GOVERNMENT OF THE
REPUBLIC OF LIBERIA

STRATEGIC ENVIRONMENTAL AND SOCIAL ASSESSMENT FOR THE REDD-READINESS PREPARATION ACTIVITIES OF THE LIBERIAN ENVIRONMENTAL PROTECTION AGENCY

SESA REPORT – FINAL

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TETRA TECH

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ACRONYMS

AML	Arcelor Mittal Liberia
AZE	Alliance for Zero Extinction
AZEs	Alliance for Zero Extinction Sites
BBOP	Business and Biodiversity Offset Program
CBD	Convention on Biological Diversity
CE	Critically Endangered
CFMA	Community Forestry Management Area
CI	Conservation International
CRL	Community Rights Law
CSO	Civil Society Organization
E&S	Environmental and Social
EA	Environmental Assessment
EIA	Environmental Impact Assessment
EN	Endangered
ENNR	East Nimba Nature Reserve
EPA	Environmental Protection Agency
EPML	Environmental Protection and Management Law
ERL	Emissions Reference Level
ESIA	Environmental and Social Impact Assessment
ESMF	Environmental and Social Management Framework
FAO	United Nations Food and Agriculture Organization
FCPF	Forest Carbon Partnership Facility
FDA	Forestry Development Authority
FERL	Forest Emissions Reference Level
FFI	Fauna and Flora International
FGRM	Feedback and Grievance Redress Mechanism
FMC	Forest Management Contract
FPIC	Free Prior Informed Consent
FSC	Forest Stewardship Council
FUP	Forest Use Permit
GHG	Greenhouse Gas
GIS	Geographic Information System
GoL	Government of the Republic of Liberia
GVL	Golden Veroleum (Liberia)
ha	Hectare
HCS	High Carbon Stock

HCV	High Conservation Value
IBA	Important Bird and Biodiversity Areas
IFC	International Finance Corporation
INC	Initial National Communication
INDC	Intended Nationally Determined Contribution
IPM	Integrated Pest Management
IUCN	International Union for Conservation of Nature
KBA	Key Biodiversity Area
KII	Key Informant Interview
LCC	Land Conflict Center
LEITI	Liberia Extractive Industries Transparency Initiative
LFI	Liberia Forestry Initiative
LFSP	Liberia Forest Sector Program
LISGIS	Liberia Institute of Statistics and Geo-Information Services
LOI	Letter of Intent
MLME	Ministry of Lands, Mines, and Energy
MRV	Monitoring, Researching, and Verification
NBST	National Benefit-sharing Trust Board
NFRL	National Forest Reform Law
NGO	Nongovernmental Organization
NTFP	Non-timber Forest Product
OP	Operational Policy
P&C	Principles and Criteria
PA	Protected Area
PAN	Protected Areas Network
PPCA	Public Procurement and Concessions Act
P-PA	Production-Protection Agreement
PPA	Proposed Protected Area
PUP	Private Use Permit
REDD	Reducing Emissions from Deforestation and Forest Degradation
REDD+	Reducing Emissions from Deforestation and Forest Degradation in Developing Countries; and the role of Conservation, Sustainable Management of Forests and Enhancement of Forest Carbon Stocks.
R-PP	Readiness Preparation Proposal
RSPB	Royal Society for the Protection of Birds
RSPO	Roundtable for Sustainable Palm Oil
RTWG	REDD+ Technical Working Group
SCNL	Society for the Conservation of Nature in Liberia

SEA	Strategic Environmental Assessment
SES	Social and Environmental Standards
SESA	Strategic Environmental and Social Assessment
SO	Strategy Option/(s)
TOR	Terms of Reference
TSC	Timber Sales Contract
VPA	Voluntary Partnership Agreement
VPA-SU	Voluntary Partnership Agreement Support Unit
VU	Vulnerable
WB	World Bank
WRI	World Resources Institute

EXECUTIVE SUMMARY

INTRODUCTION

In May 2014, the REDD Implementation Unit of the Government of the Republic of Liberia's Forestry Development Authority (FDA) commissioned this Strategic Environmental and Social Assessment (SESA) of the Liberia REDD+ Strategy. It is accompanied by a separate report detailing an Environmental and Social Management Framework (ESMF).

LIMITATIONS OF THE SESA

The REDD+ Strategy was developed concurrently with the SESA, and the REDD+ Strategy has not yet been finalized. As a result, SESA recommendations for adjustments to be made to the REDD+ Strategy had not been incorporated at the time that the SESA was concluded. In the event that the final REDD+ Strategy has included these changes, some of the recommended adjustments may no longer be relevant.

METHODOLOGY

The SESA was developed concurrently with, and in support of, the REDD+ Strategy. The SESA supports the REDD+ Strategy by identifying potential environmental and social impacts of the National REDD+ Strategy, including applicable World Bank Safeguards that could be triggered in implementation of the strategy. Importantly, it also provides opportunities for stakeholders to influence REDD+ development. As a result, the SESA development process involved extensive consultations and validations with relevant stakeholders throughout the course of its development. These stakeholders were identified at the initial stages of the SESA development and were validated at a National Validation Workshop where the methodology for the SESA was presented to stakeholders in July 2014. An Inception Report was also developed that presented the SESA methodology and proposed work plan. Due to the Ebola virus outbreak in Liberia, activities were seriously constrained in the latter part of 2014 and the first months of 2015. Activities resumed in March 2015 and included a situational analysis that culminated in a Scoping Report approved by the FDA in October 2015. The situational analysis was informed by desk-based data collation and analysis (including a legal analysis, key informant interviews, and sourcing of spatial and non-spatial datasets. In addition, field case study sites were identified and validated by stakeholders as representative of the diversity of forest communities and users in Liberia. Sites included authorized community forest communities; communities affected by mining, agriculture, and forestry concessions; communities around Protected Areas (PAs) and proposed Protected Areas (PPAs); areas of varying population density; areas with easy access by all-weather roads; and more remote communities with limited access to goods and services. These case studies complemented the desk research, and findings were validated at regional-level meetings. Data and analysis from the case studies and desk studies led to the development of social and economic themes and priority objectives or outcomes, which were presented in the SESA Priorities Report in April 2016. These outcomes were validated at regional and national workshops where they were prioritized into 24 distinct priority outcomes. These priorities were critical for the actual social and environmental assessment as they provided the basis against which the REDD+ Strategy Options were assessed.

A preliminary assessment was conducted in May 2016, based on drafts of the REDD+ Strategy. This provided an in-depth analysis of each of the REDD+ Priorities and Strategy Options (SOs), which was provided to the REDD+ Strategy Team along with recommendations on how to adjust the REDD+ Strategy to mitigate social and environmental impacts identified in the preliminary assessment. This was presented in the Draft Environmental and Social Management Framework, presented under separate cover. The Environmental and Social Management Framework development was also informed by consultations in May 2016 in six separate regions of the country.

Adjustments were made to the REDD+ Strategy based on the preliminary assessment in the Draft Environmental and Social Management Framework (ESMF) in July 2016. The draft SESA utilized

this version to conduct an assessment of the REDD+ Strategy, which was presented in a Draft SESA Report to the FDA in July 2016. Feedback from the REDD+ Implementation Unit, the SESA Working Group, and the World Bank have informed the final revision of this SESA.

National and Local Situational Analysis

Climate Change

REDD+ is a mechanism to address climate change through reductions in emissions from deforestation and forest degradation. Despite high rates of forest loss over the two decades, a 2015 study estimated that forests (defined as areas with 30% or more canopy cover) covered about 68 percent of Liberia's land area (Metria and Geoville, 2015). These forests are a significant sequester of carbon. Within Liberia, the energy sector is the largest contributor to greenhouse gas emissions (GHG), primarily from firewood and charcoal.

Liberia is also particularly vulnerable to climate change due to the population's heavy reliance on rain-fed agriculture, low economic base, and limited capacity to adapt.

Biodiversity

Liberia's biodiversity is well documented with high levels of endemism and species diversity, the presence of numerous species listed in the International Union for Conservation of Nature (IUCN) Red List of Threatened Species, and the fact that the country contains the largest intact block (40%) of the Upper Guinean Forest. Mangroves also represent areas of biodiversity importance along the coastline. Many of these areas would qualify as critical natural habitat under World Bank Operational Procedures.

Currently, Protected Areas cover 3 percent of the forests of Liberia, but the government has made legal commitments to designate 30 percent of its forest as part of a Protected Area Network (PAN). Areas outside of the proposed PAN also include areas of biodiversity significance and provide important corridors and buffer zones within a larger landscape. Expansion of the PAN has been constrained by, inter alia, conflicts with communities, lack of intersectoral coordination, and significant costs.

Water and Soils

Fresh water covers approximately 14 percent of the Liberia land mass, and these water bodies provide critical ecosystem services to humans, fauna, and flora. This includes two Ramsar sites. With up to four meters of rain per year, water availability has been plentiful historically. However, increases in the availability of pesticides and fertilizers, along with the conversion of land for permanent agriculture, could present a significant threat to Liberia's water bodies.

The majority of Liberia's soils (70%) comprise ferrosols that generally have good physical properties to support plant growth, but poor chemical fertility and low capacity to retain nutrients. Only a small area within Liberia (approximately 4%) is suitable for lowland crops, particularly rice. These are typically found in swamps and wetlands, which may also represent critical habitat for many of Liberia's rare, threatened, and endangered species.

Economy

Liberia remains one of the poorest countries in the world with most of the country (94%) of the country living on less than US$2/day. While exports grew in the post-war years, this was primarily driven by the commercial mining and agriculture sectors. Dependency on these sectors makes Liberia particularly vulnerable to world commodity prices. The forestry sector contributes to foreign exchange revenues. Between 2011 and 2013, the government received just under US$21.3 million in revenues from commercial forestry (timber) sector. However, it is important to note that the vast majority of this ($12.4 million) was collected in 2012, and much of that was from Private Use Permits that have since been cancelled (SGS, 2014). In addition to exports, the forest is also a source for many goods and services within the Liberian economy (construction wood, furniture, charcoal, medicine, food, etc.) while also providing jobs for Liberian unskilled workers.

Importantly, shifting cultivation is a leading driver of deforestation, but it is also the main source of livelihoods and the primary means of ensuring food security for the majority of rural dwellers. Those communities that are most dependent on the forests for their livelihoods are far removed from the political and economic mainstream. Poor or non-existent road systems, lack of employment opportunities, poor education, and limited vocational training options further isolate these communities from the larger economy and political systems. These communities have few options for their livelihoods and few opportunities to adapt.

Education

Education levels are low and literacy rates are estimated at 42.9 percent. The quality of education is also poor, with many high school graduates lacking basic skills.

Government Capacity

Government capacity is extremely low, with a score of less than 27 percent in government effectiveness on the Millennium Challenge Corporation's Government Effectiveness Index (Millennium Challenge Corporation, 2015).

Infrastructure and Energy

Much of the country's infrastructure was destroyed during the war. Despite some improvements, road infrastructure remains extremely poor and will continue to hinder economic growth and direct foreign investment. Similarly, improvements to the electric grid have had limited impact with the majority of Liberians (80%) who derive energy for cooking and heating primarily from firewood (rural areas) or charcoal (urban areas).

Results from case studies in the six regions validated these findings and gave further weight to consideration of the high level of forest dependency for livelihoods and food security in rural areas; the limited skills and information available to customary leaders to adequately represent their constituents in negotiations with outside parties over access to land and forest resources; extremely limited capacity of government entities and other service providers; and the high potential for conflict related to benefit-sharing from land and forest resources.

LEGAL AND INSTITUTIONAL CONTEXT

The Constitution of Liberia provides for public participation of all citizens in the protection and management of the natural resources in Liberia. This is supported by several key pieces of legislation.

Environmental Management

The Act Adopting the Environment Protection and Management Law (EPML) is the principal legislation covering environmental protection and management in Liberia, and the Environmental Protection Agency (EPA) is responsible for executing the law. The EPML is a comprehensive piece of legislation that establishes the framework and principles required to safeguard the environment. However, implementing regulations and standards and controls anticipated in EPML, including those that could apply to REDD+ interventions, are still largely lacking.

The National Forestry Reform Law of 2006 (NFRL) also includes environmental safeguards that are articulated in the Ten Core Regulations (GoL, 2007b), which require Environmental Impact Assessments to be performed and approved by the EPA for any felling activities under a commercial license.

Biodiversity

Liberia ratified the Convention on Biological Diversity (CBD) on November 8, 2000. CBD is therefore the framework for national legislation and policy concerning conservation and sustainable use of biodiversity and equitable sharing of its benefits. Key commitments under CBD are adherence to the principle of "no net loss" of biodiversity and a pledge "*to set aside at least 10% of the land area for Strict Protection and 30% of the land area for protection and multiple-use for partial protection*." The Forest Network Act 2003 committed to creating a biologically representative network covering at

least 30 percent (some 1.5 million hectares) of the estimated forested areas that existed in Liberia at that time. A draft Wildlife Conservation and Protected Areas Management Act has been introduced to the legislature, but has not passed. This would assumedly replace the Wildlife and National Parks Act (1998) that, along with the NFRL, provides the legal framework for conservation management.

Liberia also is party to the International Convention on Wetlands of International Importance (Ramsar Convention). The EPA is the Administrative Authority and has to date, designated five Ramsar sites.

Water and Soils

The Integrated Water Resource Policy (2007) sets national priorities and roles of government agencies, the private sector, communities, and individuals in relation to water resource management. However, the policy focuses on domestic needs rather than ecosystems maintenance, although it does recognize the need for soil and water conservation practices on upland slopes under the "Guiding Principles". The policy does not address or establish frameworks for developing specifics safeguards (for example, restriction of activities near water features such as riparian areas and wetlands). Consequently, there are no specific controls or water sector policies relating to the nature of development or activities allowed in, or in the vicinity of, such areas.

Commercial Activities in Forests

The NFRL, together with the Regulations (GoL, 2007b) and the Public Procurement and Concessions Act (2005), provides the framework for commercial exploitation of forest resources. In addition, the Community Rights Law with Respect to Forest Lands (CRL, 2009) and its implementing Regulations to the Community Rights Law with Respect to Forest Lands (2011) recognize and regulate community forests and commercial activities within them, including provisions for both timber and non-timber forest products (NTFPs) and apply to both international and domestic markets.

FDA Regulation No. 111-08 on the Commercial and Sustainable Extraction of NTFPs regulates the commercial use of NTFPs. This covers management and commercialization, permits, exports, processing, taxes, and fees. Key informants report that this regulation is seldom enforced.

Hunting is regulated under the Wildlife and National Parks Act (1998), Regulation 25, which includes limitations on areas, seasons, and methods. The act also specifies a list of fauna that are totally protected (Schedule 1), which is periodically updated by the Hunting Regulations.

Forest conversion activities in forests are only dealt with under the NFRL for areas of less than 5,000 hectares through Timber Sale Contracts (TSCs). Activities involving forest conversion (e.g., for commercial agriculture or mining) are subject to their own concession agreements with the Government of the Republic of Liberia (GoL), which in practice does not seem to require compliance with the NFRL. In fact, concession agreements have explicitly exempted some concessionaires from complying with specific legislation or regulations.

Community Rights in Forests

Community rights to forests are governed by the Community Rights Law of 2009 (CRL) and its Regulation (2011). Currently, the CRL provides the only means by which communities' customary rights to land can be secured. However, this is limited to approval by the FDA through a Community Forestry Agreement that must be renewed every 15 years. The Land Rights Policy recognizes customary land rights and provides for formal recognition and registration of these rights. However, there is currently no legislation to implement the policy.

Carbon Credits

Liberia currently has no legal framework for accounting or trade in carbon credits. Challenges that will need to be addressed to develop this framework include: minimizing intersectoral conflicts, particularly from mining and agriculture; building the necessary capacity for forest inventory and systemic monitoring of carbon stocks; and determining the potential economic revenue from carbon credits and emission reductions and viable synergies between these and other forest land uses.

Potential Gaps

The REDD+ Strategy Team was responsible for identifying the policy and legal framework for implementation of REDD+ activities, and for identifying potential gaps. A full analysis of these findings is found under separate cover in the REDD+ Policy, Legal, and Institutional Framework Draft Report (LTS, 2016d), which identified, inter alia, the following issues: ineffective regulatory frameworks for EPML, commercial forestry, chainsaw logging, and charcoaling; lack of implementing legislation for the Land Rights Policy and carbon rights; conflicts and inconsistencies between laws and regulations; lack of inter-sectoral coordination; and overlapping tenure claims.

World Bank Safeguards

The World Bank Environmental and Social Safeguards are used by projects funded by the World Bank. It is anticipated that a significant portion of the REDD+ Readiness and REDD+ funds will be funneled through the World Bank. Therefore, the following safeguards are relevant for the REDD+ Strategy and its implementation:

- **Operational Policy (OP) 4.01: Environmental Assessment** requires initial screening to determine whether or not an Environmental Assessment is required, and guides the scope and type of any assessments;
- **OP4.04: Natural Habitats** would be triggered if any project has the potential to cause significant conversion or degradation of critical natural habitats;
- **OP4.09: Pest Management** requires safe, effective, and environmental sound pest management;
- **OP4.11: Physical Cultural Resources** aims to avoid or mitigate adverse impacts on physical cultural resources;
- **OP4.12: Involuntary Resettlement** aims to avoid or minimize involuntary resettlement; and
- **OP4.36: Forests** aims to reduce deforestation, enhance the environmental contribution of forested areas, promote forestation, reduce poverty, and encourage economic development.

Institutional Capacity

The FDA has a significant mandate to enforce forestry and environmental laws and regulations and has a dedicated Law Enforcement Unit that should be responsible for enforcement throughout the country. However, in practice, field staff are currently relied upon to monitor and enforce laws and regulations of which they are not familiar, with extremely limited logistical support. As a result, enforcement of laws and regulations is extremely limited (LTS, 2016d).

Similarly, the EPA has limited technical, logistical, and budgetary capacity to carry out its mandate.

SESA Outcomes

SESA outcomes were derived from consultation and analysis of data and documentation and divided into three major categories: microeconomic, biophysical, and macroeconomic. Under each of these categories, additional subcategories were identified: livelihoods, land, and governance (microeconomic outcomes); climate change, biodiversity, and soils and water (biophysical outcomes); and revenues, forest goods and services, and employment (macroeconomic outcomes). These outcomes were prioritized and validated through several workshops with stakeholders, and finalized in the SESA Priorities Report. A summary presentation of the 24 final outcomes along with related issues is found in Table E1.

Table E1: SESA Outcomes and Mitigation Measures

SESA Outcome/ Assessment Criteria	Issues That Informed Outcome/Criteria Development
MICROECONOMIC	
Livelihoods	
1. Dependency on shifting cultivation reduced	• Shifting cultivation is the primary livelihood activity of the majority of rural population but rarely provides for more than subsistence livelihoods. • Where available, primary forest sites are preferred for shifting cultivation because of fertility and the possibility of undertaking other livelihood activities while working in the forest (NTFP collections, hunting, fishing, etc.). • Shifting cultivation in primary forest sites often establishes customary ownership rights. • Alternative, sustainable livelihood options are restricted by poor infrastructure, limited expertise, costs of inputs, access to markets and longstanding cultural practices.
2. Livelihoods diversified	• There are few evidence-based sustainable alternatives to shifting cultivation as a primary livelihood option. • Adoption of sustainable alternatives is limited by access to inputs, lack of expertise, poor markets and value chains, and infrastructure. • Permanent agriculture is limited by poor soils, limited inputs, and lack of expertise at local and institutional levels. • Diversification of land uses (e.g., tree crops) may lead to increased pressure on the land base for food production. • Many livelihood options are available only to local elites with large land holdings (e.g., tree crops). • Bushmeat is the primary source of protein for rural dwellers and large scale development of options are inaccessible to most communities and individuals. • Demand for bushmeat in urban communities is a main driver for commercial hunting. • Reducing demand for charcoal will have a negative impact on those that rely on the charcoal supply chain for income, particular if there are no viable sustainable alternatives.
3. Forest management improved through community forestry	• Community Forestry Management Areas (CFMAs) take time to develop and there is limited expertise and experience in their development. • The requirements under the existing legal framework for chainsaw logging are extremely difficult to implement and enforce. • Chainsaw logging is extremely inefficient (~30% of the value of the resource is realized) but portable sawmills and other technologies are not available. • Timber extraction by chainsaw loggers provides immediate benefits to individuals and communities. • Contractual requirement for timber concession holders to add value to logs is not enforced. • Tree crop economic benefits are generated only in the long term. • NTFP markets are currently limited for people located in remote regions (bushmeat and charcoal excepted).
Land	
4. Increased land security	• Those with deeded land have more land security than those with customary ownership. • Vulnerable groups have limited access to and use of land. • CFMAs are currently the only means to recognize customary rights to forests and the process is complicated. • Concessions overlap with customary land claims.

