguminosae-Pap	L	sb	gn	1	0	0	0	1	0	0	0	0	1	0	0	1
<i>Millettia lucens</i>	Leguminosae-Pap	C	sb	gn	0	0	0	1	0	0	0	0	0	0	0	0	0
<i>Millettia sp</i>	Leguminosae-Pap	T	pi	gn	0	0	0	0	0	0	0	0	0	1	0	0	0
<i>Millettia zechiana</i>	Leguminosae-Pap	L	pi	gn	0	0	1	0	0	0	0	0	0	1	0	1	0
<i>Mimosa pudica</i>	Leguminosae-Mim.	C	pi	gn	0	0	0	0	0	1	0	0	0	0	0	0	0
<i>Monanthes whytei</i>	Annonaceae	H	pi	bu	1	0	0	0	0	0	0	0	0	0	0	0	0
<i>Monodora myristica</i>	Annonaceae	T	sb	gn	1	1	0	0	1	1	0	0	1	0	0	1	1
<i>Monodora tenuifolia</i>	Annonaceae	T	pi	gn	0	0	0	0	0	0	0	0	0	1	0	0	0
<i>Motandra guineensis</i>	Apocynaceae	C	np	gn	0	0	0	0	0	0	0	1	0	0	0	0	1
<i>Musanga cecropioides</i>	Cecropiaceae	T	pi	gn	1	0	0	1	1	1	1	1	1	0	0	0	1
<i>Mussaenda isertiana</i>	Rubiaceae	H	pi	bu	0	0	0	0	0	0	0	0	0	0	0	0	1
<i>Myrianthus arboreus</i>	Cecropiaceae	T	sb	gn	0	0	0	0	0	1	0	0	1	0	0	1	0
<i>Myrianthus libericus</i>	Cecropiaceae	T	sb	gn	0	0	0	0	1	0	0	0	0	0	0	0	0
<i>Napoleonaea vogelii</i>	Lecythidaceae	T	sb	gn	0	1	0	0	1	1	0	0	1	0	0	1	1
<i>Nephrolepis bisserata</i>	Oleandraceae	E		gn	0	0	0	1	0	0	0	0	0	0	0	0	0
<i>Nephtytis sp</i>	Araceae	C			0	0	1	0	0	0	0	1	0	0	1	0	0

HCV Assessment of SGSOC Concession for Oil Palm Plantation

<i>Newbouldia laevis</i>	Bignoniaceae	T	pi	gn	0	0	0	0	0	0	0	0	1	0	0	0	0	0
<i>Octokenema borealis</i>	Olacaceae	T	np	gn	0	0	0	0	0	0	0	0	0	0	0	0	0	0
<i>Olax gabecola</i>	Olacaceae	T	sb	gn	0	0	0	0	0	0	0	0	0	1	0	0	0	0
<i>Olyra latifolia</i>	Graminae	G	sb	gn	1	0	0	0	0	1	0	1	0	0	0	1	1	0
<i>Orchid?</i>	Orchidaceae	E			0	0	0	1	0	0	0	0	0	0	0	0	0	0
<i>Orcia suaveolens</i>	Rutaceae	T	sb	gn	1	0	0	0	0	0	0	0	0	0	0	0	0	0
<i>Orthopichornea indeniensis</i>	Apocynaceae	C	sb	bu	0	0	0	1	0	0	0	0	0	0	0	0	0	0
<i>Oxyathus speciosus</i>	Rubiaceae	T	np	gn	0	0	0	0	0	0	0	1	0	1	0	0	0	0
<i>Oxyathus unilocularis</i>	Rubiaceae	T	sb	bu	0	0	1	0	1	0	0	0	0	0	0	0	0	0
<i>Pachystela brevipes</i>	Sapotaceae	T	sw	gn	0	0	0	0	0	0	0	1	0	0	0	0	0	0
<i>Palisota barteri</i>	Commelinaceae	H	pi	gn	0	0	1	0	1	1	0	1	0	0	1	1	1	1