SESA Outcome/ Assessment Criteria	Issues That Informed Outcome/Criteria Development
	• Proposed PAs overlap with customary land claims. • Land Rights Bill could strengthen community claims to land. • Designation of PAs and PPAs did not follow Free Prior and Informed Consent (FPIC) requirements. • Capacity to institute and administer land reform is limited.
5. Adequate access to land for livelihoods	• Population growth is leading to increasing pressure and encroachment into, and unsustainable use of new forest areas; this contributes to forest degradation and threatens the ability of forests to provide subsistence benefit to local communities in the future. • In-migration around concession areas by people seeking work, compounds land pressure. • Land available for shifting cultivation outside of PAs and commercial concession is limited. • Further allocation of land to commercial concessions Forest Management Contracts (FMCs), TSCs, agricultural and mining concessions, and PAs will exacerbate land pressure. • Land grabbing is more prevalent in areas of higher population density. • REDD+ options may be regarded as concession-type arrangements by communities.
6. Reduced conflict over land	• Concessions and communities often conflict over land use, access to land, benefits and absence or limited nature of consultations. • Communities and government have conflicted over the establishment of PAs. • Conflict often occurs between communities and in-migrants who are seeking employment from concessions, or seeking access to the forests for bushmeat.
7. Land rights are maintained	• Concession agreements and conveyed rights are protected by legislation and approved by the legislature; changes to those rights may require (or result in) legal action. • Carbon sequestration may impose restrictions on land owners that may require compensation.
Governance	
8. Local leaders have skills to represent constituents	• Community leaders' and organizations' knowledge, access to information, and ability to represent their constituent's interests is limited, particularly for women and the most vulnerable. • Decisions are imposed on communities that are politically and economically isolated and this can lead to conflict.
9. Equitable, functioning benefit-sharing in place	• Distrust of the government is high. • National Benefit-sharing Trust Mechanism has not worked effectively or as designed. • Social agreements and negotiation thereof are driven by government and companies using templates and there are few opportunities for communities to engage on an equitable basis because of lack of skills and knowledge. • Community perceptions and expectations of concessionaires' role in community development is high.
10. Law enforcement increased	• Government agencies lack the skills, knowledge and logistic support to enforce existing laws.
11. Credible grievance redress mechanisms in place	• There are limited formal grievance redress mechanisms in place for communities.

SESA Outcome/ Assessment Criteria	Issues That Informed Outcome/Criteria Development
BIOPHYSICAL	
Climate Change	
12. Emission reduced and carbon sequestered	• While Liberia's forests are major sequesters of carbon, this storage capacity is threatened by a range of land uses that result in forest loss. • To date the main such activity has been shifting agriculture and the associated use of wood based fuels with the majority of carbon emissions (approximately 70%) in Liberia are currently being associated with traditional fuels such as firewood and charcoal. • While all companies with established oil palm concessions have signed up to Roundtable for Sustainable Palm Oil (RSPO), their standards with respect to climate change are not mandatory and may not provide adequate safeguarding of high carbon stock (HCS) and/or be appropriate for REDD+. • There is no legal basis for adoption and regulation of RSPO. • There are no sector standards applicable to conservation of HCS (voluntarily or required by law) adopted by other commercial agricultural activities notably rubber plantations and private farms nor for the forestry or mining sectors. • While stakeholder preference is to focus on retaining rather than creating new areas of HCS this preference may be driven by biodiversity concerns and it is not clear which would deliver a Bette outcome in relation to carbon stock. • Stakeholders expressed a desire to promote extension of forests into degraded areas. • Mangroves sequester significant amounts of carbon and are also under threat from human uses. • While currently at low levels animal husbandry is a measurable contributor to GHG emissions.
13. Resilient landscapes and livelihoods	• Data relating to climate change vulnerability are limited and/or unavailable. • National policy recognizes Liberia's vulnerability to climate change and the need to develop its ability to adapt, and develop resilience, to climate change. • REDD+ measures aimed at diversifying livelihoods should take into account climate change resilient landscapes and land uses, including crops and varieties as well as types of livestock and their successful integration in the site specific agroforestry systems. • Mangroves play an important function in protection of coastal areas from flooding, storm surges and coastal erosion that may arise from climate change.
Biodiversity	
14. Conservation of natural habitats	• Much of Liberia is likely to qualify as natural habitat, as defined under WB OP4.04, and significant areas will also qualify as critical natural habitat. Such sites will occur both inside and outside of protected areas. While the majority of critical natural habitats are likely to be in forests they may also occur outside of them notably in wetlands. • All SOs and interventions aimed at conserving biodiversity should include specific consideration of natural and critical natural habitat. • All interventions should be screened for their potential to affect critical habitats and if they do should ensure that there is no conversion of such habitat; Special attention may be needed for development outside of forest for example siting of new infrastructure and agricultural activity notably those that may be located within or close to swamps or wetlands. • Owing to the spatial extent of natural habitat within Liberia it is likely that most intervention that have potential to affect such areas and will therefore be subject to the conditions to: 1. Demonstrate there are no feasible, sustainable alternatives to achieve the project's substantial overall net benefits; and 2. Ensure acceptable mitigation measures are in place.

SESA Outcome/ Assessment Criteria	Issues That Informed Outcome/Criteria Development
	• Many of the REDD+ interventions that support conservation of forests have the potential to enhance the protection of critical natural habitat. The degree to which this occurs will however be dependent on the intervention locations There should therefore be a preference for selecting intervention sites that promote such outcomes.
15. Conservation through a landscape approach	• Conservation through establishment of PAs has to date proved challenging. • Many communities are adamant that ownership of the forests proposed for protection need to be clarified prior to creation of the protected areas and the ownership of the forests proposed for protection may be contested by communities. • There is lack of capacity to effectively manage areas that have been gazette. • Even if implemented, the current proposed PAN will not deliver Liberia's 30% forest protection commitment. • Areas outside the current PAN contain important biodiversity and features including those necessary for the functioning of the PANs and the species they support. These features occur both inside and outside of forests. Degraded forests and those of low carbon value may often provide important habitat for flora and fauna and, under appropriate conditions (natural regeneration, enrichment planting), can regenerate to native forest. • A landscape approach that takes account of ecosystem mosaics at different spatial scales and creates an integrated and consistent approach to conservation within such specific landscapes is likely to best deliver conservation outcomes in the Liberian context. • Such a landscape approach and may be easier to implement than an approach that relies entirely on PAs as it does not require strict protection of all areas and has potential to capitalize on opportunities (offered by the package of conservation measures (notably areas of high conservation value (HCV[1]) set asides, offsets, sustainably managed FMCs and CFMAs, and Conservation Agreements) together with PAs. • Such a landscape approach needs to be informed by a systematic national categorization of landscape conservation and a mechanism areas, and requires establishment and management of a model for implementation of such an approach that involves private, government, and nongovernmental organization (NGO sectors.
16. Reduce biodiversity loss from shifting cultivation & other community exploitation of forest resources	• Shifting agriculture is a major driver of forest and related biodiversity loss. • There are few examples of successful agricultural intensification and small enterprise development. A better understanding of the limitations and what may work in practice is necessary as a first step in developing related strategies. • A consistent and integrated approach to consolidating and analyzing the results of both experience to dates and any future pilots, including those implemented under REDD+ is essential. • Addressing bushmeat hunting (in the short term) is likely to be most effective through a combination of enforcement of hunting laws prohibiting protected species, and permitting sustainable hunting of other (non-protected) species. This would need to be support by incentive for which there is currently little evidence of what ma works and therefore requires further study. • In the longer term, effort should focus on reducing the demand for bushmeat both in both rural and urban areas. • Interventions related to charcoal production need to focus on the demand side notably through increasing efficiency and alternative energy sources for urban populations. • Chainsaw logging is very inefficient but provides domestic timber demand. In the absence of sustainable alternatives, improving efficiency and regulating the sector should be considered as interventions. • Mangroves are a priority for protection due to their conservation importance and exploitation for community uses.

[1] HCV is a designation used to describe those forests that meet criteria defined by the Forest Stewardship Council's Principles and Criteria of Forest Stewardship. It has been adopted by other sectors notably palm oil, within RSPO, and by banks and other investors.

SESA Outcome/ Assessment Criteria	Issues That Informed Outcome/Criteria Development
	• All the above need to be complemented by alternative, sustainable livelihood options and face the same challenges as described for shifting cultivation above.
17. Reduce biodiversity loss from commercial activities	• While FMCs and commercial CFMAs should be managed sustainably in practice this is not happening; in addition, the assumption that a 25 year rotation is sustainable (in FMCs) is not proven. Further such measures may not be sufficient to adequately safeguard biodiversity. • Although covering a small area TSCs are not subject to measure to conserve biodiversity that may be present within them, which is therefore vulnerable to loss. • All companies with established oil palm concessions have signed up to RSPO and are thus required to identify and set aside HCV areas (which includes under HCV1–4 those of biodiversity value). However: 1. There is no legal basis for adoption and regulation of RSPO; 2. There are no measures to protect areas set aside under RSPO from other community uses; and 3. There are no measures within RSPO to avoid leakage of activities that would otherwise occur within the concession or its set asides to other areas of biodiversity importance. • There are no sector standards applicable to conservation of biodiversity (voluntary or required by law) for other commercial agricultural activities notably rubber plantations and private farms and uncertainty as to how RSPO may apply to palm oil growers. • The requirement for offsets for mining activities (understood but not confirmed to be in the draft mining act) offers potential opportunity for biodiversity conservation but requires support to develop a national scheme and standards to ensure this is achieved in practice • Conservation Agreement and P-PAs associated with commercial activities may have potential in addressing some of the above.
Water & Soils	
18. Water quality maintained	• Forests play a critical role in maintaining Liberia's water resources, which in turn provide a range of ecosystems service to communities and biodiversity. • There is limited information on hydrology and wetlands. • Proposals for agricultural intensification and lowland rice cultivation could threaten water quality and availability. • Any use of pesticides should take account of World Bank (WB) Operational Policy (OP) 4.09 that requires the adoption of integrated pest management practices that promotes biological control in favor of synthetic chemical methods.
19. Soil quality maintained	• Most of Liberia has soils with low chemical fertility growth. • Tree cover performs an important function in soil conservation including their fertility, erosion and carbon storage potential. • The slash and burn agricultural system is thus dependent on the short term fertility provide by that technique. • Further research is require to establish the condition under which soil fertility can be maintained under other more sedentary small-scale agricultural regimes that can support livelihoods and cash crops.
MACROECONOMIC	
Revenues	
20. Increased sustainable revenue from forests	• Commercial timber development under FMCs/TSCs/CFMAs/other concessions provides important source of national revenue and foreign exchange. • REDD+ support is limited and unknown and may not be sufficient to set up a self-sustaining system.

SESA Outcome/ Assessment Criteria	Issues That Informed Outcome/Criteria Development
Goods and Services (Domestic Demand)	
21. Adequate supply of energy for urban population	• Urban Liberians are reliant on charcoal as a major energy source with few viable, sustainable alternatives. • Capacity to manage charcoal is limited. • Knowledge and availability of efficient charcoal production technology is limited.
22. Sustainable domestic timber supply	• There is a large and growing demand for domestic timber that is currently met almost exclusively from chainsaw logging. • Value-added processing is extremely limited and has not been developed as planned.
23. Land is available for commercial development	• Liberia's economic development strategy includes commercial development of its land and natural resources in diverse and competing sectors. • There is limited understanding of REDD+ even within the forestry sector which may be necessary to shift land use patterns.
Employment	
24. Jobs for unskilled laborers	• Commercial timber development under FMCs/TSCs/CFMAs/other concessions provide jobs. • A large number of unskilled forestry workers are dependent on commercial and ancillary activities for their livelihoods. • Educational opportunities (particularly vocational skill development) are limited for skills development.

REDD+ Strategy Environmental and Social Assessment

The REDD+ Strategy has been organized around five Strategic Priorities. Under each of the Strategic Priorities, several Strategic Options (SOs) are outlined to implement the Strategic Priority. The Strategic Priorities are:

1. Reduce forest loss from chainsaw logging, charcoal production, and shifting agriculture
2. Reduce impact of commercial logging in all forestry concessions
3. Complete and manage a network of Protected Areas
4. Prevent or offset clearance of high carbon stock and high conservation value forest in agricultural and mining concessions.
5. Fair and sustainable benefits from REDD+

For the SESA, each of these SOs was assessed against the priority outcomes identified and validated by stakeholders (livelihoods, land, governance, climate change, biodiversity, water and soils, revenues, goods and services, and employment). The assessment looked at the potential for both positive and negative impacts. Results from this assessment contributed to recommendations for adjustments or modifications to the strategy, and also served as the basis for the development of the Environmental and Social Management Framework (ESMF) for the strategy which provides guidance and procedures to address mitigation measures at the Strategy implementation stages. A summary of the SOs and the impacts at the Priority Strategy is summarized in the sections below.

Priority 1 Strategy Options and Impacts

Priority 1 focuses on SOs to reduce the drivers of deforestation that emanate from communities use of forests and related resources.

The five SOs to support this priority are:

1.1 Reduce impact of chainsaw logging through better regulation, improved efficiency, and developing alternatives;

1.2 Reduce impact of charcoal industry on forest through better regulation, improved efficiency, and the development of alternative energy sources;

1.3 Reduce expansion of shifting agriculture in forest areas by promoting permanent food cash crops in non-forest areas and through conservation agriculture;

1.4 Locate services and new infrastructure development beyond a three kilometer buffer from areas of dense forest and PAs (including PPAs); and

1.5 Integrate hunting, artisanal mining, and forest restoration into community-led livelihood and sustainable forest management practices.

Summary of Priority 1 Strategy Option Impacts

Livelihoods: The impact on livelihoods from these SOs will be limited in the short term since the capacity to enforce regulations that are envisioned under SOs 1.1, 1.2, and 1.5 is limited. Similarly, the short-term impact of on livelihoods (SO1.3) will be limited since there are few examples of viable livelihood alternatives that reduce reliance on shifting cultivation. This is exacerbated by the remote location of forest communities that limits access to inputs (to increase production) and markets. In addition, SOs 1.1, 1.2, and 1.5, if enforceable, could actually result in increased dependency on shifting cultivation if these hunting, mining, charcoaling, and pitsawing livelihood options are limited.

Land: The development of permanent agriculture under SO1.3 could provide incentives to formalize land title and increase tenure security. There is a risk of elite capture if reforestation projects are limited to titled owners since most customary ownership rights are not registered.

Governance: This strategy calls for enforcement of existing and proposed regulations that are currently weakly enforced. Depending on whether resources are provided for enforcement, the strategy could result in increased enforcement of laws and benefit-sharing from resources.

Climate Change: If effectively implemented, all of the SOs have the potential to contribute positively to emission reductions and carbon sequestration. However, it is noted that charcoal comprises only 8.5 percent of the firewood- and charcoal-based energy generation in Liberia (GoL, 2015d), which implies that measures to manage firewood harvesting, not currently included in SO1.2, would perform better against this outcome than focusing exclusively on charcoal. Similarly, addressing conservation of carbon sequestered in mangroves under SO1.2 would improve performance in this area.

In addition, it is noted that retention and creation of carbon stock may contribute to the maintenance of climate-resilient landscapes and would provide protection from climate-related shocks to food and livelihood. However, the degree to which this would be achieved will depend on the interventions and their locations.

Biodiversity: If implementable, all SOs are likely to promote the conservation of natural habitats through the retention and creation of forests. However, this effect could be enhanced through prioritization of locations that support conservation features within a wider biodiversity landscape mosaic. Importantly, most of the SOs could contribute to this outcome, but only if they successfully divert human activity away from forest areas while maintaining the necessary social economic safeguards, including sufficient alternative livelihood options to replace the impacts of SOs 1.1, 1.2, and 1.5.

Water and Soil Quality: Promotion of forest retention and establishment of woodlots under SO1.1, SO1.2, and SO1.5 could result in positive outcomes. However the use of chemical inputs under SO1.3 could result in negative impacts to soils and water.

Sustainable Revenue from Forests. Enforcement of regulatory requirements to collect revenues on charcoal, chainsaw processed planks, and NTFPs could result in modest increased to government revenues but would require commitment of resources.

Forest Goods and Services: The development of alternative energy sources has the potential to address urban demand for charcoal, but will take significant time and investment to realize (SO1.2), and will require increases in purchasing power of urban dwellers. Therefore, the impact of this will be negligible in the short and medium term. Similarly, as chainsaw logging provides the primary supply of domestic wood market, changes to this market chain will require significant investment in infrastructure, and the development of technical expertise. As a result, the SOs will have limited impact in the short and medium term.

Employment: Chainsaw logging (SO1.1), charcoaling (SO1.2), hunting (SO1.5), and mining (SO1.5) provide low skill laborers with livelihoods and income. Successful implementation of these SOs will result in job losses to these workers who will likely then be dependent on shifting cultivation for their food security and livelihoods. The development of alternative, sustainable livelihoods for these workers could replace many of these jobs, but will require investments in technology as well as training, particularly at the technical training school level (not currently included in the SO descriptions).

PRIORITY 2 STRATEGY OPTIONS AND IMPACTS

Priority 2 focuses on SOs to manage the drivers of deforestation and forest degradation in forest concessions. While recognizing the contract rights of concessionaires, the REDD+ Strategy focuses on conservation objectives within these areas. The five SOs to support this priority are:

2.1. Ensure that all industrial logging is practiced to high conservation standards in keeping with national regulations and international standards;

2.2. Conserve and maintain areas of highest conservation value within commercial forestry concessions, such as important wildlife corridors;

2.3. Review TSCs to ensure compliance with forestry laws and Environmental Impact Assessment (EIA) standards and establish a strong presumption against further TSCs on dense forest and within five kilometers of PAs;

2.4. Prevent unregulated chainsaw logging and charcoal production within forestry concessions; and

2.5. Manage commercial forestry in community forests larger than 1,000 hectares to achieve sustainable logging standards as apply to FMCs.

Summary of Priority 2 Strategy Option Impacts

Livelihoods: Support for CFMA engagement in commercial forestry (SO2.5) could provide alternative, sustainable livelihoods for communities yielding positive impacts. However, SO2.4 focuses on the prevention of chainsaw logging and charcoal production within forestry concessions, activities that are often undertaken by local communities or in-migrants. Enforcement of regulations, if possible, may limit livelihood options for community members from within the forests (e.g., hunting, shifting cultivation, and NTFP collection) and lead to the displacement of these activities ("leakage") to adjacent forest areas. We note that adoption of HCV or HCS standards that recognize community rights could address and offset this impact.

Land: Limiting charcoaling and chainsaw logging activities within a concession area (SO2.4) could increase the pressure on land outside of the concession, contributing to land tenure insecurity and triggering conflict. This is most likely to happen where concessions attract in-migrants seeking economic opportunities. The recognition of community rights through HCV 5 or HCV 6 could support customary claims to land (SO2.1) while at the same time detracting the land rights of concession holders for which the government may have to compensate.

Governance: Stakeholder consultations suggest that many community leaders lack the requisite knowledge and skills to adequately represent their constituents in the development of Social Agreements with concessionaires that may be used to regulate chainsaw logging and charcoaling (SO2.4). This could result in inequitable arrangements with the potential to spark conflict. Similarly, Community Forestry Management Bodies may not have the requisite skills to manage forests to FMC standards, or to monitor compliance of logging contractors (SO2.5), which would limit their ability to benefit from such arrangements.

Priority 2 SOs emphasize enforcement of legislation. However, there is limited capacity within the FDA, EPA, and other agencies to enforce this law. This lack of capacity seriously impedes implementation of the REDD+ Strategy and could have the additional impact of undermining the rule of law more generally.

Climate Change: For FMCs, the adoption of "high conservation standards" (SO2.1) and retention of areas of "highest conservation value" (SO2.2) is assumed to relate to HCV, which should contribute to positive climate change outcomes. However, the level of potential benefit cannot be established without further details of the specific standards proposed. However, recent evidence indicates that while the FSC P&C includes consideration of carbon sequestration (Principles 6 and 9), certified logging operations may not deliver greater conservation of carbon stock or lower GHG emissions than conventional logging operations.

The proposed restrictions on chainsaw logging and charcoal generation in FMCs (SO2.4) should promote positive climate change outcomes.

All SOs under Priority 2 may contribute in some instances to maintaining climate-resilient landscapes through retention of forests. However, the degree to which this is achieved will depend on the specific measures adopted (e.g., percentage and location of forest retained).

Biodiversity: SO2.1 and SO2.2 are likely to promote Outcome 14 in FMCs. However, the degree to which this will be achieved will depend on the specific standards adopted as well as degree to which interventions can be prioritized in areas that potentially qualify as such habitat.

SO2.4 specifically addresses chainsaw logging and charcoal production. However, the options do not address the significant potential for negative impacts arising from leakage of community activities to

other areas of biodiversity importance outside of the concessions, impacts due to the influx of people attracted to concession areas in search of employment possibilities, and encroachment into areas set side from forestry by community or other uses.

Water and Soil Quality: The conservation of areas of high conservation value under SO2.1 and SO2.2 should protect riparian areas and catchments as well as wetlands. Application of the EIA process (SO2.3) to TSCs should similarly safeguard such features in these concession areas, although the threshold of 1,000 ha above which such measures apply in CFMAs (SO2.4) may not provide sufficient protection where such areas fall below the threshold.

Sustainable Revenue from Forests. The introduction of additional regulations (or standards through a contract mechanism) could introduce additional costs to logging and limit the actual extraction of logs for export (SO2.1 and SO 2.2). Limitations on TSCs could also result in diminished revenues. Finally, the imposition of FMC standards, particularly on smaller-scale operations, could significantly limit the incentives for companies to enter into agreements with communities (SO2.5).

Forest Goods and Services: Short-term impacts are limited. However, the enforcement of existing regulations that require the development of value-added industry, or future regulations or standards that strengthen the same, could result in the development of additional value-added industry that could positively affect the availability of sustainable timber for the domestic market (SO2.1, SO2.3).

Employment: Impacts are extremely limited.

PRIORITY 3 STRATEGY OPTIONS AND IMPACTS

Priority 3 focuses on the completion and management of the PAN as presented in Liberia Forestry Strategy of 2007 and identified in 2003, and prioritizes expansion of that network to cover 30 percent of the forests of Liberia. In recognition of the importance of engaging communities in achieving this objective, Priority 1 SOs are included as part of this overall strategy and presented as one of the four SOs under this priority. The four SOs to support this priority are:

3.1. Complete the PAN and strengthen management to prevent forest degradation;

3.2. Expand the PAN to conserve 30 percent of forest land;

3.3. Reduce pressure on PAs from surrounding communities (using Priority 1 measures); and

3.4. Develop and implement land use plans at landscape scale to integrate production and conservation.

Summary of Priority 3 Strategy Option Impacts

Livelihoods: The expansion of PAN through PPAs and other areas of HCV 1–4 (Options 3.1 and 3.2) could decrease the land available for agriculture (primarily shifting cultivation). For the most part, PAs are remotely located and the availability of inputs to support communities to develop permanent agriculture and other livelihood options is limited. Similarly, enforcement of laws on chainsaw logging (SO1.1), charcoaling (SO1.2), hunting (SO1.5), and mining (SO1.5) could further limit livelihood options, rendering communities even more dependent on shifting cultivation for their subsistence needs. Importantly, implementation of SO3.1 and SO3.2 could require relocation of communities or individuals from the PAN, which could trigger Involuntary Resettlement Safeguards under WB OP4.12. PA creation and expansion of the PAN could also result in limitations on access and use of forests. In addition, the proposed PAN (SO3.1 and SO3.2) by definition does not include community forests. This would limit the opportunities for communities to manage their customarily owned forests as community forests.

Land: SO3.1 and SO3.2 will have a negative impact on customary land right holders' security of tenure (both individuals and communities) whose lands are located within the proposed PAN. Importantly, implementation of these SOs could require relocation of communities or individuals from the PAN, which could trigger Involuntary Resettlement Safeguards under WB OP4.12.

However, the landscape planning process (SO3.4) does provide opportunities for communities to plan and manage their lands within the larger landscape and so does provide the opportunity to increase land security of customary owners.

Historically, the establishment and enforcement of PA regulations has led to conflict between the government and communities that claim customary ownership rights to the PA. It is likely that the expansion of the PAN would result in conflict with affected communities (SO3.1) with management efforts facing similar challenges (SO3.1).

Further, it is a matter of debate as to whether or not the PPAs for inclusion in the PAN that are identified in the Forestry Strategy were identified in compliance with FPIC principles.

Finally, with more than 110 CFMA applications currently with the FDA, it is likely that at least some of these will overlap with the proposed PAN and add a new dimension to the potential conflict between communities and the state.

The landscape planning approach (SO3.4) provides an opportunity for more substantive engagement between stakeholders in the identification of proposed PAs and as such should provide opportunities to manage and mitigate conflict.

Governance: Stakeholder consultations suggest that many community leaders have limited knowledge and skills to represent their constituents adequately in negotiations and FPIC processes. This could lead to adverse impacts to communities despite consultations that will be required to establish the PAN.

SO3.1 emphasizes enforcement of existing legislation. Successful implementation of this strategy would strengthen this objective and larger governance objectives. However, the limited capacity of the FDA and other agencies to enforce this law suggest the need for significant technical and logistical capacity building. Without this, unenforceable policies and regulations will not only undermine the REDD+ Strategy, but will undermine the rule of law.

Climate Change: All SOs have potential to contribute positively to climate change outcomes, through increasing the percentage of forest and associated carbon stock that is protected. This will, however, strongly depend on the ability to prevent extraction of biomass (notably firewood, charcoal, and chainsaw logging) that would otherwise occur in PAs being diverted elsewhere through leakage.

Biodiversity: All SOs are likely to promote the conservation of natural habitat. However, the degree of positive impact will be influenced by the extent to which new PAs and areas subject to other conservation management measures are prioritized based on critical natural habitat criteria and the degree of leakage that occurs as forest users are displaced.

All SOs, assuming they successfully achieve controls over community uses, will result in positive impacts.

Water and Soil Quality: Expansion of the PAN and application of conservation measures in other locations should protect riparian areas and catchments as well as wetlands that would otherwise be subject to threat. However, impacts are dependent on the ability to manage the expanded PAN.

Sustainable Revenue from Forests. Expansion of the PAN (SO3.1 and SO3.2) could result in the inclusion of areas currently identified as FMCs, TSCs, or even CFMAs, all of which have the potential to generate revenues. Conservation of forests could also result in revenues from the sale of carbon credits. However, before Liberia is in a position to sell carbon credits, significant legal and policy reforms, research and data collection, monitoring and evaluation, documentation, and other actions must be undertaken. Even if all of the criteria are met, the price of carbon remains low, and the demand for carbon credits is likely to remain low without mandated cap and trade legislation. As a result, at this point, sustainable revenues from carbon are merely speculative.

In contrast, landscape-level planning (SO3.4) provides opportunities to integrate commercial activities into management of the forest resources along with conservation outcomes. This planning could help planners to determine and balance revenue generation potential and conservation outcomes.

Forest Goods and Services: Effective expansion and management of the PAN could limit the availability of charcoal and timber for domestic consumption. However, not enough known about either of these sectors to gauge the potential impact.

Employment: See Priority 1 impacts for discussion.

PRIORITY 4 STRATEGY OPTIONS AND IMPACTS

Priority 4 focuses on drivers of deforestation arising from commercial concessions through offsets and set asides, along with the development of standards that promote conservation objectives. The four SOs to support this priority are:

4.1. Conserve HCV-HCS forest within agricultural concession areas, including developing and implementing a policy for the sustainable management of these conserved areas (using Priority 1 measures);

4.2. Apply policy of conserving HCS-HCV forest to all agricultural concessions, including private and community-owned farms larger than 1,000 ha;

4.3. Ensure that mining result in zero-net deforestation, through mechanisms such as biodiversity offsets; and

4.4. Locate future large-scale agriculture and mining concessions in less dense and non-forest areas.

Summary of Priority 4 Strategy Option Impacts

Livelihoods: Depending on how this strategy is implemented, all of the SOs have the potential to increase shifting cultivation around concessions, particularly to address food security since set asides (SO4.1, SO4.2, and SO4.4), and offsets (SO4.3) could further limit access to forest areas for livelihood activities and other community uses (including community forestry). This could be offset by compliance with RSPO (Principle 6), but there is nothing to compel concessionaires legally to apply this standard.

Land: Although the Wildlife and National Parks Act (1987) requires consultations with communities (§6), the expansion of set-aside areas (SO4.1, SO4.2, and SO4.4) could significantly limit community and individual customary rights to land that, in concert with the expansion of the PAN (Priority 2), will limit the availability of land for livelihoods including community forestry and triggering OP4.12. This also has the potential to spark conflict between communities, government, and concessionaires.

Governance: Stakeholder consultations suggest that many community leaders have limited knowledge and skills to adequately represent their constituents in negotiations and FPIC processes. This could lead to adverse impacts to communities despite consultations.

Climate Change: SO4 could contribute to emissions reductions and carbon sequestration. However, the impact is largely dependent on whether these areas become vulnerable to other pressures (e.g., unsustainable use by communities resulting from influx of people attracted to commercial areas).

Under SO4.2, there would be no mechanism to prevent loss of carbon stock from farms smaller than 1,000 ha, which could result in negative climate change outcomes, depending on their number and size.

Biodiversity: SO4.1 and SO4.2 should ensure that all natural and specifically critical natural habitat in agricultural concessions and farms larger than 1,000 ha are included in set asides and will therefore promote positive climate change impacts. The degree of impact achieved in practice, however, will be influenced by the vulnerability of such set asides to other pressures.

The extent to which SO4.3 could deliver positive impacts is highly uncertain. This arises from the difficulties (including high costs) in achieving no net loss of biodiversity.

Water and Soil Quality: SOs 4.1, 4.2, and 4.4. should protect riparian areas and catchments as well as wetlands that would otherwise be subject to threat. However, impacts could be negative under SO4.3 for farms larger than 1,000 ha that are not subject to the same standards.

Sustainable Revenue from Forests. Requirements that concessionaires invest in set asides (SO4.1 and SO4.2) and offsets (SO4.3) could limit revenues available to both concessions and government and could infringe on concessionaire contract rights to commercially develop land for commercial purposes.

Limiting development of mining within HCV/HCS forests could result in loss of potential revenues and investments by concessionaires and a significant loss in foreign direct investment (SO4.4).

Forest Goods and Services: Effective expansion and management of set asides and offsets could result in additional charcoaling and chainsaw logging on forestlands outside of these areas and potentially offset any gains from their creation

Employment: The proposed SOs as currently described do not directly affect this priority outcome. However, limitations on concessions could result in the loss of jobs.

PRIORITY 5 STRATEGY OPTIONS AND IMPACTS

Priority 5 focuses on the development of fair and sustainable benefits from REDD+ through the development of policy, equitable benefit-sharing mechanisms, and monitoring progress toward REDD+ objectives. The three SOs to support this priority are:

5.1. Define carbon rights and develop policies and regulations for upholding these;

5.2. Establish benefit-sharing mechanisms for REDD+, in harmony with those operating in the forestry, mining, agriculture, and other relevant sectors; and

5.3. Operate a robust monitoring, reporting, and verification system for demonstrating reductions in emissions achieved through REDD+ policies.

Summary of Priority 5 Strategy Option Impacts

Livelihoods: Defining carbon rights and developing benefit-sharing mechanisms (SO5.1 and SO5.2) has the potential to impact communities positively and reduce their dependency on shifting cultivation. However, if communities fail to receive benefits for forest management efforts, particularly in CFMAs, this could provide disincentives to managing forests sustainably. This will be particularly true if communities' access to lands is limited by other REDD+ activities (e.g., PAN expansion [SO2.1, SO2.2], offsets [Option 4.3], or enforcement of current legislation on chainsaw logging [Option 1.1])

Land: As currently written, it is unclear what impacts these options would have on land security. If significant rights (SO5.1) and benefits (SO5.2) are realized and those benefits are linked to ownership of land, these benefits could provide significant incentives to formalize land title. This could provide secure land title for individuals and communities, but could also disproportionately favor local elites.

Governance: The proposed options strive to complement existing benefit-sharing mechanisms (SO5.2). However, the National Benefit-sharing Trust Board (NBST) and County Development Funds received from concessionaires have been riddled with complications in their implementation, and communities have limited skills to develop proposals to access funds. As a result, little of the money has been actually distributed. Unless those issues are addressed, utilizing existing mechanisms could result in delays and misappropriation of funds. These issues must be addressed if positive impacts are to be realized.

Employment: Implementation of the SOs above will adversely affect unskilled workers that are currently employed in hunting, charcoaling, chainsaw logging, and shifting cultivation. These are often the most vulnerable people, and they are not well represented in the political discourse. If employment options are further limited by the REDD+ Strategy, they are most likely to engage in activities that will undermine REDD+ activities.

RECOMMENDED MODIFICATIONS TO THE REDD+ STRATEGY

Following the impact assessment, several modifications are presented for consideration by the

REDD+ Strategy Team; these informed the development of the Environmental and Social Management Framework (available under separate cover). These modifications are divided into three broad categories:

1. **Strategy Adjustments.** These adjustments relate to areas where, without modification, the Strategy Options could promote interventions that give rise to significant adverse environmental or social impacts. These may be challenging to address at the intervention, planning, and implementation stages without revisions to the SOs themselves. For this reason, it is recommended that these adjustments be fully considered prior to finalization of the REDD+ Strategy to strengthen or clarify SOs moving forward. These adjustments typically modify the strategy wording and in some cases may propose additional SOs. For example, mangroves are important carbon sinks and provide critical habitat for biodiversity, and yet they are not addressed directly in the strategy as it stands. The inclusion of mangroves could enhance performance against several of the SESA outcomes.
2. **Institutional and Legal Measures.** These measures focus on building **institutional capacity** for implementation or address **legal gaps** that exist in the current framework but are required to ensure the SESA outcomes are achieved. Capacity interventions focus on developing the technical and logistical expertise to implement the strategy and may take into account realistic time frames for their implementation in light of current capacity constraints, including budgetary constraints or limitations. Legal interventions include the development of legal mechanisms that are needed to implement the strategy. These may include regulations, national standards, or even coordinating committees that may be necessary to realize REDD+ SESA outcomes. The REDD+ Strategy currently does not address these issues, but these will be critical for the effective implementation of REDD+.
3. **Mitigation Measures.** These relate to areas where, without specific measures, interventions implemented under the strategy could either give rise to:
    a. Negative impacts, which can be addressed through established mitigation measures (siting considerations, etc.) at project implementation; or
    b. Positive impacts, which can be enhanced through established measures at project implementation.

    These measures can be developed as each intervention is planned and implemented. While they do not require any modification to the SOs, they have been identified in the SESA to ensure their inclusion within the ESMF and, thus, consideration as appropriate through its application and implementing mechanisms (screening, ESIA, etc.), to enable potential impacts to be both identified and managed at the project level.

These modifications are presented in Tables E2–E6 below.

Table E2. Proposed Strategy Adjustments

Impact	+/-	Strategy Adjustment
Priority 1. Reduce forest loss from chainsaw logging, charcoal production, and shifting agriculture		
Microeconomic		
Livelihood dependency on shifting cultivation could increase if livelihoods are limited by enforcement of regulations related to chainsaw logging, charcoaling, hunting and mining.	-	Adaptations learned from proposed pilots under LFSP, AML, and SCNL/RSPB sites should be made to the strategy and/or additional diverse sites identified for pilots to inform refinement of SO1.3 to ensure it can successfully divert activities from forests and thus support SO1.1, 1.2, and 1.5 before they are more widely implemented.
Changes to charcoal markets will disrupt existing charcoal market chains; full impacts are not understood.	-	Clearly articulate the types of research that will be undertaken under SO2.1 and what it will inform.
Biophysical		
Loss of HCS/HCV from unsustainable pitsawing	-	Include sustainable practices in chainsaw logging, e.g., through linking SO1.1 to woodlot interventions under community forestry.
Loss of HCS/HCV associated with mangrove use	-	Recognize carbon and biodiversity conservation of mangroves through their inclusion within SO1.1 and 1.2 and/or through an SO of its own.
GHG emissions through burning of firewood	-	In view of firewood's national contribution to GHG, it warrants a specific inclusion under SO1.2 or a SO of its own.
Macroeconomic		
Enforcement of regulations related to chainsaw logging, charcoaling, hunting, and mining will result in job losses for unskilled workers.	-	Specify how alternative skills and jobs for low-skilled laborers that are currently engaged in activities that will be affected by implementation of the REDD+ Strategy Options will be provided.
Priority 2: Reduce impact of commercial logging in all forestry concessions		
Overarching		
Specify more clearly what is included under "industrial logging" and "commercial forestry" – assumed to apply to FMCs, TSCs, and commercial CFMAs but not explicitly stated.		
Replace "compliance with …. EIA standards" with "compliance with …. national EIA procedural requirements and management measures arising thereof."		
Microeconomic		
Limiting activities in concession areas could displace these activities to adjacent customary lands and erode customary land user rights	-	Articulate which standard should be used. For example, HCV 5 and HCV 6 support customary claims to land.
Biophysical		
Loss/protection of HCV/HCS forest	+/-	Specify proposed standards to be adopted (FSC, HCV, HCS, etc.) that can be demonstrated to deliver the "high conservation standards" (SO2.1) and to "maintain areas of highest conservation value" in HCS (SO2.2) of different types of commercial forestry (FMC, TSC, CFMA).
Impact on HCV/HCS areas	-	Replace reference to "dense forest" with "HCV/HCS forest" and remove reference to proximity to PAs. Consideration should also be given to specification in the SOs of the need for TSCs to be outside of critical natural habitat.
Loss of HCV/HCS through clear felling of TSCs	-	Specify requirement for offsetting of HCS/HCV loss from TSCs to ensure no loss of HCS/HCV.
Range of impacts from unsustainable management of community forestry <1000 ha, which in aggregation could be substantial	-	Reference to the threshold of 1,000 ha in SO2.5 should be removed and replaced by a requirement for all commercial CFMAs >50ha to be subject to EIA screening and, depending on the outcome of that exercise, to the relevant EIA process and any resulting management regime.
Priority 3: Complete and manage a network of Protected Areas		
Microeconomic		
Increased shifting cultivation around PAs resulting from limiting access to newly established PAs	-	SO3.1–3.3 should focus on biodiversity landscapes rather than only on PAs. This approach will likely be more successful in promoting REDD+ objectives (reduced emissions, deforestation, degradation, and conservation) rather than focusing on strict protection through PAs. The landscape approach takes a more holistic view by considering multiple uses and users. This provides for management plans and strategies that address livelihood needs. This approach is also less likely to result in