<i>Palisota hirsuta</i>	Commelinaceae	H	pi	gn	0	0	1	1	1	0	0	1	1	1	1	1	1	1
<i>Pancovia sp</i>	Sapindaceae	T			0	0	0	0	0	0	1	0	0	0	0	0	0	0
<i>Panda oleosa</i>	Pandaceae	T	sb	gn	0	1	0	0	0	0	0	0	0	0	0	0	0	0
<i>Pandanus candelabrum</i>	Pandanaceae	T	sw	bu	0	0	0	0	0	0	1	0	0	0	0	0	0	0
<i>Paulinia pinnata</i>	Sapindaceae	L	pi	gn	0	0	0	0	1	0	0	0	0	0	0	0	0	0
<i>Pausinystalia macroceras</i>	Rubiaceae	T	sb	gn	0	0	0	0	0	0	0	0	0	0	0	0	0	0
<i>Pavetta sp</i>	Rubiaceae	S			0	0	0	0	0	0	0	0	1	0	1	0	0	1
<i>Pentaclethra macrophylla</i>	Leguminosae-Mim.	T	np	pk	1	1	1	0	1	1	0	0	0	0	1	1	0	0
<i>Pentadesma butyracea</i>	Guttiferae	T	sb	bu	0	0	0	1	0	1	0	1	0	0	0	0	0	0
<i>Petersianthus macrocarpus</i>	Lecythidaceae	T	np	RD	0	1	1	1	0	0	0	0	0	0	0	1	0	0
<i>Phyllanthus muellerianus</i>	Euphorbiaceae	S	pi	gn	0	0	0	1	0	0	0	0	0	0	0	0	0	0
<i>Piper capense</i>	Piperaceae	C	sb	gn	0	0	0	1	0	0	0	0	0	0	0	0	0	0
<i>Piper guineense</i>	Piperaceae	C	sb	pk	0	0	1	1	1	0	0	0	0	0	0	0	0	1
<i>Piptadeniastrum africanum</i>	Leguminosae-Mim.	T	np	RD	1	0	1	0	0	1	0	1	1	1	1	0	1	1
<i>Piptostigma fasciculata</i>	Annonaceae	T	sb	gn	0	0	0	0	0	0	0	0	0	0	0	1	0	0
<i>Placodiscus boya</i>	Sapindaceae	T	np	gn	0	0	0	0	0	0	0	0	0	0	0	0	0	0
<i>Platysepalum hirsutum</i>	Leguminosae-Pap	L	pi	gn	0	0	1	0	0	0	0	1	0	0	0	1	0	0
<i>Pleioceras sp</i>	Apocynaceae	T			0	0	0	0	0	0	0	1	0	0	0	0	0	0
<i>Pouteria aningeri</i>	Sapotaceae	T	np	RD	0	1	0	0	0	0	0	0	0	0	0	0	0	0
<i>Protomegabaría stapfiana</i>	Euphorbiaceae	T	sb	bu	0	0	0	0	0	0	1	1	0	0	0	0	0	0
<i>Pseudospondias microcarpa</i>	Anacardiaceae	T	sw	gn	0	0	0	0	0	0	1	0	0	0	0	0	0	0
<i>Psidium guajava</i>	Myrtaceae	T			0	0	0	0	0	0	1	0	0	0	0	0	0	0
<i>Psychotria brachyantha</i>	Rubiaceae	H			1	0	0	0	0	0	0	0	1	0	0	0	0	0
<i>Psychotria sp</i>	Rubiaceae	H			0	0	0	0	0	0	0	1	0	0	0	0	0	0
<i>Psydrax arnoldiana</i>	Rubiaceae	T	pi	bu	0	1	0	0	0	0	0	0	0	0	0	0	0	0
<i>Psydrax subcordata</i>	Rubiaceae	T	pi	gn	0	0	0	1	0	0	0	0	0	0	0	0	0	0
<i>Pterocarpus mildbraedii</i>	Leguminosae-Pap	T	sw	gn	0	0	0	0	0	0	1	0	0	0	0	0	0	0