Impact	+/-	Strategy Adjustment
		leakage from PAs to the surrounding landscape, which could negate the positive gains from PA establishment.
		SO3.4 should make more explicit reference to such biodiversity landscape areas, making the distinction between them and the LFSP target landscapes, understood to be the focus of SO3.4 as it currently stands.
Biophysical		
Protection of biodiversity landscapes	-	SO3.1–3.3 should focus on biodiversity landscapes rather than only on PAs. They should promote conservation opportunities offered by set asides, offsets, CFMAs, or sustainably managed areas associated with commercial development. Together with PAs these should be developed as an integrated suite of biodiversity management measures within such landscapes, rather than the current focus on strict protection through PAs.
		SO3.4 should make more explicit reference to such biodiversity landscape areas, making the distinction between them and the LFSP target landscapes, understood to be the focus of SO3.4 as it currently stands.
Macroeconomic		
Availability of charcoal and timber for energy and construction reduced	-	SO3.1–3.3 should focus on biodiversity landscapes rather than only on PAs. This approach will likely be more successful in promoting REDD+ objectives (reduced emissions, deforestation, degradation, and conservation). The landscape approach takes a more holistic view by considering multiple uses and users including the role of charcoalers and pitsaw loggers. This provides for management plans and strategies that address these macroeconomic needs.
Land available for commercial development reduced	-	SO3.1–3.3 should focus on biodiversity landscapes rather than only on PAs. This approach will likely be more successful in promoting REDD+ objectives (reduced emissions, deforestation, degradation, and conservation). The landscape approach takes a more holistic view by considering multiple uses and users, including the role of concessionaires. This provides for management plans and strategies that address related macroeconomic needs.
Priority 4: Prevent or offset clearance of high carbon stock and high conservation value forest in agricultural and mining concessions.		
Micro economic		
Increased shifting cultivation around concession areas	-	Clarify that RSPO standards, which provide social safeguards to address this impact (RSPO 6), will be applied to oil palm and other plantations, and identify how these will be compelled (rather than voluntary). Further, clarify that conservation of HCV/HCS under SO4.1 and SO4.2 for palm oil and other plantations relates to application of RSPO, as this will provide social safeguards under RSPO 6.
Biophysical		
Loss/protection of HCV/HCS forest	+/-	Clarify that conservation of HCV/HCS under SO4.1 and SO4.2 for palm oil relates to application of RSPO and whether this includes the voluntary RSPO NEXT standards.
		Clarify that SO4.1 and SO4.2 apply also to rubber and other non-palm oil agricultural concessions and large farms that are not signed up to RSPO, and specify standard to be applied to ensure conservation of the HCV/HCS.
		Adjust wording of SO4.3 and SO4.4 to ensure that in addition to achieving zero net deforestation (SO4.3) and conservation of dense forest (SO4.4), all components of HCV are safeguarded. It should also ensure full compensation for biodiversity losses (rather than only for forest loss) and recognize this is likely to be extremely challenging to achieve.
Range of impacts from unsustainable management of agricultural concessions and farms <1000 ha, which in aggregation could be substantial	-	Threshold of 1,000 ha in SO4.2 should be removed and replaced by a requirement for all concessions and private farms >50 ha to be subject to EIA screening and, depending on the outcome of that exercise, to the relevant EIA process and any resulting management regime.

Impact	+/-	Strategy Adjustment
Priority 5: Fair and sustainable benefits from REDD+		
Micro economic		
Disincentives for communities to manage community forests sustainably	-	Benefit-sharing mechanisms should explicitly consider ways to provide direct benefits to those that are displaced economically from their livelihoods.

Table E3: Legal and Institutional Measures

Strategy Priority	Legal and Institutional Measures
Priority 1. Reduce forest loss from chainsaw logging, charcoal production, and shifting agriculture	1. Identify policies and/or mechanisms that are needed to support the development of market chains and inputs to support alternative, sustainable livelihoods, and the champions of these reforms under SO1.3. 2. Implementation and enforcement of current and proposed alterations to regulations related to chainsaw logging (SO1.1), charcoaling (SO1.2), hunting, and mining (SO1.5) as well as revenue collection (SO1.1–1.3) will require a strong capacity building component within the FDA, both technically and logistically. The inclusion of realistic timelines for the development of requisite skills sets/capacity and ability to implement those skills needs to be factored into strategy options as there is currently limited capacity to implement any of the SOs. 3. A description is required of the institutional arrangements that are either currently in place, or need to be developed to ensure the cross-sector budgeting, planning and coordination necessary for implementation of the SO option. This should include a mechanism for donor coordination.
Priority 2: Reduce impact of commercial logging in all forestry concessions	1. Specify measures to address the indirect effects (land pressure, conflict, etc.) on areas of conservation importance (HCS and HCV) outside the forest concessions arising from leakage of chainsaw logging and charcoal production from within them. This may be covered by the development of HCV 5 standards. 2. Develop specific standards for community forestry. 3. Map out capacity building and restructuring of the FDA to support implementation of activities with particular focus on the nature, components, processes, and delivery mechanisms to demonstrate how these will address the specific gaps. 4. Map out the capacity building support for community organizations to support implementation of activities to ensure meaningful participation of affected communities. 5. Clarify measures to be applied when TSCs are found to be non-compliant with forestry law. 6. Clarify measures that will be adopted to implement the presumption against further TSCs in dense forest/HCV/HCS and how they will be legally implemented. 7. Promote the finalization and adoption of the Liberian national interpretation of HCV and, if FSC is adopted, the national FSC Indicators for HCS. 8. Identify mechanisms to implement HCV/HCS standards through their inclusion in forestry or other relevant legislation relating to management of FMCs, TSCs, and CFMAs, which should give due consideration to existing contract rights and how to apply such requirement, both to future concessions and retrospectively to those that have already been awarded. 9. Support creation of addenda to the EIA legislation to include regulations and associated guidance for the forest sector consistent with adopted standards (e.g., requirement for consideration of HCV and HCS in the EIA process). 10. Develop formal mechanisms and policies to promote innovative collaborative approaches with the private sector and CSOs to conservation including for example through aggregate offsets and Conservation Agreements. 11. Support the creation of legal and institutional measure to develop Community Agreements for the forestry sector.

Strategy Priority	Legal and Institutional Measures
Priority 3: Complete and manage a network of Protected Areas	1. Include measures to support communities to manage areas sustainably such as CFMAs and those subject to Conservation Agreements or other management mechanisms. 2. Include provisions to build capacity and resources to deliver and manage the PAN (and landscape-level planning and implementation), taking account of the fact that this has been lacking to date and, without significant support, will become further stretched if the PAN is to be expanded. Accordingly, capacity building for implementation and enforcement of relevant regulations and laws should be an important component within these SOs. Realistic timelines must also be considered for the requisite capacity to be developed to support implementation. 3. Map out the capacity building support for community organizations to support implementation of activities to ensure meaningful participation of affected communities. 4. Map out capacity building and restructuring of the FDA to support implementation of activities with particular focus on the nature, components, processes, and delivery mechanisms to demonstrate how these will address the specific gaps. 5. Identify legal provisions and associated guidance that would be required and steps to producing them if CFMAs or areas such as HCV set asides are proposed for inclusion within the 30 percent target for forest protection. 6. Promote, within EIA legislation and guidelines, consideration of indirect effects that are particularly relevant to forest management activities but can often be overlooked. Such impacts typically result from displacement of community land uses resulting in leakage effects. 7. Develop a systematic landscape classification to inform definition of biodiversity landscape units where forest and non-forest areas within and outside of the PAN may perform an ecological function or have potential to do so (e.g., through forest regeneration) and warrant promotion and safeguarding including through REDD+.
Priority 4: Prevent or offset clearance of high carbon stock and high conservation value forest in agricultural and mining concessions.	1. Map out the capacity building support for community organizations to support implementation of activities to ensure meaningful participation of affected communities. 2. Map out capacity building and restructuring of the FDA to support implementation of activities with particular focus on the nature, components, processes, and delivery mechanisms to demonstrate how these will address the specific gaps. 3. Capacity building for implementation and enforcement of relevant regulations and laws should be an important component within these SOs. Realistic timelines must also be considered for the requisite capacity to be developed to support implementation. 4. Promote the finalization and adoption of the Liberian national interpretation of HCV. 5. Identify mechanisms to implement such HCV standards through their inclusion in agricultural or other relevant legislation relating to management of palm oil rubber and other agricultural activities and mining that should, amongst others, give due consideration to existing contract rights and how to apply such requirement to both future concessions and those that have already been awarded. 6. Support creation of addenda to the EIA legislation to include regulations and associated guidance for the agriculture and mining sector consistent with adopted standards (e.g., requirement for consideration of HCV and HCS in the EIA process). Such guidance should cover both large commercial concessions and private farms. 7. Support creation of legal and institutional measure for enforcement Community Agreements or similar.
Priority 5: Fair and sustainable benefits from REDD+	Consider and include performance-based standards for benefit-sharing mechanisms.

Table E4. Impacts That Can Be Mitigated/Harnessed through Application of the ESMF

Impact	+/-	Mitigation/Enhancement Measure
Priority 1. Reduce forest loss from chainsaw logging, charcoal production, and shifting agriculture		
Microeconomic		
Increased shifting cultivation for food security	-	Design realistic sustainable livelihoods interventions that are based on research, and in consideration of availability of inputs and expertise.
Decreased customary land security	-	Articulate how customary rights of individuals within areas subject to forestation will be protected including, if secure tenure is required, avoiding benefitting local elites at the expense of customary users.
Displacement	-	Proposed forestation activities should include appropriate processes and mechanisms relating to resettlement including, where required, FPIC processes and mechanisms to ensure that customary rights of individuals and communities are protected with regard to afforestation activities and other measures.
Community leaders lack the skills and information needed to represent constituents	-	Provisions for FPIC are required where new forest areas are being considered to ensure consideration of customary land owners and users (cross-cutting).
Biophysical		
Leakage of community activities from within areas subject to strategy interventions to other HCS/HCV areas	-	Ensure sufficient incentives, notably availability of viable livelihood options to divert activities from forests and compensate for any losses resulting from the intervention. Dependent on Strategy Adjustment.
Land pressures due to population influx	-	Ensure siting of SO1.4 interventions take account of potential impacts from population growth and associated pressures on natural resources.
GHG emission from livestock and nitrogen based fertilizer	-	Promote livestock species and fertilizers/practices under SO1.3 that have low GHG contributions.
Resilience to climate change provided by forest landscape	+	Promote interventions that retain forest in locations that play a role in supporting climate change resilience.
Reduce/increased vulnerability to climate changes shocks to livelihoods due to nature of species cultivated	+	Promote climate-resilient seeds and crops under SO1.3, particularly at locations identified to be at risk of climate change.
Conversion of natural or critical natural habitat	+/-	No conversion of critical natural habitat both within or outside of forest (including swamps and wetlands that may be targeted for agriculture). Where feasible, avoid conversion of natural habitat. Promote interventions that divert pressures away from, or conserve, areas of forest that may comprise critical natural habitat. Screening to ensure compliance with above and WB OP4.04.
Protections of water and soils integrity provided by forest landscapes	+	Promote interventions at locations where they can contribute to soil and water conservation.
Pollution of water and from agricultural inputs	-	Avoid use of prohibited pesticides and chemicals. Adopt integrated pest management approaches and, where possible, promote conservation agriculture. Adhere to pesticide management plans (outlined in ESMF).
Priority 2: Reduce impact of commercial logging in all forestry concessions		
Microeconomic		
Communities unable to effectively engage in commercial forestry	-	Specify potential interventions and measures to engage and support Community Forest management planning with the private

Impact	+/-	Mitigation/Enhancement Measure
		sector in CFMAs, and to strengthen the regulatory environment related to CFMAs.
Communities lack the skills and knowledge to represent their constituents	-	Map out the capacity building support for community organizations to support implementation of activities to ensure meaningful participation of affected communities.
Increased dependency on shifting cultivation and other drivers of deforestation	-	Ensure measures are implemented to address both (i) the potential for leakage of community activities from within the concessions subject to strategy interventions (e.g., due to restrictions on activities) to areas of HCS and HCV outside of them, and (ii) new pressures on such areas due to population influx (e.g., attracted by new infrastructure and opportunities).
Increases in shifting cultivation and other livelihood activities in and around HCS areas	-	Ensure high conservation areas set aside from forestry and implemented through the strategy are protected from becoming vulnerable to community or other uses (e.g., through Community Agreements or similar as being applied to the mining and agriculture sectors).
Biophysical		
Leakage of community activities from within areas subject to strategy interventions to other HCS/HCV areas	-	Ensure sufficient incentives, notably availability of viable livelihood options to divert activities from forest and compensate for any losses resulting from the intervention. Dependent on Strategy Adjustment (under Priority 1).
Community pressure on set aside resulting in HCS/HCV loss	-	Ensure set asides supported by strategy interventions are protected from becoming vulnerable to community or other uses (e.g., through Community Agreements or similar as being applied to the mining and agriculture sectors)
Resilience to climate change provided by forest landscape	+	Promote interventions that retain forests in locations that play a role in supporting climate change resilience.
Conversion of natural or critical natural habitat	+/-	No conversion of critical natural habitat. Only support TSCs that do not comprise critical natural habitat. Where feasible, avoid conversion of natural habitat. Promote interventions that divert pressures away from, or conserve, areas of forest that may comprise critical natural habitat. Screening to ensure compliance with above and WBOP4.04.
Protection of biodiversity landscapes	+	Prioritize interventions at location that plays a role within biodiversity. Integrate with similar initiatives, e.g., through aggregated offsets in other sectors (mining, agriculture, PAs) within the same landscape unit.
Protections of water and soils integrity provided by forest landscapes	+	Promote interventions at locations where they can contribute to soil and water conservation
Priority 3: Complete and manage a network of Protected Areas		
Microeconomic		
Increases in shifting cultivation and other livelihood activities around PA	-	Ensure measures are implemented to address the potential for leakage of community activities, from within PAs or other areas managed for conservation that are subject to strategy interventions (e.g., due to restriction on activities) to areas of HCS and HCV. Include measures to support communities to manage areas sustainably such as CFMAs and those subject to Conservation Agreements or other management mechanisms.
Erosion of customary land rights	-	Conduct Environmental Assessments (EAs) in compliance with WB OP4.12 where implementation of strategy results in relocation of customary owners of forestland, or involuntarily limits access to resources.

Impact	+/-	Mitigation/Enhancement Measure
		Provisions for FPIC are required where new forest areas are being considered to ensure consideration of customary land owners and users.
Increased conflicts over land	-	Measures should include specific reference to interventions that are needed to support stakeholder engagement in the planning and implementation for PAs (and other conservation management regimes), which should include adherence to FPIC principles.
Biophysical		
Leakage of community activities from within areas subject to strategy interventions to other HCS/HCV areas	-	Ensure sufficient incentives, notably availability of viable livelihood options to divert activities from forests and compensate for any losses resulting from the intervention. Dependent on Strategy Adjustment (under Priority 1).
Resilience to climate change provided by forest landscape	+	Promote interventions that retain forests in locations that play a role in supporting climate change resilience.
Conversion of natural or critical natural habitat	+/-	Promote interventions that divert pressures away from, or conserve, areas of forest that may comprise critical natural habitat. Screening to ensure compliance with above and WB OP4.04.
Protection of biodiversity landscapes	+	Prioritize interventions at locations that play a role within biodiversity landscapes. Integrate with similar initiatives in other sectors (mining, agriculture, PAs) within the same landscape unit.
Protection of water and soils integrity provided by forest landscapes	+	Promote interventions at locations where they can contribute to soil and water conservation.
Priority 4: Prevent or offset clearance of high carbon stock and high conservation value forest in agricultural and mining concessions.		
Microeconomic		
Increases in shifting cultivation and other livelihood activities around concession areas	-	Ensure measures are implemented to address the potential for leakage of community activities, from within concession areas are subject to strategy interventions. Include measures to support communities to manage areas sustainably such as CFMAs and those subject to Conservation Agreements or other management mechanisms.
Communities lack the skills and information to effectively negotiate for their rights or manage their forests	-	Include measures to support communities to manage areas sustainably such as CFMAs and those subject to Conservation Agreements or other management mechanisms.
Increased land conflict and land security	-	Provisions for FPIC are required where new forest areas are being considered to ensure consideration of customary land owners and users.
Resettlement	-	Conduct EAs in compliance with WB OP4.12 where implementation of strategy results in relocation of customary owners of forestland, or involuntarily limits access to resources.
Biophysical		
Leakage of community activities from within areas subject to strategy interventions to other HCS/HCV areas	-	Ensure sufficient incentives, notably availability of viable livelihood options to divert activities from forest and compensate for any losses resulting from the intervention. Dependent on Strategy Adjustment (under Priority 1).
Land pressures due to population influx	-	Ensure measures are implemented to address the potential for leakage of community activities, from within concession areas are subject to strategy interventions.
Community pressure on set aside resulting in HCS/HCV loss	-	Ensure set asides supported by strategy interventions are protected from becoming vulnerable to community or other uses (e.g., through Community Agreements or similar).

Impact	+/-	Mitigation/Enhancement Measure
Resilience to climate change provided by forest landscape	+	Promote interventions that retain forest in locations that play a role in supporting climate change resilience.
Conversion of natural or critical natural habitat	+/-	No conversion of critical natural habitat. Where feasible, avoid conversion of natural habitat. Promote interventions that divert pressures away from, or conserve, areas of forest that may comprise critical natural habitat. CH screening to ensure compliance with above and WB OP4.04.
Protection of biodiversity landscapes	+	Prioritize interventions at locations that play a role within biodiversity landscapes. Integrate, e.g., through aggregated offsets, with similar initiative in other sectors (mining ,forestry, PAs) within the same landscape unit.
Protections of water and soils integrity provided by forest landscapes	+	Promote interventions at locations where they can contribute to soil and water conservation.
Macroeconomic		
Decreased revenues from the forest	?	Research is necessary before instituting policies that would potentially limit revenues in order to fully understand the potential costs and benefits in social, environmental, and economic terms.
Priority 5: Fair and sustainable benefits from REDD+		
Microeconomic		
Increased land conflict	-	Given the potential for conflict, a credible FGRM needs to be in place and operational as a first step in the implementation of these strategy options.
Macroeconomic		
Loss of jobs for unskilled laborers currently dependent on forest activities	-	Specify how alternative skills and jobs to low-skilled laborers that are currently engaged in activities that will be affected by implementation of the REDD+ Strategy will be provided.

CONCLUSION

The SESA concludes with a number of recommendations for both the REDD+ Strategy as well as its implementation. These include:

Consideration of the Evidentiary Basis to Determine the Links between Strategy Options and Outcomes. Though the REDD+ Strategy does include a theory of change, many of the assumptions are based on limited information and assumptions.

Need for Research. This highlights the need to better understand the drivers behind deforestation, and the limitations and challenges to implementation. This is particularly true of charcoal and shifting cultivation.

Institutional Capacity. Capacity is a challenge in Liberia in terms of technical expertise, resources, and logistics. As a result, implementation of proposed strategies will be constrained by these limitations and must take into account the reality of working with institutions with such limited capacity. Realistic timeframes to encourage development of expertise must be understood and considered in order to ensure that the strategy can be implemented.

Regulatory Environment. Liberia has a progressive forestry law and framework and much of the framework is in place for sustainable forest management. However, the ability of government to execute the law is extremely limited. Accordingly, regulatory reform, where necessary, should not be regarded as a panacea, but rather a complementary measure.

Standards. The proposed international standards proposed should be specifically articulated in order to provide guidance to implementers, and to avoid confusion. This will also assist policy makers to develop legal frameworks that will further support their implementation.

1.0 INTRODUCTION

1.1 REDD+ IN THE LIBERIAN CONTEXT

The Liberia REDD+ Technical Working Group (RTWG) was established in 2007 and has spearheaded the REDD+ readiness process in Liberia. The work of the RTWG has included the development of the Readiness Program Idea Note, submitted to the World Bank-led Forest Carbon Partnership Facility (FCPF) in May 2008.[2] This was followed by the REDD+ Readiness Preparation Proposal (R-PP), submitted in 2011 and finalized in April 2012, which launched the REDD+ Readiness phase of the FCPF process to develop and support REDD+ activities. The preparation of a REDD+ Strategy is one of the main foci of the REDD+ Readiness phase, and its development is supported by the concurrent preparation of a Strategic Environmental and Social Assessment (SESA) and Environmental and Social Management Framework (ESMF).

Tetra Tech was contracted to develop the SESA and ESMF under a contract with the Liberia Forestry Development Authority (FDA). This report presents the methodology and findings of the SESA while the ESMF is documented under separate cover.

1.1.1 Liberia REDD+ Progress

In September 2014, a Letter of Intent (LOI) was signed between the governments of Liberia and Norway formalizing the two governments' intent to support a climate change partnership focused on REDD+. The LOI pledges to support phased activities up to 900,000,000 Danish krone that will be channeled through contributions to the World Bank Liberia REDD+ Investment Program.[3] It is intended that these contributions will evolve into payments for verified emissions reductions. The LOI sets out an ambitious three-phase approach, characterized by specific activities that are intended to prepare (Phase 1), transform (Phase 2), and contribute (Phase 3) to verified emission reductions. Phase 1 was envisioned to begin in 2014, Phase 2 to begin in January 2015 with an end date of 2020, and Phase 3 to begin in 2018. A key activity referenced in the LOI is the finalization by 2015 of the REDD+ Strategy, which will guide implementation of REDD+ in Liberia.

1.2 LIBERIA'S REDD+ STRATEGY AND SESA

The FCPF SESA process is a **two-tiered** approach to identify and manage environmental and social (E&S) impacts that may arise from implementation of the REDD+ Strategy. The two tiers are as follows:

- The **strategic assessment dimension** (documented in this SESA report) identifies E&S priority outcomes (SESA outcomes) that relate to the REDD+ Strategy and then uses these as criteria against which E&S performance of the evolving REDD+ Strategy options are evaluated. Where there are shortfalls in performance, modifications are recommended: (i) "adjustments" to be made to the strategy before it is finalized; (ii) "mitigation" measures to be considered and applied as required when the strategy is subsequently implemented through specific interventions; and (iii) measures to address institutional and legal gaps in capacity to ensure the necessary E&S safeguards are maintained when implementing REDD+.
- The **Environmental and Social Management Framework** (documented in a separate report) provides guidance on the process to be followed for managing and mitigating E&S risks once specific interventions to implement the strategy are defined. It thus includes the environmental and social assessment processes to be followed for each intervention to meet both World Bank

[2] Details and documents on Liberia's engagement in the REDD+ process may be found on the FCPF website, which also provides materials, guides, publications, and other resources: https://www.forestcarbonpartnership.org/liberia

[3] The LOI quotes US$150M as the ceiling amount of support available, calculated at an exchange rate of 6 krone to $US1. At current exchange rates (June 2016), this represents approximately US$108M.

safeguards and Liberian national requirements, and safeguards to ensure those processes incorporate the "mitigation" measures identified during the strategic assessment.

While the above were determined through a sequential suite of **diagnostic analyses** to ensure that they are informed by a transparent derivation of current E&S issues relating to REDD+ in Liberia, they also draw on a comprehensive **consultation** exercise implemented at key stages in the SESA process. This ensures that the analyses, and the evaluation and recommendations emerging from them, took full account of the views of, and were validated by, the range of stakeholder who may be affected by or otherwise have a valid interest in or influence on REDD+ and it implementation.

1.3 SESA Process

The SESA process was designed to be consistent with that specified in relevant guidance, notably those outlined below, customized for the Liberian context:

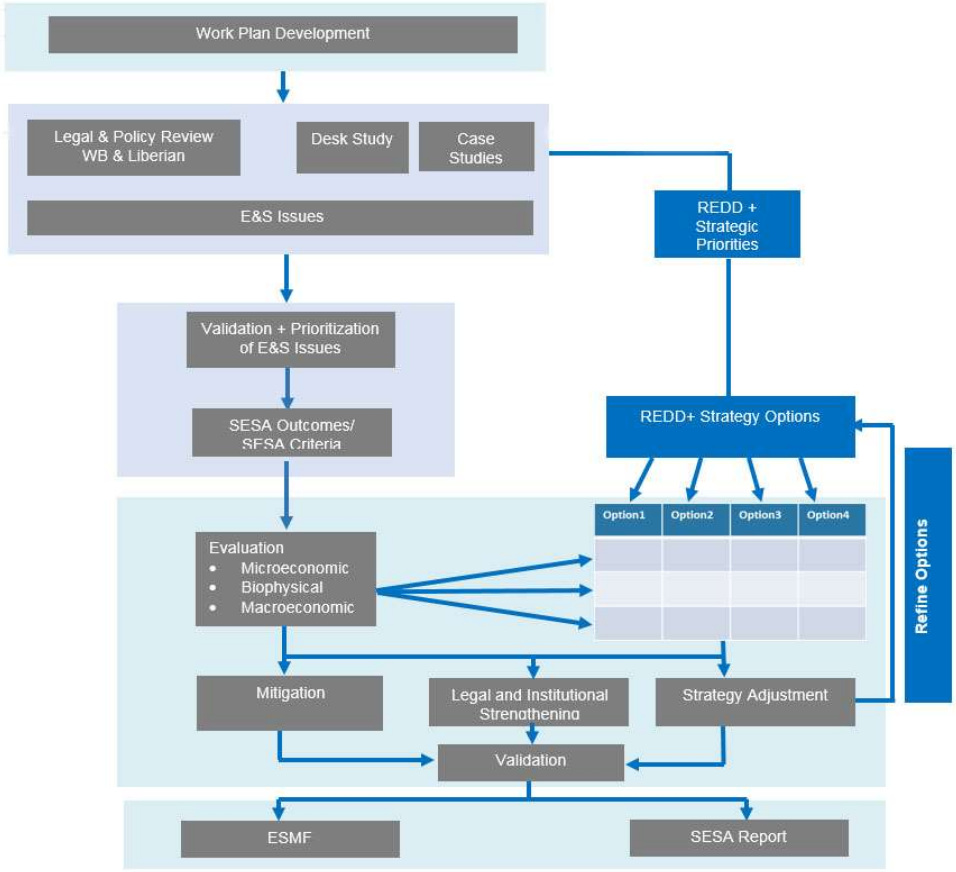
- Strategic Environmental Assessment (SEA) in Policy Reform Conceptual Model and Operational Guidance, relating to World Bank approaches to SEAs in policy development in general (World Bank, University of Gothenburg, Swedish University of Agricultural Sciences and Netherlands Commission for Environmental Assessment, 2011);
- Various documents produced by or on behalf of the FCPF relating to REDD+ environmental and social safeguard processes (FCPF, 2010a, 2010b; FCPF Readiness Fund, 2010; and Moss and Nussbaum, 2011); and
- Guidance on SEAs for REDD+ relating specifically to SESA as applied to REDD+ Strategy development (Donaldson and Lichensten, n.d.).

The SESA process is depicted in Figure 1.1 and described in the subsections below.

Figure 1.1: SESA Process Flow

Phase	Report	Consultation Activity
Inception	Inception Report	National Validation Workshop
Step 1: Situation Analysis	Scoping Report	Local case studies Key informant interviews (KIIs)
Step 2: Prioritization of Issues	Priority Report	Local, regional, institutional, and national workshops
Step 3: Assessment & Draft ESMF	Draft ESMF	Regional and national workshops
Step 4: Reporting	SESA ESMF	

Consultation Activity



1.3.1 Steps in the SESA Process

Inception

Per World Bank guidance, the main SESA activities were preceded by a preparatory phase during which the team developed and validated a work plan. The work plan set out the process by which the various diagnostic tasks and consultations would be delivered, as well as how the criteria for assessing the REDD+ Strategy would be developed and applied. It included:

- Definition of the purpose, scale, and broad approach to be adopted in the SESA process, and its anticipated outputs and outcomes;
- Nature of, and method for undertaking, the diagnostic studies;
- Identification of potential case study sites as well as locations for validations workshops (community, regional, and national); and
- Stakeholder analysis and proposed engagement process.

The team presented the work plan at a National Validation Workshop after which it was finalized.

Activities for this phase took place from July–August 2014, incorporating the National Validation Workshop from July 21–22, 2014. The outputs are presented in full in the SESA Inception Report (September 2014) and reflected in the process outlined below. The work was placed on hold due to the Ebola outbreak and recommenced in March 2015.

Step 1: Situation Analysis

In Step 1, the SESA team focused on identifying the range of E&S issues that may arise from REDD+ Strategy implementation. Key activities were as follows:

- Desk-based data collection and analyses and KIIs to identify both E&S drivers of deforestation and E&S features and attributes that could be impacted (positively or negatively) by REDD+ interventions.
- Sourcing of spatial datasets that best informed the above and creation of key geographic information system (GIS) layers that identified important E&S features, including hotspots and highlighted potential conflicts between different land uses.
- Targeted field case studies to refine the above, notably to address gaps in existing knowledge and gain in-depth understanding of sensitivities to E&S impacts from the different REDD+ interventions under different local contexts in Liberia. Six case study sites were selected around the country that represented the range of E&S issues likely to arise from REDD+ Strategy implementation. The land uses within the case study areas included Protected Areas (PAs), mining and agricultural concessions, commercial forestry, shifting cultivation, and charcoal production. A summary profile of the sites and case study findings are presented in Section 2.3.
- A legal and policy review to determine the standards that could apply to the E&S performance of the REDD+ Strategy, and thus necessary to consider when identifying REDD+ E&S issues. The review covered both national Liberian requirements and Word Bank Safeguards as outlined in various World Bank Operational Polices (WB OPs).[4] A summary of the legal and policy review is provided in Section 4.
- Thematic studies and analyses of outputs of the above to derive a list of potential E&S issues that relate to REDD+.

[4] The World Bank Safeguard policies must be adhered to for any funds sourced directly from the World Bank. This would include any budget originating from the Norwegian government or other donors that is funneled through a World Bank mechanism. However, it should be noted that funds that do not have an affiliation with the World Bank are not required to adhere to World Bank Safeguard policies.

Activities related to this phase took place from March–September 2015. Results are presented in full in the SESA Scoping Report (October 2015), and a summary is provided in Section 2 of this report.

Step 2: E&S Prioritization of Issues

In Step 2, the SESA team focused on validating and prioritizing the E&S issues identified in Step 1, with a particular emphasis on findings derived from the case studies. Key activities in Step 2 are as follows:

- The team convened workshops in six communities with similar profiles to those where the case studies were held, with representatives of the original communities in attendance. This broadened the participation of communities in the identification of E&S issues and enabled validation/expansion of findings by providing opportunities for community feedback. It also enabled a degree of triangulation. Once issues were validated, attendees were asked to prioritize the issues identified. The team divided community groups by gender in order to solicit a diversity of views and to provide a secure environment for women to express their opinions. The team ranked and recorded issues within each group and used this information to analyze differences in priorities across gender and regions.
- Similar workshops were held at the regional level to further validate and refine the prioritization and to determine if the community-level findings were also relevant at the larger regional level. The team again utilized ranking exercises and group discussions to prioritize the E&S issues.
- The team further refined and validated E&S priorities at institutional and national workshops held in Monrovia in February 2016.
- Based on the analyses and validation process, the team synthesized priority issues identified by stakeholders into 24 outcomes to be achieved during REDD+ implementation. Each outcome was allocated to one of three categories: microeconomic, biophysical, or macroeconomic. This list of 24 validated priority outcomes comprised the criteria against which the REDD+ Strategy options would be evaluated.

Step 2 activities took place from October 2015 to February 2016 and are documented in the SESA Priorities Report (April 2016). These activities are also summarized in Section 3 of this report.

Step 3: Assessment and Draft ESMF

In Step 3, the team used the SESA outcomes, as derived from the priority issues in Step 2, as criteria against which to assess the E&S performance of the proposed strategy options. Specifically, the team evaluated the impact (negative or positive) of each proposed SO on each of the SESA outcomes.

Where significant adverse E&S impacts were predicted that could not be subsequently addressed at intervention planning and implementation stages, the team made recommendations for modifications to the draft strategy (LTS, 2016b; see Attachment 1). Such modifications related both to the nature and wording of the SOs and to institutional and legal measures required to ensure the associated proposed E&S safeguards could be achieved in practice. This resulted in adjustments being incorporated into a revised strategy (LTS, 2016e).

A second evaluation of the revised strategy identified improved E&S performance and highlighted outstanding modifications that will need to be addressed as it is further developed.

Where potential for significant adverse E&S impacts were predicted that could be readily addressed through established management measures, the team identified mitigation requirements for inclusion in the ESMF. This should ensure that such measures are considered as each intervention is subsequently planned, developed, screened for (subject to the Environmental Impact Assessment [EIA] process), and implemented.

Step 4: Reporting

The team prepared a report documenting the SESA process and it outcomes (this document). In accordance with WB OP4.01 and REDD+ SESA guidance, the team also prepared the ESMF to set out the process for managing interventions to be implemented under REDD+ where specific E&S

impacts and associated mitigation and management measures cannot yet be fully determined (e.g., as-yet unidentified REDD+ investments and interventions). The ESMF documents procedures for identifying, assessing, and managing the E&S impacts once such details are more fully defined. Notably, it ensures that both WB and Liberian processes regarding environmental safeguarding (including the WB Environmental Assessment [EA] and Liberian EIA processes) are followed. This includes specific procedures to be followed in the event of involuntary resettlement, pesticide use, and chance finds of physical cultural resouces as well as general conditions for inclusion in contractor agreements. The ESMF also ensures that the mitigation measures required to address E&S considerations for specific strategy priorities and options, as identified through the SESA, are incorporated in those assessment and management processes.

Several proposed strategy adjustments and requirements for legal and institutional strengthening that emerged from the SESA remain outstanding. These have been documented in the ESMF to allow them to be addressed in further refinements to the strategy.

The ESMF document is presented as a standalone report to be used as a guideline for those responsible for implementing the REDD+ interventions.

1.3.2 Stakeholder Consultations

Consultations with stakeholders are key to the development of an effective and implementable strategy, particularly in Liberia where forestry stakeholders represent a diversity of interests. As part of the SESA process, the team identified and consulted forestry stakeholders throughout the SESA process. National-, county-, and community-level stakeholder groups were identified during the initial stage of the SESA and validated at an Inception Workshop. National-level stakeholders included private sector concessionaires, nongovernmental organizations (NGOs), government agencies, and donors; county-level stakeholder groups included county officials, county-level civil society organizations (CSOs), and the private sector; community-level stakeholder groups included local government officials, forest user groups, community-based organizations, and various social groups. The listing was the basis for identification and consultation during the case studies and regional consultations in later stages of the SESA, with additional participants identified by EPA and FDA and community leaders.

In summary, forestry stakeholders that were identified and consulted include: communities that live within or immediately adjacent to forest areas, community forestry organizations, people that depend on forests for part or all of their livelihoods from timber or non-timber forest products (NTFPs, including charcoal), government agencies responsible for management and regulation of forests and related resources, private sector investors who are developing concessions (mining, agriculture, and forestry), CSOs that represent a diversity of interests (community land rights, conservation, etc.), and donors that contribute significantly to the sector.

2.0 NATIONAL AND LOCAL SITUATION ANALYSIS

2.1 ENVIRONMENTAL CONTEXT

2.1.1 Climate Change

Greenhouse Gas (GHG) Emissions and Sequestration

Despite considerable forest loss over the years, Liberia still has substantial tracts of forest - which is a significant sequester of carbon. A recent study (Metria and Geoville, 2015) reports that 45.5 % of the total land area was covered by trees with canopy closure of greater than 80%, with an additional 22.6% of total land area covered by trees with canopy closure between 30 and 80 percent. Mangroves cover small areas of Liberia (estimated at 0.2–0.5% [FFI, 2012; Gatter, 1988]), but they comprise particularly rich carbon stores.

The energy sector is the highest contributor to GHGs in Liberia, largely as a result of the use of traditional fuels such as firewood and charcoal, followed by animal husbandry.

Climate Change Vulnerability and Resilience

A recent study of climate change impacts in Liberia (Stanturf, Goodrick, Warren, & Stegall, 2013) indicates trends for warmer and wetter conditions in most of the country by 2060, with increased rainfall being concentrated along the coast, and inland regions generally experiencing slightly reduced rainfall. Changes in the timing and intensity of rainfall events are also predicted.

Resilient landscapes are recognized by the World Bank and others as key to achieving both climate and development goals—with priority on protection and restoration of forest landscapes in such areas. Owing to reliance on rain-fed agriculture, low capacity to adapt, and a low economic base, Liberia is likely to be disproportionately affected by climate change (GoL, GEF, and UNEP, 2008; GoL, 2015b) and dependent on such forest landscapes to provide resilience.

2.1.2 Biodiversity

The biodiversity importance of Liberia's forests, notably the high levels of endemism and species diversity, presence of numerous species listed in the International Union for Conservation of Nature (IUCN) Red List of Threatened Species,[5] and the fact that the country contains the largest intact block (40%) of the Upper Guinean Forest, is well documented.

Despite much of Liberia being located within several internationally recognized biodiversity hotspots,[6] indications are that biodiversity loss trends and threats may well continue without significant interventions. Causes of this loss and these threats relate primarily to conversion of natural habitats for human-dominated systems such as shifting agriculture, agro-industrial plantations, extensive commercial and chainsaw logging, swampland rice cultivation, mining, and mangrove exploitation (USAID, 2008 and 2014a).

Outside the Upper Guinean Forests, mangrove forests are located in coastal swamps and along edges of lagoons, river banks, and coastal estuaries. Mangroves are classified under Liberia's draft National Interpretation as a high conservation value (HCV) category 3 ecosystem and habitat (see text box on the following page).

[5] The IUCN Red List categorizes species according to their risk of extinction to inform and influence actions by the public, policy makers, and international community to try to reduce species extinction and conserve biological diversity.

[6] A biodiversity hotspot is a biogeographic region with significant levels of biodiversity that is under threat from humans (Myers et al., 2000 and Mittermeier et al., 2000). Several international organizations have identified biodiversity hotspots. These include Endemic Bird Areas (designated by Birdlfe international), Global 200 Ecoregions (World Wide Fund for Nature), and Alliance for Zero Extinction sites.

Under WB OP4.01 for Environmental Assessments (World Bank, 2001a) and OP4.36 for Forests (World Bank, 2002), many of the areas described above could qualify as "critical natural habitat," and the WB would not support activities that resulted in their conversion. Much of the country is likely to qualify as "natural habitat," within which significant conversion is generally not supported by the WB unless there are no viable alternatives and acceptable mitigation measures are implemented.