<i>Ptycopetalum anceps</i>	Olacaceae	S	sb	gn	1	1	0	0	1	0	0	0	0	0	0	0	0	1
<i>Pycnanthus angolensis</i>	Myristicaceae	T	np	pk	1	0	1	1	1	0	1	1	1	1	1	1	1	1
<i>Pycnocomma angustifolia</i>	Euphorbiaceae	S	sb	gn	1	1	0	0	0	1	0	0	0	0	0	0	0	0
<i>Pycnocomma macrophylla</i>	Euphorbiaceae	S	sb	gn	0	1	0	0	0	0	0	1	0	0	0	0	0	0
<i>Raphia hookeri</i>	Palmae	T	sw	pk	0	0	0	1	1	0	1	1	0	0	0	0	1	0
<i>Rauvolfia cf. macrophylla</i>	Apocynaceae	T	pi	bu	0	0	0	0	1	0	0	0	0	0	0	0	0	0

HCV Assessment of SGSOC Concession for Oil Palm Plantation

<i>Rauvolfia vomitoria</i>	Apocynaceae	T	pi	gn	0	0	0	0	0	0	0	0	0	1	0	0	0	0
<i>Rhabdophyllum affinis</i>	Ochnaceae	S	np	gn	0	0	0	0	0	0	0	0	0	1	0	0	0	1
<i>Rhabdophyllum calophyllum</i>	Ochnaceae	S	np	gn	1	0	0	0	0	0	0	0	0	0	0	0	0	0
<i>Rhaphiodophora africana</i>	Araceae	C		gn	1	0	1	0	0	0	0	1	1	1	0	0	1	0
<i>Rhaphiostylis cordifolia</i>	Icacinaceae	C	sb	gn	0	0	0	0	0	0	0	0	0	0	0	0	0	0
<i>Rhaphiostylis preussii</i>	Icacinaceae	C	sb	gn	0	0	0	0	0	0	0	0	0	0	0	0	0	0
<i>Rhektophyllum camerunense</i>	Araceae	E		bu	1	1	1	1	0	1	0	1	1	1	1	1	0	1
<i>Rhigiocarya racemifera</i>	Menispermaceae	C	pi	gn	0	0	0	1	0	0	0	0	0	0	0	0	0	0
<i>Ricinodendron heudelotii</i>	Euphorbiaceae	T	pi	pk	0	0	0	0	0	0	0	0	1	1	0	0	0	0
<i>Rinorea oblongifolia</i>	Violaceae	T	sb	gn	1	1	0	0	0	1	0	1	0	1	0	0	0	1
<i>Rinorea sp</i>	Violaceae	T	sb		0	0	0	0	0	1	0	0	0	0	0	1	0	0
<i>Rinorea subintegrifolia</i>	Violaceae	T	sb	gn	1	1	0	0	0	0	0	0	1	1	0	0	0	1
<i>Rothmannia hispida</i>	Rubiaceae	T	sb	gn	1	1	1	0	0	1	0	1	1	1	1	1	0	1
<i>Rothmannia longiflora</i>	Rubiaceae	T	sb	gn	1	0	1	1	0	0	0	0	0	0	0	1	0	0
<i>Rothmannia whitfieldii</i>	Rubiaceae	T	sb	gn	0	1	0	0	0	0	0	1	1	0	1	1	0	0
<i>Rytigyna nigerica</i>	Rubiaceae	S	pi	gn	0	0	0	0	0	0	0	0	0	1	0	1	0	0
<i>Salacia nitida</i>	Celastraceae	L	sb	gn	0	0	0	0	1	1	0	0	1	0	1	0	0	1
<i>Salacia sp</i>	Celastraceae	L	sb	gn	0	0	0	0	0	1	0	0	0	0	1	0	0	0
<i>Samanea dinklaigei</i>	Leguminosae-Mim.	T	sb	gn	0	0	0	0	1	0	0	0	0	0	0	0	0	0
<i>Sapium aubrevillei</i>	Euphorbiaceae	T	pi	gn	0	0	0	0	0	0	0	0	0	0	0	0	1	0