Box 1. The Six High Conservation Values

- **HCV 1 Species Diversity:** Concentrations of biological diversity including endemic species, and rare, threatened, or endangered species, that are significant at global, regional, or national levels.
- **HCV 2 Landscape-Level Ecosystems and Mosaics:** Large landscape-level ecosystems and ecosystem mosaics that are significant at global, regional, or national levels, and that contain viable populations of the great majority of the naturally occurring species in natural patterns of distribution and abundance.
- **HCV 3 Ecosystems and Habitats:** Rare, threatened, or endangered ecosystems, habitats, or refugia.
- **HCV 4 Ecosystem Services:** Basic ecosystem services in critical situations, including protection of water catchments and control of erosion of vulnerable soils and slopes.
- **HCV 5 Community Needs:** Sites and resources fundamental for satisfying the basic necessities of local communities or indigenous peoples (for livelihoods, health, nutrition, water, etc.), identified through engagement with these communities or indigenous peoples.
- **HCV 6 Cultural Values:** Sites, resources, habitats, and landscapes of global or national cultural, archaeological, or historical significance, and/or of critical cultural, ecological, economic, or religious/sacred importance for the traditional cultures of local communities or indigenous peoples, identified through engagement with these local communities or indigenous peoples.

Source: Brown, Dudley, Muhtaman, Stewart, and Synnott, 2013.

Protected Areas

Measures to conserve biodiversity have been mandated by the National Forest Reform Law (NFRL; GoL, 2006) that proposes designation of 30 percent of Liberia's forest areas as part of a Protected Areas Network (PAN). However, only three such areas covering some three percent of the forests have been gazetted to date (Rothe, Golombok, and Lorenz, 2015).

Effective management of gazetted PAs has been constrained due to a range of factors including lack of inter-sectoral coordination, inability to enforce regulations, conflicts with community uses and lack of sufficient community involvement in decision-making and ownership, and significant costs associated with PA establishment and management (FFI, 2012).

Biodiversity Outside of Protected Areas

Approximately 54 percent of Liberia is included within 25 Key Biodiversity Areas (KBAs),[7] designated for their global biodiversity importance and as priorities for conservation intervention. Five wetlands covering 95,879 hectares (ha) have been designated as Ramsar sites. Only one of these sites has a management plan in place, however, it is reportedly not being implemented (Ramsar Secretariat, 2015).

These, as well as numerous other areas outside of the currently proposed PAN, are important for biodiversity. Together, these areas support significant concentrations of rare threatened, endangered, and endemic species or are used seasonally or temporally by major concentrations of these species. They also need to be taken into account when considering conservation management.

2.1.3 Water and Soils

In addition to providing habitat for globally important biodiversity, Liberia's forests play a critical role in maintaining ecological services, such as oxygen production and soil stabilization, which provide social and cultural micro- and macroeconomic benefits. Key services related to water provision and soil integrity are discussed below.

[7] KBAs are sites of global significance for the conservation of biodiversity through PAs and other governance mechanisms. They are identified nationally using simple, globally standardized criteria and thresholds, based on the required biodiversity safeguards at the site scale (Eken et al., 2004; Langhammer et al., 2007).

Water

Approximately 14 percent of Liberia is covered by freshwater bodies including rivers, lakes, wetlands, lagoons, streams, and creeks that drain to the Atlantic in a northeast to southwest direction. These provide critical ecosystem services such as drinking water, irrigation, and power generation as well as habitats for plant and wildlife species. Although water availability has historically been plentiful and of good quality, the increased availability of pesticides and fertilizers (used in agriculture and fisheries) and conversion of land in riparian areas are presenting a growing threat to such resources.

Of the 600,000 ha of freshwater wetland in Liberia, only about three percent were under cultivation in 2008 (USAID, 2008). However, the National Rice Strategy for Liberia (GoL, 2012c) proposes to increase lowland rice cultivation fivefold between 2009 and 2018 and promotes conversion of swamps and use of chemical inputs. In general, very little is known about the value of these areas, including the ecosystem services they provide (e.g., control of water quality, flooding, and habitats). While two wetland areas have been designated as Ramsar sites to protect them from rice farming, pesticides, and fertilizers (as well as from hunting, logging, and hydropower development), no mechanism is in place to protect other such areas.

Liberia has numerous brackish wetlands, five of which have been designated as Ramsar sites (Ramsar Secretariat, 2015).

Soils

Liberia lies within the humid agro-ecological zone, with 70 percent of the soils comprising ferrosols (Deckers, 1993). These generally have good physical properties for plant growth but poor chemical fertility and low capacity to retain nutrients. The other main soil type, acrisol, is also low in nutrient levels. Both are often susceptible to erosion due to underlying layers of clay (Batiano et al., 2006), which can be exacerbated by loss of forests, particularly in sloping areas.

Research undertaken by Arcelor Mittal (Arcelor Mittal Limited, 2014) shows that after slash and burn areas have been fallow for several years, nitrogen and potassium accumulate in the bush cover and upper soil layers, generating sufficient fertility for initial crops. If fertility can be maintained at a slow decline, a field can be cropped for more than one season. Increasing land scarcity resulting from population growth and other pressures is leading to shorter fallow periods and declines in soil fertility, reducing the viability of shifting cultivation. However, much uncertainty remains regarding Liberia's soils, and additional work is needed to draw conclusions upon which to base investments.

Only a small area within Liberia (approximately 4%), typically in swamps and wetlands, is covered by gleysols. This soil type has a high humus content and is therefore suitable for lowland crops, particularly rice.

2.2 SOCIO-ECONOMIC CONTEXT

While Liberia has begun to recover from almost two decades of conflict, it remains a fragile state (ranked twenty-first in the world on the Fragile States Index).

2.2.1 Economy

Liberia remains one of the poorest countries globally. The World Bank estimates that 94 percent of the population lives on less than US$2 a day, and the United Nations scores the country 0.43 on the Development Index, with a rank of 177. Birth rates are high (35 per 1,000), sustaining a population growth rate of 2.6 percent even with high infant mortality rates (67.5 per 1,000). As a result, 61 percent of the population is under the age of 25.

Exports grew steadily in the post-war years primarily driven by the mining and agricultural sectors. However, dependency on these sectors makes Liberia vulnerable to fluctuations in the world commodity markets (specifically iron ore and rubber), and despite steady growth over the past decade, economic growth stalled in 2015 to 0.4 percent as a result of the Ebola virus outbreak and falling commodity prices. While the economy is on track for 2.8 percent growth in 2016, the country is

extremely dependent on volatile iron ore and rubber prices. Unemployment is high and will continue to hamper economic growth and stability in the country, particularly as urban youth mature and are unable to find employment opportunities.

2.2.2 Forest-based Economy

The forestry sector of Liberia contributes to the larger economy in terms of generating foreign exchange revenues, providing goods and services to the domestic population (charcoal, dimensional timber, etc.), and providing jobs for Liberians.

Commercial Logging

Under the Liberia Forestry Initiative (LFI), a donor strategy to support reforms in Liberia's forestry sector, significant legal and structural changes were made to the Liberian forestry sector to ensure sustainable management of the forest estate and to secure economic benefits for the nation. Among other results, LFI supported: the development of a forest strategy whereby forestlands for commercial, conservation, and community forest management were to be identified; a legal framework to ensure sustainable management and exploitation of the resource; and regulations to support implementation that would bring much needed tax revenues to the government, and direct benefits to communities for their own development.

The passage of the National Forestry Reform Law in 2006 lifted the sanctions that had been imposed by the United Nations Security Council on the export of timber from Liberia and paved the way for direct foreign investment in the sector through bids for forest concessions. Following the passage of the NFRL, areas for concession management were identified on government lands, and a competitive bidding process was introduced and implemented. While some concerns were raised by global watchdog organizations finding irregularities in the bidding processes, seven Forest Management Contracts (FMCs) were awarded. Exploitation of this resource began in 2010 with logs tracked through the Liberfor chain of custody tracking system. In addition to the FMCs, 13 timber sale contracts (TSCs)—smaller concessions of less than 5,000 ha and less than three years—have also been awarded.

The reforms in the forestry sector were intended to ensure an economically viable and sustainable forestry sector that generates revenues for the development of the country. Between 2011 and 2013, the government received just under US$21.3 million in revenues from commercial forestry (timber) sector. However, it is important to note that the majority of these revenues ($12.4 million) was collected in 2012—much from Private Use Permits (PUPs) that have since been cancelled (SGS, 2014).[8]

Shifting Cultivation

Shifting cultivation is one of the leading drivers of deforestation in Liberia. However, the vast majority of rural dwellers are dependent on shifting cultivation for their food security and have very few sustainable alternatives to provide for their basic subsistence needs. In addition to shifting cultivation being deeply embedded in the rural culture of Liberia, secondary activities associated with this practice are significant both for livelihoods and food security. Specifically, some shifting cultivators use trees felled in the shifting cultivation process to generate charcoal for sale to urban and other more localized markets, and many engage in hunting, trapping, and NTFP collection while in close proximity to their farm plots adjacent to the forest.

The rural Liberian economy is characterized by subsistence-level livelihoods activity with the cash economy making a small (but not insignificant) contribution to their livelihoods. These rural communities are highly reliant on forests for their subsistence livelihoods, which includes shifting agriculture, firewood collection, charcoaling (often a by-product of clearing for shifting agriculture), construction timber, hunting (the primary source of protein for rural dwellers is derived from bushmeat), NTFPs, and artisanal mining. Additionally, bushmeat trade generates income for rural

[8] The impact of logging under the PUPs was significant: logs shipped from PUP areas totaled almost 160,000m^3, or 38% of all log shipments since 2009.

people/middlemen and supply meat to urban markets. These activities are also the major drivers of deforestation but are of critical importance to the livelihoods and well-being of a large segment of the rural population.

Those communities that are most dependent on the forests for their livelihoods are far removed from the political and economic mainstream. Poor or non-existent road systems, lack of employment opportunities, poor education, and limited vocational training options further isolate these communities from the larger economy and political systems. These communities have few options for their livelihoods and few opportunities to adapt. They are almost completely reliant on inefficient shifting cultivation farming systems, bushmeat for protein, and NTFPs for medicines and food (particularly important when crops fail or during the "hunger months" before harvest) and may derive small amounts of cash from bushmeat, charcoaling, chainsaw logging, mining, or sale of agricultural produce (groundnuts, beans, cassava, etc.). As a result, these communities are the most vulnerable to loss of forestland either through forest degradation or limiting access.

2.2.3 Education

Education levels are low, with literacy rates are estimated at 42.9 percent. Enrollment rates are low, and girls are underrepresented in schools, making up 38 percent of third-level students. Only 2.8 percent of the country's gross domestic product is spent on education, resulting in limited infrastructure and materials. In addition, only 56.4 percent of primary school teachers have been trained as teachers, and this education is rudimentary at best. The quality of education is also poor, with many high school graduates lacking basic skills. The fact that only 15 of 38,000 applicants passed the West Africa University entrance exams in the past two years speaks volumes about the poor state of education in the country, which has huge implications for the capacity of the work force.

2.2.4 Government Capacity

Government capacity is extremely low with a score of less than 27 percent in government effectiveness on the Millennium Challenge Corporation's Government Effectiveness Index (Millennium Challenge Corporation, 2015). The Government Effectiveness Index captures perceptions of the quality of public services, the quality of the civil service and the degree of its independence from political pressures, the quality of policy formulation and implementation, and the credibility of the government's commitment to such policies. Rule of law is weak, and corruption is high (in 2015, the Corruption Perceptions Index score was 37, placing Liberia near the top), both of which impede both domestic and foreign private sector businesses from investing.

2.2.5 Infrastructure

Much of the country's infrastructure was destroyed during the war. Despite improvements to roads and the electricity grid since 2003, infrastructure remains extremely poor and will continue to hinder economic growth and direct foreign investment. In addition to being among the least developed in West Africa, the road system only covers 10,600 kilometers (Liberia's total area is 111,370 km^2). Of these, only 657 kilometers are paved. Heavy annual rains, lack of maintenance, and overloaded trucks contribute to major deterioration on all highways. The long rainy season, which lasts eight months, rendering most of the roads inaccessible, particularly in Nimba, Lofa, Sinoe, Gbarpolu, and Maryland counties where forests are found. Specifically, out of the 10,600 km roads in Liberia, less than a quarter are classified as all-weather roads.

2.2.6 Energy

The electricity grid in Liberia was destroyed during the conflict years. Today, only 9.8 percent of the population has access to electricity (World Bank, 2015) and this is only available in a few urban areas. In addition, electricity is used predominantly for commercial economic production. As a result, domestic energy is derived almost entirely (80%) from woody biomass, and statistics from 2004 suggested that 95 percent of the population depends on firewood or charcoal for cooking and heating, with the majority of charcoal consumption taking place in urban areas.

2.2.7 Health

Health outcomes are extremely poor and were further exacerbated by the Ebola virus outbreak in 2014 and 2015. Life expectancy is about 61 years, and child mortality is 71.1 per 1,000. Despite investments in water and sanitation, only 1 million people out of a total population of 4.5 million have access to safe drinking water (UNICEF and World Health Organization, 2015).

2.3 CASE STUDIES

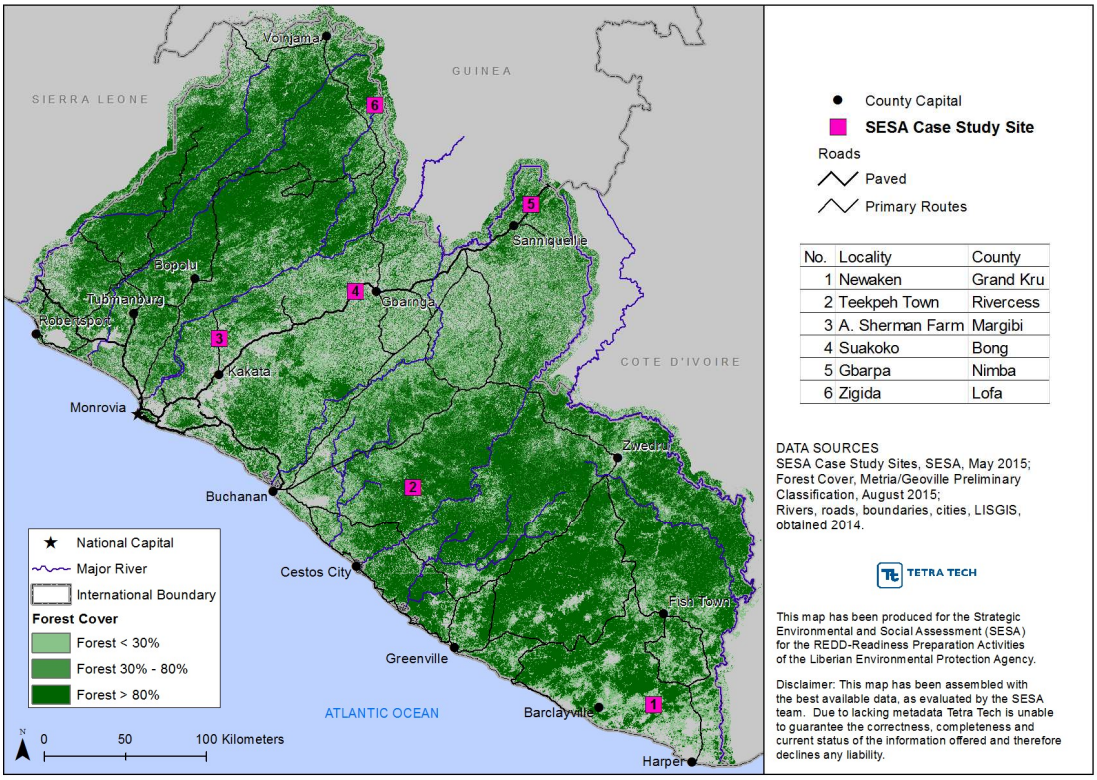
Case studies were included in SESA development to provide more in-depth and detailed information about environmental and social aspects, impacts, and opportunities related to REDD+ than are available from written sources and mapping alone. The case studies complemented the desk research and mapping studies in Phase 1 by providing site-specific insights into ongoing developments related to forest land use and conservation. These provided a good basis for extrapolating from similar land use patterns elsewhere in the country, which were subsequently validated in nationwide stakeholder consultations in Phase 3.

Case study field sites were agreed and validated at the SESA Inception Workshop in July 2014 and reconfirmed at a SESA Working Group meeting in April 2015. One change was subsequently made, with approval by the REDD+ Implementation Unit. Unrest related to the Golden Veroleum (Liberia) Inc. (GVL) oil palm plantation in Butaw District, Sinoe County, was widely reported in the mass media. Following the unrest, which started on May 26, 2015, media reports suggested that 23 people were arrested and detained in Greenville, the provincial capital. Given the disturbance, the limited independently verifiable information about the cause(s) of the unrest, and the sensitivity surrounding it, the SESA team became concerned that the situation could potentially affect local perspectives on oil palm plantation development in the county. To maintain the emphasis on deforestation drivers and the geographical balance, an alternative GVL oil palm site was selected in Grand Kru County. The final sites are shown in Table 2.1, with their locations marked in Figure 2.1.

Table 2.1: Case Study Field Visit Sites

Case Study Location	Dates	Unique Characteristics
Zigida (Lofa County; Zorzor District)	2–5 June	Proposed Wonegizi PA, REDD+ site, benefit-sharing
Gbarpa (Nimba County; Yarmein District)	6–10 June	Community forestry, mining, PA management
Suakoko (Bong County; Suakoko District)	10–14 June	Shifting cultivation and forest-dependent livelihoods
Newaken (Grand Kru County; Thren District)	22–26 June	Oil palm plantation expansion/agriculture concession
Teekpeh (Rivercess County; District #5, Central C)	27 June–1 July	Logging concession and, community participation and benefits; chainsaw logging
Sherman Farm (Margibi County; Kakata District)	3–5 July	Biomass energy (fuelwood) impacts and livelihoods

Figure 2.1: Map of SESA Case Study Sites



2.3.1 Primary Findings from Case Studies

All people in Liberia, including urban dwellers, depend on forests in some ways. Urban demand for forest products and the need for rural households to generate income are key drivers for the exploitation of these products. Generally, people in urban communities (e.g., Monrovia, Kakata, Buchanan, and Zwedru) depend on forests products such as construction timber, charcoal, firewood, bushmeat, and/or NTFPs such as palm wine, cola nut, and palm oil.

In rural areas, people typically rely more heavily on forest resources for their livelihoods, with little or no access to sustainable alternatives. For rural people, the forest contributes to rural livelihoods in many ways—forest-based agriculture (shifting cultivation), fuel wood, bushmeat, and wild plant foods (fruits and nuts)—and dependence on forest foods increases during crop failures. Income from sale of forest products and cultural traditions are also forest dependencies. Where communities have significant forest land, it is regarded as a land reserve for agriculture expansion, tree crop plantation, or new settlement establishment.

The high dependence of rural people on forests for livelihood was common in all of the six case study field sites visited, although the scale of dependence varied with the amount or type of forest available, population density, proximity to infrastructure, and the presence of perceived "no-cost" alternatives or low labor requirements. However, based on findings of the case studies, the team identified three types of forest relationships that should be taken into account when planning REDD+ Strategy and activities:

1. **People who live within the forest or on the forest's edge and depend <u>entirely</u> on the forest for income and livelihood (e.g., subsistence farmers, NTFP gatherers, hunters, artisans).**[9] These people are removed from the political and economic mainstream, often with

[9] Among these users, hunters rank high in terms of their dependence on forest products, followed by gatherers of NTFPs and artisans.

little or no access to formal employment and basic services. Opportunities for outside forest livelihood activities are low or non-existent. The use of forest products dominates subsistence, with commercial demand being influenced from outside, usually through middlemen coming from urban areas (Zigida, Teekpeh, and Suakoko in case study areas). Any significant change in forest use without a viably sustainable option will negatively affect this category of users because they have little or no capacity to adapt and are therefore highly vulnerable.

2. **People who live in communities near the forest but with other economic activities ongoing.** Often some household members have access to employment but most are heavily dependent on subsistence farming, hunting, or gathering. People in this category are also distant from the economic or political mainstream and tend to look toward concession companies who are seen as tenants on the land and, therefore, expected to provide livelihood support. The presence of large concessions tend to drive population growth and increase demand and use of forest products (fuel wood, timber, wild fruits, palm oil, medicinal plants) for both subsistence and commercial use within the community, as observed in Gbarpa, Newaken, and Sherman Farm. This category of users is also highly vulnerable to loss of (access to) forest resources, although members have some limited opportunities for economic activities outside the forest. However, most remain forest dependent and are likely to be affected significantly if there are further restrictions on their use of the forest resources in the absence of sustainable alternatives.

3. **Commercial users (e.g., logging companies, oil palm companies, chainsaw millers, miners).** Apart from the chainsaw millers (who are a mixture of subsistence and commercial operators), these are external commercial interests exploiting forest land or products with the use of local and foreign labor. These interests often compete with local needs and uses of the forest, with conflict over their right to use resources vis-à-vis local consent and rights, as observed in Gbarpa and Newaken. These users are better able to adapt to any restrictions on forest use. They are only likely to be limited by the amount of land or resources they can exploit, which limits the amount revenues for themselves and for national government, and the number of persons that can access employment and income associated with these commercial interests.

Direct dependence on forests for farm land, fuel, fiber, food, medicine, and ritual is the norm for rural communities. Bearing these different levels of dependence and taking all case studies together, the following emerge as common observations of relevance to forest resources in general and REDD+ in particular from the local level consultations.

Forest Degradation and Deforestation

- Any reduction in forestland availability merely displaces pressure to forests located elsewhere and often increases poverty.
- Readily available sustainable alternatives to forestland use for shifting cultivation, hunting and NTFP collection are not commonly available without material and capacity-building investment.
- Population growth (natural increase and immigration) is seen in most communities as a cause of forest loss.

Land Tenure and Rights Issues

- Land rights disputes are typically managed within the community, but arrival of immigrants from other parts of Liberia or neighboring countries are disruptive, and disputes over inter-communal land boundaries are common in some case study areas (not all).
- Although most land tenure is customary and managed by community leaders, individuals are beginning to acquire deeds through land purchase in some places. Given the ongoing process of establishing customary land rights (and questions about the validity of many deeds in Liberia), future disputes may arise at all levels in society.

- Tree crops are commonly planted to primarily to provide longer-term land security because they tend to establish land rights where planted; secondarily for monetary returns.
- Low commodity prices paid to producers were sometimes cited as disincentives for certain alternative, sustainable livelihood activities (e.g., tree crop products).

Benefits from Changes in Forest Management Regimes

- Restrictions on community forest use (whether for conservation or concessions) through negotiated agreement are expected by affected communities to bring community benefits. However, most informants feel these benefits are less than expected or are poorly managed.
- Community benefit-sharing mechanisms vary with different commercial enterprises (Social Agreements and revenue-sharing for FMCs, and land purchases, compensation payments, provision of food, infrastructure, etc. for mining and agriculture concessions), but perceptions are often negative about how these are managed and delivered.
- Employment creation from concessions typically seems insufficient to compensate for livelihood reduction caused by less access to farmland and forest resources.
- Increased cash in the local economy was widely thought to increase some social problems, especially those related to increased alcohol consumption predominantly among youth.

Governance Issues

- Women are typically not highly involved in traditional or new mechanisms for forest governance or management. Where a few women are formally involved, their participation tends to be nominal rather than substantive. Women-headed households seem especially vulnerable as land ownership and allocation is generally vested in men.
- Community leaders often lack the skills and information to represent their constituents, particularly in negotiations or dealings with more sophisticated investors backed by government.

Environmental Quality Issues

- Large-scale commercial developments in forest lands (timber, agricultural plantations, and mining) have negative impacts on water quality through sediment increase and chemical pollution. In some cases, community members also note a change in seasonal patterns of water quantity (flooding in wet seasons and drying streams in dry seasons).

Biodiversity Issues

- Most communities have set aside some of their remaining forest areas where farming and cutting trees is forbidden. However, hunting and NTFP collection is typically allowed to continue. In some cases, enforcement of rules is weak. Riverine forest, to protect water supply and the traditional sacred groves are examples at case study sites. In some cases, cutting a particular species (such as bitter cola) is forbidden.
- Ebola virus had significantly reduced demand for and price of bushmeat, potentially positive for conservation, but negative for income and nutrition in some households. It is unclear whether the bushmeat trade will revive post-Ebola, although Liberian food preferences and traditions strongly favor bushmeat.
- The issues above were common to most of the case study sites. However certain social and environmental issues were more pronounced in some case study areas than in others. Table 2.2 provides a summary of the key social and environmental characteristics that influenced discussions and ranking of issues in the six case study areas.

Table 2.2: Case Study Locations and Social and Economic Characteristics

Case Study Location	Socio-economic Characteristics	Environmental Characteristics
Zigida (Lofa County; Zorzor District)	Artisanal mining; high bushmeat demand; chainsaw logging; commercial logging	Large intact forests; Proposed Protected Areas; REDD+ pilot site, Logging concessions
Gbarpa (Nimba County; Yarmein District)	Benefit-sharing from mining concession; chainsaw logging; NTFP commercialization	Mining concession; Protected Area; Proposed Protected Area; Community Forests
Suakoko (Bong County; Suakoko District)	Population pressure; cash crops; land pressure; well established roads; large land owners;	Very little natural forest; plantations
Newaken (Grand Kru County; Thren District)	Land pressure from concessions; conflict between communities and concessions; in-migration;	Large, intact forest areas; clearing of forests for agricultural concessions; Proposed Protected Area
Teekpeh (Rivercess County; District #5, Central C)	Benefit-sharing from logging concession; chainsaw logging	Large, intact forest areas; Proposed Protected Area; logging concessions
Sherman Farm (Margibi County; Kakata District)	Land pressure; increased use of land administration systems by elite; charcoaling; well established roads	Very little natural forest; plantations and small holder farmers

2.4 Desk Review, Interviews, and Institutional Stakeholder Workshops

The case studies described above provided insights into the interests and concerns of rural Liberian stakeholders; particularly those communities that are most dependent on forests for their livelihoods. In order to ensure that the issues and concerns of other stakeholders were also captured in the SESA, the SESA team reviewed a wide range of reports covering a diversity of topics related to the forestry sector in Liberia. This included environmental assessments and studies carried out by concessionaires and donors, reports on the timber sector originating from both the private sector and civil society, biodiversity reports, socio-economic and governance assessments, financial reports and audits related to the distribution of benefits, and other relevant documents. In addition, interviews were carried out with key informants, and a workshop to validate findings was held with members of the SESA Working Group which represents a diversity of forestry stakeholders from government, private sector, and civil society. The validation workshop served as a forum to present and validate the findings from the case studies, but to also probe for additional issues and concerns that had not been identified by the decentralized stakeholders consulted during the case studies and subsequent validation exercises. From these consultations, a number of other issues emerged.

2.4.1 Capacity

All of these institutional stakeholders shared a common concern for the level of capacity that was available for to support the REDD+ strategy implementation in the private, government and civil society sectors. Interestingly however, many of the stakeholders felt that logistical constraints were by far the largest constraint to implementation, rather than knowledge and training. This finding is of particular note given the extremely low technical levels within the sector, which can in large part be attributed to disruptions in the education system brought about nearly two decades of war, and the historical dearth of quality universal education. The failure to recognize or publicly acknowledge the lack of technical capacity could prove to be a significant obstacle to implementation of the REDD+ Strategy.

Box 2. Capacity Constraints

Civil society and government personnel working in the forestry sector currently are unable to effectively implement their mandate, and donors working in the sector struggle to find technical staff with the skills and basic knowledge to implement programming related to community forestry, commercial logging, and conservation. The introduction of an REDD+, while providing some complementarity with existing programming, will also further dilute the pool of qualified personnel that are able to lead, manage and implement complex programming.

There is extremely limited technical and financial capacity within the sector. The FDA has the mandate to carry out the management of the forestry sector which underwent significant legal reform in the last ten years. However, staff have limited technical skills or knowledge to implement these reforms; training opportunities are limited and the forestry curriculum at the Forestry Training Institute and the

University of Liberia, while currently being revised with assistance from USAID, lacks substantive content related to implementation of these reforms. EPA has even less logistical capacity while facing the same constraints from staff technical capacity.

The REDD+ Strategy will require coordination across government agencies, and with other stakeholders. However, currently there is limited planning and coordination between ministries and agencies. For example, the planning unit of the FDA lacks many of the geographic locations and other information related to agriculture and mining concessions, although the vast majority are located on forestlands.

2.4.2 Livelihoods

Stakeholders noted that charcoaling and chainsaw logging at the middlemen and distribution levels, were highly organized and controlled by powerful interests. These networks extend across and throughout the country, making management difficult and emphasizing the challenge of addressing displacement of activities from one area to another, or in REDD+ parlance the "leakage" factor.

Both charcoal and chainsaw logging are driven by urban demand and there are few sustainable alternatives to these products exist. These markets are quite lucrative, especially for those higher in the value chain, but are not well understood. Disruption of those value chains could prove to be difficult, and politically sensitive.

2.4.3 Regulatory Issues

Stakeholders pointed out that Liberia actually has many good laws and regulations, but poor implementation. For example, many stakeholders pointed out that timber concessionaires are required to develop value-added industry as a condition of their contracts, but are not currently being held to do so. This, stakeholders report, has contributed to widespread chainsaw logging that is need to meet domestic demand.

On the other hand, it was also acknowledged that many of Liberia's regulations are good in principle, but impossible to implement at current capacity levels. The chainsaw regulation was mentioned many times in this regard as it not only limits chainsaw logging to authorized community forests (of which there are currently fewer than 10 covering less than 100,000 ha), but it requires extensive data collection, planning and monitoring of chainsaw logging sites by the FDA which is beyond the current capacity of the FDA to implement.

The failure to implement the law results in erosion of rule of law, but also creates conflict between stakeholders that perceive some groups as being unfairly treated (either positively or negatively).

In short, regulation is not enough. Many stakeholders pointed out that passing laws or regulations was not sufficient to address issues. This is particularly true if the capacity to implement the laws does not exist, or if the political will to enforce them is absent.

Concession agreements are passed by the legislature and so have the force of law.

2.4.4 Land

While many stakeholders were optimistic that the draft Land Rights Bill would be enacted, there was also skepticism that it would be passed as it has the potential to completely undermine entrenched interests.

It was noted that the original draft of the Land Rights Bill developed with multistakeholder input, provided communities with compensation for customary land that was "taken" for the PAN. However, this provision has been removed in subsequent versions, including the one currently under consideration before the legislature

2.4.5 Benefit-Sharing

Historically, Liberia's government only provided limited support for rural development, infrastructure, education and other service provision in the rural areas to the largely indigenous population, while economic growth has disproportionately positively affected the urban elite. As a result, historically the role of concession holders such as Firestone and LAMCO, has played a role

(albeit it to varying degrees) of public service provider in its operating areas. As a result, the public expectations of concessionaires are not necessarily consistent with the terms upon which the government and concessionaire have agreed.

Benefit-sharing as a source of conflict. Relations between concessionaires and communities are often marked with conflict resulting from misunderstandings regarding benefit-sharing and the role of concessionaires in their distribution. Concessionaires have found themselves in conflict with communities. For example, concessionaires have paid taxes that were to be distributed through county development funds but some communities have not received the related benefits that were anticipated. This has resulted in conflicts between communities and concessionaires. From concessionaire perspectives, these are services that the government should be providing unless explicitly agreed otherwise.

Related to this, other sources of conflict arise from community's expectations that the concession will compensate affected people for loss land at higher rates than are feasible, will provide many jobs for low skilled workers, along with electricity, roads, schools and other services for affected communities. While some of these provisions may be negotiated in Social Agreements, many of these are not.

2.4.6 Revenues

Representatives from the private sector raised concerns that any additional restrictions on existing on concessions might interfere with existing contractual rights, and as such, might not be enforceable. It is of interest to note that some concession agreements include negotiated risk management clauses which insulate concessionaires from compliance with certain laws (or regulations) enacted after the concession agreement is signed (see for example, Article 31 of GVL concession agreement, and Section 9 of the Arcelor Mittal Liberia [AML] Mineral Development Agreement).

FMCs, TSCs, and agriculture and mining concessions provide foreign exchange for the Government of Liberia, and are a significant source of revenue. Restrictions on their ability to operate could undermine access to that revenue.

Despite the relative stability of the past ten years, Liberia remains a risky investment option. Further restrictions on the operating environment could make investment unattractive in Liberia.

3.0 DEVELOPMENT OF OUTCOMES AND PRIORITIZATION OF ISSUES

3.1 INTRODUCTION

The SESA process involves identifying and assessing potential impacts of the proposed REDD+ Strategy to determine whether or not the desired outcomes are attainable. Where impacts are negative, the SESA makes recommendations to mitigate such impacts; where positive, the SESA strategy may recommend adjustment to strengthen that impact. Options may have both negative and positive impacts. In these cases, REDD+ Strategy developers will need to consider the plurality of impacts, adjust the strategy to minimize negative impacts, and strengthen the positive. This impact analysis and related recommendations are informed by consideration of the issues that influence (either negatively or positively) or are related to these outcomes.

The initial situational analysis informed by further desk reviews, case studies, and key informant interviews described above assisted the REDD+ team to understand better the environmental and social context in which the REDD+ Strategy will be developed and delivered, including the challenges and opportunities facing different stakeholders, and the diversity of interests held amongst them. Based on this more nuanced understanding, the SESA team developed a set of **socio-economic** and **environmental** outcomes (REDD+ SESA objectives) for consideration and validation by stakeholders. Because attempts were made to accommodate all stakeholder concerns, the outcomes were, by necessity, general in nature. However, these general outcomes do capture a consensus view of the desired social and environmental outcomes that are ideally to be addressed by the REDD+ Strategy.

For ease of organization, outcomes were divided into three categories: microeconomic, biophysical, and macroeconomic. The microeconomic outcomes and issues focus primarily on the community level and outcomes and issues are grouped into livelihood, land, and governance categories. Biophysical outcomes and issues focus on environmental outcomes and are grouped by climate change, biodiversity, water, and soils. Finally, macroeconomic issues cover regional or national-level outcomes and issues. Macroeconomic outcomes and issues are further broken down in to revenue (particularly foreign exchange), forest goods and services, and employment.

A description of each of these outcomes and related issues is described in detail in the SESA Priorities Report (April 2016) and has been reproduced and updated in the narrative and Table 3.1 below.

Table 3.1: Summary of Outcomes and Related Issues

SESA Outcome/ Assessment Criteria	Issues that Informed Outcome/Criteria Development
MICROECONOMIC	
Livelihoods	
1. Dependency on shifting cultivation reduced	• Shifting cultivation is the primary livelihood activity of the majority of rural population but rarely provides for more than subsistence livelihoods. • Where available, primary forest sites are preferred for shifting cultivation because of fertility and the possibility of undertaking other livelihood activities while working in the forest (NTFP collections, hunting, fishing, etc.). • Shifting cultivation in primary forest sites often establishes customary ownership rights. • Alternative, sustainable livelihood options are restricted by poor infrastructure, limited expertise, costs of inputs, access to markets and longstanding cultural practices.
2. Livelihoods diversified	• There are few evidence-based sustainable alternatives to shifting cultivation as a primary livelihood option. • Adoption of sustainable alternatives is limited by access to inputs, lack of expertise, poor markets and value chains, and infrastructure. • Permanent agriculture is limited by poor soils, limited inputs, and lack of expertise at local and institutional levels. • Diversification of land uses (e.g., tree crops) may lead to increased pressure on the land base for food production. • Many livelihood options are available only to local elites with large land holdings (e.g., tree crops). • Bushmeat is the primary source of protein for rural dwellers and large scale development of options are inaccessible to most communities and individuals. • Demand for bushmeat in urban communities is a main driver for commercial hunting. • Reducing demand for charcoal will have a negative impact on those that rely on the charcoal supply chain for income, particular if there are no viable sustainable alternatives.
3. Forest management improved through community forestry	• Community Forestry Management Agreements (CFMAs) take time to develop, and there is limited expertise and experience in their development. • The requirements under the existing legal framework for chainsaw logging are extremely difficult to implement and enforce. • Chainsaw logging is extremely inefficient (~30% of the value of the resource is realized) but portable sawmills and other technologies are not available. • Timber extraction by chainsaw loggers provides immediate benefits to individuals and communities. • Contractual requirement for timber concession holders to add value to logs is not enforced. • Tree crop economic benefits are generated only in the long term. • NTFP markets are currently limited for people located in remote regions (bushmeat and charcoal excepted).
Land	
4. Increased land security	• Those with deeded land have more land security than those with customary ownership. • Vulnerable groups have limited access to and use of land. • CFMAs are currently the only means to recognize customary rights to forests and the process is complicated.

SESA Outcome/ Assessment Criteria	Issues that Informed Outcome/Criteria Development
	• Concessions overlap with customary land claims. • Proposed PA overlap with customary land claims. • Land Rights Bill could strengthen community claims to land. • Designation of PAs and PPAs did not follow Free, Prior and Informed Consent requirements. • Capacity to institute and administer land reform is limited.
5. Adequate access to land for livelihoods	• Population growth is leading to increasing pressure and encroachment into, and unsustainable use of new forest areas; this contributes to forest degradation and threatens the ability of forests to provide subsistence benefit to local communities in the future. • In-migration around concession areas by people seeking work compounds land pressure. • Land available for shifting cultivation outside of Protected Areas and commercial concession is limited. • Further allocation of land to commercial concessions FMCs, TSCs, agricultural and mining concessions) and PAs will exacerbate land pressure. • Land grabbing is more prevalent in areas of higher population density. • REDD+ options may be regarded as concession-type arrangements by communities.
6. Reduced conflict over land	• Concessions and communities often conflict over land use, access to land, benefits, and absence or limited nature of consultations. • Communities and government have conflicted over the establishment of PAs. • Conflict often occurs between communities and in-migrants who are seeking employment from concessions, or seeking access to the forests for bushmeat.
7. Existing land rights maintained	• Concession agreements and conveyed rights are protected by legislation and approved by the legislature; changes to those rights may require (or result in) legal action. • Carbon sequestration may impose restrictions on land owners that may require compensation.
Governance	
8. Local leaders have skills/information to represent constituents	• Community leaders' and organizations' knowledge, access to information, and ability to represent their constituents' interests are limited, particularly for women and the most vulnerable. • Decisions are imposed on communities that are politically and economically isolated, and this can lead to conflict.
9. Equitable, functioning benefit-sharing mechanisms in place	• Distrust of the government is high. • National Benefit-sharing Trust Mechanism has not worked effectively or as designed. • Social agreements and their negotiation are driven by government and companies using templates, and there are few opportunities for communities to engage on an equitable basis because of lack of skills and knowledge. • Community perceptions and expectations of concessionaires' role in community development are high.
10. Law enforcement increased	• Government agencies lack the skills, knowledge, and logistic support to enforce existing laws.