<i>Sarcocephalus pobeguinii</i>	Rubiaceae	T	sw	gn	0	0	0	0	0	1	1	0	0	0	0	0	0	0
<i>Sarcophrynium brachystachys</i>	Marantaceae	H	sb	gn	1	0	0	0	0	1	0	0	0	0	0	1	1	0
<i>Scaphopetalum amoenum</i>	Malvaceae (Sterculiaceae)	S	sb	gn	0	0	0	0	1	0	0	0	0	0	1	0	0	0
<i>Schumanniophyton problematicum</i>	Rubiaceae	T	np	gn	0	0	0	0	0	0	0	0	0	1	0	0	0	1
<i>Scleria boivinii</i>	Graminae	G	pi	gn	0	0	0	0	1	0	1	0	0	0	0	0	0	0
<i>Scottellia klaineana</i>	Flacourtiaceae	T	np	gn	1	0	0	0	0	0	0	0	0	0	0	0	0	0
<i>Secamone afzelii</i>	Apocynaceae	C	pi	gn	0	0	0	0	1	0	0	0	0	0	0	0	0	0
<i>Sellaginella kalbreyeri</i>	Sellaginellaceae	H		gn	0	0	0	1	1	0	0	0	0	1	0	0	0	0
<i>Senna alata</i>	Leguminosae-Caes.	S			0	0	0	0	0	0	1	0	0	0	0	0	0	0
<i>Setaria babata</i>	Graminae	G		gn	0	0	0	0	1	0	0	0	0	0	0	0	0	0
<i>Sherbournia calycina</i>	Rubiaceae	T	np	gn	0	0	0	1	0	0	0	0	0	0	0	0	0	0
<i>Smilax krausiana</i>	Smilaciacaeae	L	pi	gn	0	0	1	0	1	0	0	1	1	1	0	0	0	1
<i>Solanum torvum</i>	Solanaceae	S	pi	gn	0	0	0	0	1	0	0	0	0	0	0	0	0	0
<i>Sorindeia grangifolia</i>	Anacardiaceae	T		bu	0	0	0	0	0	1	0	0	0	0	0	0	0	0
<i>Soyauxia grandifloia</i>	Medusandraceae	T			0	0	0	0	0	0	0	0	0	0	0	0	0	0
<i>Soyauxia velutina</i>	Medusandraceae	T			0	0	0	0	0	0	0	1	0	0	0	0	0	0
<i>Spatandra blakeoides</i>	Melastomataceae	T	sb	gn	0	0	0	0	1	1	1	0	0	0	0	0	0	0
<i>Stemonocoleus micranthus</i>	Leguminosae-Caes. Malvaceae	T	np	bu	0	0	0	0	1	0	0	0	1	0	1	0	0	0
<i>Sterculia oblonga</i>	(Sterculiaceae) Malvaceae	T	np	pk	0	0	0	0	0	0	0	0	0	0	0	0	1	0
<i>Sterculia rhinopetala</i>	(Sterculiaceae) Malvaceae	T	np	pk	0	0	0	0	0	0	1	1	0	0	0	0	0	0
<i>Sterculia tragacantha</i>	(Sterculiaceae)	T	np	gn	0	0	0	1	1	1	0	0	0	1	0	0	0	1

HCV Assessment of SGSOC Concession for Oil Palm Plantation

<i>Stipularia africana</i>	Rubiaceae	H	sw		0	0	0	1	0	0	0	0	0	0	0	0	0	
<i>Strephonema pseudocola</i>	Combretaceae	T	np	bu	0	0	0	0	0	1	0	0	0	0	0	0	0	
<i>Strombosia glaucescens</i>	Olacaceae	T	sb	gn	1	1	1	0	1	0	0	0	0	0	1	0	1	
<i>Strombosia pustulata</i>	Olacaceae	T	sb	bu	0	1	1	0	0	1	0	0	1	0	1	0	0	
<i>Strophanthus sarmentosus</i>	Apocynaceae	C	pi	gn	0	0	0	0	0	0	1	0	1	0	0	1	0	0
<i>Strychnos aculeata</i>	Loganiaceae	L	pi	gn	1	1	0	0	1	1	1	1	0	1	0	1	0	1
<i>Strychnos campicola</i>	Loganiaceae	L	np	gn	0	0	0	0	0	1	1	0	0	0	0	0	0	0
<i>Strychnos smilacifolia</i>	Loganiaceae	L	pi	gn	0	0	1	0	0	0	0	0	0	0	0	1	0	0
<i>Symphonia globulifera</i>	Guttiferae	T	sw	gn	0	0	0	0	0	0	0	0	1	0	0	0	0	0
<i>Synsepalum afzelii</i>	Sapotaceae	T	np	gn	0	0	1	0	0	1	0	0	0	0	0	0	1	0
<i>Tabernaemontana africana</i>	Apocynaceae	T	sb	gn	0	1	1	0	1	0	0	0	1	0	1	1	1	1
<i>Tabernaemontana crassa</i>	Apocynaceae	T	sb	gn	1	0	0	0	0	0	0	0	1	0	1	0	0	0
<i>Teclea verdoniana</i>	Rutaceae	T	np	gn	0	0	0	0	0	0	0	0	0	1	0	0	0	0
<i>Terminalia ivorensis</i>	Combretaceae	T	pi	SC	0	0	0	0	1	0	1	1	0	1	0	0	0	0
<i>Terminalia surperba</i>	Combretaceae	T	pi	pk	0	0	0	0	0	0	1	0	1	0	0	0	0	0
<i>Tessmania baikieoides</i>	Leguminosae-Caes.	T	sb	bu	0	0	0	0	0	1	0	0	0	0	0	0	0	0
<i>Tetracera alnifolia</i>	Dilleniaceae	L	sb	gn	0	1	1	0	0	1	0	1	0	0	0	1	0	0
<i>Tetrapleura tetraptera</i>	Leguminosae-Mim.	T	pi	pk	0	0	0	0	0	0	0	0	0	1	0	0	0	0
<i>Tetrorchidium didymostemon</i>	Euphorbiaceae	T	pi	gn	0	0	0	1	1	0	0	1	0	0	0	0	0	0
<i>Tiliacora dielsiana</i>	Menispermaceae	L	sb	gn	1	0	0	0	0	0	0	0	0	0	0	0	0	0
<i>Treculia africana</i>	Moraceae	T	np	gn	0	0	0	0	1	1	0	1	0	0	0	0	0	0
<i>Treculia sp.</i>	Moraceae	T			0	0	0	0	0	1	0	0	0	0	0	1	0	0
<i>Trema orientalis</i>	Ulmaceae	T	pi	gn	0	0	0	1	1	0	0	0	0	0	0	0	0	0
<i>Tricalysia discolor</i>	Rubiaceae	T	sb	gn	0	0	1	0	0	0	0	0	1	1	1	1	1	0
<i>Tricalysia pallens</i>	Rubiaceae	T	sb	gn	0	0	0	0	0	0	0	0	0	0	1	0	0	0
<i>Trichilia monadelpha</i>	Meliaceae	T	np	gn	1	1	1	0	1	0	0	1	1	1	0	1	1	1
<i>Trichilia priureana</i>	Meliaceae	T	sb	gn	0	0	0	0	0	0	0	0	0	1	0	0	0	1
<i>Trichilia sp.</i>	Meliaceae	T			0	0	0	0	0	1	0	0	0	0	0	0	0	0
<i>Trichilia tessmannii</i>	Meliaceae	T	np	pk	0	0	0	0	0	0	0	1	0	0	0	1	1	0
<i>Trichoscypha arborea</i>	Anacardiaceae	T		gn	1	0	0	0	1	1	0	0	0	0	0	1	0	0
<i>Triclisia dictyophylla</i>	Menispermaceae	L	pi	gn	1	1	0	0	0	1	0	1	1	0	0	0	1	1
<i>Trilepesium angolense</i>	Moraceae	T	np	gn	0	1	0	0	0	0	0	0	0	0	1	1	0	0
<i>Trilepesium madagascariense</i>	Moraceae	T	np	gn	0	1	0	0	1	0	0	0	1	1	0	0	0	0
<i>Turraenthus africanus</i>	Meliaceae	T	sb	pk	1	0	0	0	0	1	0	0	0	0	0	0	0	0
<i>Uapaca guineensis</i>	Euphorbiaceae	T	np	gn	0	1	1	0	0	0	0	0	0	0	0	1	1	0
<i>Uapaca heudelotii</i>	Euphorbiaceae	T	sw	bu	0	0	0	0	1	1	1	1	0	0	0	0	0	0
<i>Uapaca paludosa</i>	Euphorbiaceae	T	sw	gn	0	0	0	1	0	1	0	0	0	0	0	0	0	0
<i>Uapaca sp.</i>	Euphorbiaceae	T			1	0	0	0	0	0	0	0	0	0	0	0	0	0
<i>Uvaria sp.</i>	Annonaceae	C			0	0	1	0	0	1	0	0	0	0	0	0	0	1
<i>Uvariastrum sp.</i>	Annonaceae	C			0	0	0	0	1	0	0	0	0	0	0	1	0	1
<i>Uvariadendron calophyllum</i>	Annonaceae	T			0	1	1	0	0	1	0	1	0	0	0	1	0	0
<i>Ventilago africana</i>	Rhamnaceae	C			0	0	1	1	1	0	0	0	1	0	0	1	1	0
<i>Vernonia conferta</i>	Asteraceae	T	pi	gn	0	0	0	0	0	0	0	0	0	0	1	0	0	1
<i>Vernonia titanophylla</i>	Asteraceae	T	pi	bu	0	0	0	0	0	0	0	0	0	0	0	0	0	0
<i>Vitex ferruginea</i>	Verbenaceae	T	np	gn	1	0	0	0	0	0	0	1	0	0	0	0	1	1
<i>Vitex grandifolia</i>	Verbenaceae	T	np	bu	0	0	0	1	1	1	0	0	0	0	0	0	0	0
<i>Vitex micrantha</i>	Verbenaceae	T	sb	gn	1	0	0	0	0	0	1	0	0	0	0	0	0	0
<i>Vitex rivularis</i>	Verbenaceae	T	np	gn	0	0	0	0	0	0	0	0	1	0	0	0	0	0

HCV Assessment of SGSOC Concession for Oil Palm Plantation

<i>Voacanga africana</i>	Apocynaceae	T	pi	gn	0	0	1	0	0	0	1	0	1	0	0	0	0	0
<i>Voacanga thoursii</i>	Apocynaceae	T	pi	gn	0	0	0	0	0	0	0	0	0	0	0	0	0	0
<i>Warneckia sp</i>	Melastomataceae	T			0	1	0	0	0	1	0	0	0	0	0	0	0	1
<i>Xylopia parviflora</i>	Annonaceae	T	np	gn	0	1	0	0	0	0	0	1	0	0	1	0	0	0
<i>Xylopia quintasii</i>	Annonaceae	T	np	gn	0	0	1	0	0	0	0	1	0	0	1	1	1	0
<i>Xylopia rubescens</i>	Annonaceae	T	sw	gn	0	0	0	0	1	0	0	0	0	0	0	0	0	0
<i>Xylopia sp</i>	Annonaceae	T			0	1	0	0	0	0	0	0	0	0	0	0	0	0
<i>Zanthoxylon gilletti</i>	Rutaceae	T	pi	gn	1	0	0	0	0	0	1	1	0	0	0	0	0	0
<i>Zanthoxylon sp</i>	Rutaceae	T			0	0	0	1	0	0	0	0	0	0	0	0	0	0