SESA Outcome/ Assessment Criteria	Issues that Informed Outcome/Criteria Development
11. Credible grievance redress mechanisms in place	• There are limited formal grievance redress mechanisms in place for communities.
BIOPHYSICAL	
Climate Change	
12. Emissions reduced and carbon sequestered	• While Liberia's forests are major sequesters of carbon, this storage capacity is threatened by a range of land uses that result in forest loss. • To date, the main such activity has been shifting agriculture and the associated use of wood-based fuels with the majority of carbon emissions (approximately 70%) in Liberia are currently being associated with traditional fuels such as firewood and charcoal. • While all companies with established oil palm concessions have signed up to Roundtable for Sustainable Palm Oil (RSPO), their standards with respect to climate change are not mandatory and may not provide adequate safeguarding of high carbon stocks (HCS) and/or be appropriate for REDD+. • There is no legal basis for adoption and regulation of RSPO. • There are no sector standards applicable to conservation of HCS (voluntarily or required by law) adopted by other commercial agricultural activities, notably rubber plantations and private farms, nor for the forestry or mining sectors. • While stakeholder preference is to focus on retaining rather than creating new areas of HCS, this preference may be driven by biodiversity concerns and it is not clear which would deliver a better outcome in relation to carbon stock. • Stakeholders expressed a desire to promote extension of forests into degraded areas. • Mangroves sequester significant amounts of carbon and are also under threat from human activity. • While currently at low levels, animal husbandry is a measurable contributor to GHG emissions.
13. Resilient landscapes and livelihoods	• Data relating to climate change vulnerability is limited and/or unavailable. • National policy recognizes Liberia's vulnerability to climate change and the need to develop its ability to adapt, and develop resilience, to climate change. • REDD+ measures aimed at diversifying livelihoods should take into account climate change resilient landscapes and land uses, including crops and varieties as well as types of livestock and their successful integration in the site-specific agroforestry systems. • Mangroves play an important function in protection of coastal areas from flooding, storm surges, and coastal erosion that may arise from climate change.
Biodiversity	
14. Conservation of natural habitats	• Much of Liberia is likely to qualify as natural habitat, as defined under WB OP4.04, and significant areas will also qualify as critical natural habitat. Such sites will occur both inside and outside of protected areas. While the majority of critical natural habitats are likely to be in forests, they may also occur outside of them (notably in wetlands). • All strategy options and interventions aimed at conserving biodiversity should include specific consideration of natural and critical natural habitat. • All interventions should be screened for their potential to affect critical habitats and, if they do, should ensure that there is no conversion of such habitat; Special attention may be needed for development outside of forests for

SESA Outcome/ Assessment Criteria	Issues that Informed Outcome/Criteria Development
	example siting of new infrastructure and agricultural activity (notably those that may be located within or close to swamps or wetlands). • Owing to the spatial extent of natural habitat within Liberia, it is likely that most interventions have potential to affect such areas and will therefore be subject to the conditions to: 1. Demonstrate there are no feasible, sustainable alternatives to achieve the project's substantial overall net benefits; and 2. Ensure acceptable mitigation measures are in place. • Many of the REDD+ interventions that support conservation of forests have the potential to enhance the protection of critical natural habitat. The degree to which this occurs will however be dependent on the intervention locations. Therefore, there should be a preference for selecting intervention sites that promote such outcomes.
15. Conservation through landscape approach	• Conservation through establishment of PAs has to date proved challenging. • Many communities are adamant that ownership of the forests proposed for protection need to be clarified prior to creation of the PAs and the ownership of the forests proposed for protection may be contested by communities. • There is lack of capacity to manage effectively areas that have been gazetted. • Even if implemented, the current proposed PAN will not deliver Liberia's 30% forest protection commitment. • Areas outside the current PAN contain important biodiversity and features including those necessary for the functioning of the PANs and the species they support. These features occur both inside and outside of forests. Degraded forests and those of low carbon value may often provide important habitat for flora and fauna and, under appropriate conditions (natural regeneration, enrichment planting), can regenerate to native forest. • A landscape approach that takes account of ecosystem mosaics at different spatial scales and creates an integrated and consistent approach to conservation within such specific landscapes is likely to best deliver conservation outcomes in the Liberian context. • A landscape approach may be easier to implement than an approach that relies entirely on PAs, as it would not require strict protection of all areas and has potential to capitalize on opportunities (offered by the package of conservation measures [notably areas of HCV set asides, offsets, sustainably managed FMCs, and CFMAs and Conservation Agreements] together with PAs. • A landscape approach needs to be informed by a systematic national categorization of landscape conservation and mechanism areas, and requires establishment and management of a model for implementation of such an approach that involves private, government, and NGO sectors.
16. Reduce biodiversity loss from shifting cultivation & other community exploitation of forest resources	• Shifting agriculture is a major driver of forest and related biodiversity loss. • There are few examples of successful agricultural intensification and small enterprise development. A better understanding of the limitations and what may work in practice is a necessary as first step in developing related strategies. • A consistent and integrated approach to consolidating and analyzing the results of experience to date and any future pilots, including those implemented under REDD+, is essential. • Addressing bushmeat hunting (in the short term) is likely to be most effective through a combination of enforcement of hunting laws prohibiting protected species and permitting sustainable hunting of other (non-protected) species. This would need to be supported by incentives. However, there is currently little evidence of what works.

SESA Outcome/ Assessment Criteria	Issues that Informed Outcome/Criteria Development
	• In the longer term, effort should focus on reducing the demand for bushmeat both in both rural and urban areas. • Interventions related to charcoal production need to focus on the demand side, notably through increasing efficiency and alternative energy sources for urban populations. • Chainsaw logging is very inefficient but provides domestic timber demand. In the absence of sustainable alternatives, improving efficiency and regulating the sector should be considered as interventions. • Mangroves are a priority for protection due to their conservation importance and exploitation for community uses. • All of the above need to be complemented by alternative, sustainable livelihood options and face the same challenges as described for shifting cultivation above.
17. Reduce biodiversity loss from commercial activities	• While FMCs and commercial CFMAs should be managed sustainably, this is not happening. In addition, the assumption that a 25-year rotation is sustainable (in FMCs) is not proven. Such measures may not be sufficient to adequately safeguard biodiversity. • Although covering a small area, biodiversity within TSC may be vulnerable to loss because there are no requirements for conservation measures within these areas. • All companies with established oil palm concessions have signed up for RSPO and are thus required to identify and set aside HCV areas (those of biodiversity value under HCV 1–4). However: 1. There is no legal basis for adoption and regulation of RSPO; 2. There are no measures to protect areas set aside under RSPO from other community uses: and 3. There are no measures within RSPO to avoid leakage of activities that would otherwise occur within the concession or its set asides to other areas of biodiversity importance. • There are no sector standards applicable to conservation of biodiversity (voluntary or required by law) for other commercial agricultural activities (notably rubber plantations and private farms), and there is uncertainty as to how RSPO may apply to palm oil growers. • The requirement for offsets for mining activities (understood but not confirmed to be in the draft Mining Act) offers the potential opportunity for biodiversity conservation but requires support to develop a national scheme and standards to ensure this is achieved in practice. • Conservation Agreement and Production-Protection Agreements (P-PAs) associated with commercial activities have potential to address some of the above.
Water & Soils	
18. Water quality maintained	• Forests play a critical role in maintaining Liberia's water resources, which in turn provide a range of ecosystem services to communities and biodiversity. • There is limited information on hydrology and wetlands. • Proposals for agricultural intensification and lowland rice cultivation could threaten water quality and availability. • Any use of pesticides should take consider WB OP4.09 that requires the adoption of integrated pest management practices that promote biological control in favor of synthetic chemical methods.
19. Soil quality maintained	• Most of Liberia has soils with low chemical fertility growth. • Tree cover performs an important function in soil conservation including fertility, erosion, and carbon storage potential. • The slash and burn agricultural system is thus dependent on the short-term fertility provide by that technique.

SESA Outcome/ Assessment Criteria	Issues that Informed Outcome/Criteria Development
	• Further research is required to establish the conditions under which soil fertility can be maintained for more sedentary small- scale agricultural regimes that can support livelihoods and cash crops.
MACROECONOMIC	
Revenues	
20. Increased sustainable revenue from forests	• Commercial timber development under FMCs/TSCs/CFMAs/other concessions provides important source of national revenue and foreign exchange. • REDD+ support is limited and unknown and may not be sufficient to set up a self-sustaining system.
Goods and Services (Domestic Demand)	
21. Adequate supply of sustainable/affordable energy for urban population	• Urban Liberians are reliant on charcoal as a major energy source with few viable, sustainable alternatives. • The country's capacity to manage charcoal is limited. • Knowledge and availability of efficient charcoal production technology is limited.
22. Sustainable domestic timber supply	• There is a large and growing demand for domestic timber that is currently met almost exclusively from chainsaw logging. • Value-added processing is extremely limited and has not been developed as planned.
23. Land is available for commercial development	• Liberia's economic development strategy includes commercial development of its land and natural resources in diverse and competing sectors. • There is limited understanding of REDD+ even within the forestry sector, which may be necessary to shift land use patterns.
Employment	
24. Jobs for unskilled laborers	• Commercial timber development under FMCs/TSCs/CFMAs/other concessions provides jobs. • A large number of unskilled forestry workers are dependent on commercial and ancillary activities for their livelihoods. • Educational opportunities (particularly vocational skill development) are limited for skills development.

3.2 MICROECONOMIC OUTCOMES AND ISSUES

3.2.1 Livelihoods

Outcome 1: Dependency on Shifting Cultivation Reduced

High Dependency on Shifting Cultivation. Shifting cultivation is the main livelihood activity for most rural Liberians and their main means of food security. This is true for those communities located in remote, HCV forests, as well as communities located in the more populous counties with few remaining primary forests. However, shifting cultivation practices vary significantly across the country based on availability of land and cultural practices. Generally, shifting cultivation plots are developed initially from primary forest land that is allocated through customary practices. Despite the difficulty of clearing primary forest land. These sites are preferred for farming plots since the soils are more fertile than those that have been depleted from successional farming and fallow practices, and generally require less weeding. Additionally, according to the focus group discussants and key informants in Zigida, Teekpeh Town, Gbangay, and Gbarpa farming in the primary forest offers multiple benefits that are not found in low bushes. These include the following:

- The opportunity to identify and conduct other livelihood activities such as trapping, collecting NTFPs (bushmeat, snails, ropes, raphias, nuts, fruits, etc.) and construction materials within or surrounding the farm plot;
- Crop loss from animal and birds disturbance is less in the forest when compared to the low bush; and
- By clearing a forest plot the farmer is able to plant annual crops, followed by perennial crops which enables him/her to lay claim to the land.

Shifting Cultivation and Food Security. Despite the intense labor inputs required for shifting agriculture, for the majority of rural dwellers, this farming system rarely produces enough to cover more than basic subsistence needs. Yields in Liberia are well below regional levels and food insecurity is high (USAID FED, 2012a). However, low productivity generally cannot be addressed through agricultural inputs in Liberia because they are not widely available and are prohibitively expensive. For example, a recent study commissioned by the USAID Food and Enterprise Development (FED) Program reported that agro-input dealers are dominated by importers located in Monrovia (90%), with a few "iterant traders/retailers in the rural counties." Further, the largest purchasers of these products are donor agencies/projects and government (USAID FED, 2012a).

Limited Access to Agricultural Inputs. The use of agricultural inputs to increase productivity is limited not only by availability of quality products and functioning markets, but also by poor access to farmers and their farming areas on poor or non-existent road systems that render many parts of the country inaccessible for three to six months of the year, limited value chains to market and distribute products, limited understanding of how to use these inputs, and few trained agricultural extension agents to support dissemination and adoption. Most importantly, rural subsistence-level farmers rarely have the income to purchase and/or transport agricultural inputs, or the training to apply them effectively. Related to this, it has been reported that free inputs of agricultural inputs (seeds, fertilizers, and labor) for donor program participants actually deepens "the dependency syndrome" and adversely affects the development of the agricultural sector (USAID FED, 2012a). The FED program is currently piloting several initiatives to address these issues, but results remain inconclusive.

Finally, it is also reported that inputs that do make it to the rural areas are often "repackaged" for smaller-scale purchases, are of poor quality, and are often cut with foreign materials (USAID FED, 2012a).

Outcome 2: Livelihoods Diversified

Poor Evidence Base for Decision-Making. Shifting cultivation and other subsistence-level activities in the forests of Liberia are driven not necessarily by community choice, but by necessity and lack of

viable sustainable alternatives. Multiple donors and charitable organizations have attempted to introduce alternative, sustainable livelihood activities in Liberia with limited success, including USAID's largest investment in smallholder commercial agricultural development through their Feed the Future portfolio and private sector initiatives such as those introduced by AML in northern Nimba (see discussion above in Outcome 1). Despite this, there are limited proven forest livelihood options that are available as a sustainable alternative to shifting cultivation and other livelihood activities.

Bushmeat. While shifting cultivation is the main driver of community-based forest degradation, hunting also contributes to biodiversity loss as well as forest depletion by decreasing the numbers of animals that play a role in pollination, seed dispersal, and/or germination of seeds. However, for the majority of rural dwellers, bushmeat is their main source of protein. Sustainable alternatives to bushmeat have also been tried with varying success. These initiatives include domestication and husbandry of wild species (e.g., cane rats), small livestock rearing (e.g., chickens and goats), and fish stocking.

The introduction of cane rats raised in captivity has been attempted in several areas, but none of these efforts have met with large-scale success or adoption. It has proven difficult to develop large-scale programs that sufficiently offset bushmeat consumption, in part because of the need for capital inputs, but also because of the time commitment necessary (ODI, 2004). This investment in time may be a huge disincentive, particularly if wild animals are available in nearby bush as is the case in Liberia currently.

An important point that was made by many stakeholders was that the bushmeat trade was driven by urban dwellers who do have access to sustainable alternative protein sources but prefer to eat bushmeat. This is supported by recent studies (AML, 2016). Accordingly, some stakeholders suggested that domestication and husbandry of wild species, as well as other interventions aimed at reducing hunting for bushmeat, should focus more on meeting the demand in urban markets for protein rather than on local communities that have few viable sustainable alternatives.

Finally, with regard to bushmeat, few studies have been undertaken to determine what level of bushmeat offtake is sustainable, or even what the current levels of offtake are. Anecdotally, stakeholders reported that most rural households are dependent on bushmeat. This finding is substantiated by a study in northern Nimba in 2009 that found 100 percent of households were dependent on bushmeat (USAID LRCFP, 2009). A more recent study by AML (2016) revealed similar findings. Clearly, such baselines need to be established before effective interventions can be designed.

Livestock and Fish Rearing. In the case of small livestock rearing, there is limited documentation on the success of these efforts, but reports suggest that goats and chickens are often regarded more as a bank than as protein sources, and so do not substantially reduce dependence on bushmeat (ODI, 2004). Breaking these cultural barriers may be possible, but it must also be considered that livestock rearing is capital intensive and may only benefit those who are able to make these investments; these would not necessarily be the hunters in the community. Further, in addition to changing more traditional, less intensive livestock rearing, intensified livestock rearing would require time, training, changes in culture, and development of new expertise. This investment in time may not be considered worthwhile by many community members given other constraints on their time (ODI, 2004).

Fish is a common source of protein in communities, but like the examples above, successful medium- to large-scale development of fish farms requires commitments of capital, labor, and time that most farmers cannot afford. Similarly to the example of intensifying small livestock husbandry and domesticating wild animals, this activity is likely to have a limited impact on the livelihoods of all but a few, relatively well off, entrepreneurs (ODI, 2004; USAID LRCFP, 2009).

Technical Capacity. In terms of the institutional expertise needed to support these large-scale efforts, the expertise in government and civil society is simply not there. Government and civil society organization (CSO) staff would require technical training in these interventions and activities along with expertise and experience in providing extension-type support to communities.

Tree Crops. Liberia's soils are well suited for tree crops, and tree crops do have the potential to provide sustainable livelihood alternatives. However, marketing of tree products faces many of the same challenges faced by commercial agricultural products: limited and high-cost transportation options, poor infrastructure, and limited inputs to increase productivity. Further, land on which cash crops are planted is generally quite limited. Specifically, in many areas of rural Liberia, "life trees" are planted on former shifting cultivation sites both for economic value and to provide additional security of tenure (life trees include oil palm, rubber, cocoa, coconut, and other trees with the potential to produce marketable products). On these lands, the seed stock is often of poor quality, and the inputs and expertise needed to increase productivity are limited. As a result, stakeholders reported that life trees in most areas provide limited economic value to owners who remain dependent on shifting cultivation for their primary livelihood activity.

Stakeholders did note that where lands are more extensively planted with cash crop trees, land holders are generally more elite members of the community, and may even be non-residents with ties to the community. These same stakeholders suggested that care needed to be taken when diversifying land uses because of the increased pressure it could bring to the remaining land base for food production.

Obstacles to Permanent Agriculture. Many stakeholders expressed a keen interest in permanent agriculture and regard it as a means of transitioning farmers' dependency on shifting cultivation systems. However, there are few examples in the country of local people successfully adopting permanent agriculture. This is in large part due to the nature of Liberia's soils. Specifically, four types of soils are found in Liberia (Larbi, 2012; CAAS-Lib, 2007; Hadden, 2006; Reed, 1951): latosols, lithosols, regosols, and alluvial soils.

Latosols have low and medium fertility, occur on hills, and cover about 75 percent (8,352,750 ha) of Liberia's total land area. These are the types of soils on which rice and cassava, Liberia's staples, are grown. Their limited amount of plant nutrients requires, without the use of fertilizer, a constant shifting of cultivation to new fields in order to maintain subsistence production levels. Tree crops do perform well on these types of soils. A recent study by AML found that Liberia's soils in northern Nimba where soils are dominated by latosols are "weathered to the extent that the minerals are either very inert or are incapable of retaining large amounts of the elements needed as plant nutrients. Heavy rainfall leaches what nutrients are formed, and with the tropical heat causes rapid decomposition of organic material. These factors also lead to acidity and high iron concentrations, which further inhibit nutrient availability" (AML, 2014).[10] Shallow rooted agricultural plants are less able to thrive in these conditions and "sustaining agricultural crop yields for more than a few years is very difficult." (AML, 2014)

Lithosols are the shallow and coarse soils that occur in hilly and rugged terrain, and cover about 17 percent of the country's entire land area. Although they support trees and other woody vegetation, lithosols have little value for agriculture, particularly for food crops.

Regosols, or sandy soils, are found along Liberia's coastal plains, constitute about 2 percent of Liberia's land area, and are generally infertile.

The fourth soil type is alluvial soils that are found along river banks and in swamps. Swamp soils, especially those known as half bog soils, are naturally rich in humus and when drained, have the potential to provide for swamp rice and similar crops. They represent 3 percent of Liberia's total landscape but may include wetlands of ecological significance.

Outcome 3: Forest Management Improved through Community Forestry

Forest enterprises do have the potential to provide additional economic value to communities, but implementation faces many challenges, and there is a presumption under OP4.36 that small-scale sustainable community managed forests should be promoted.

[10] For a discussion on the potential impact of these inputs to water quality, please see discussion in Outcome 19 below.

Community Forests. The primary mechanism to ensure that communities secure rights to use and manage their forests currently is through the Community Rights Law of 2009 and Regulation (2011). This legislation and its implementing regulation set out the process by which communities may secure their customary or deeded rights to sustainably manage and use forest resources for subsistence, and commercial small-, medium-, and large-scale activities. The law requires, inter alia, the development of representative management bodies, boundary demarcation, inventories of resources, and the development of an FDA-approved management plan. Once a community forest management agreement and management plan are in place, there are few additional regulatory requirements to guide commercial activities. For this reason, commercial timber operators have expressed a great deal of interest in this mechanism and are reportedly supporting many communities in their application to the FDA for community forest management agreements.

To date, nine community forest management agreements have been put in place. With the assistance of USAID, processes have been piloted and manuals outlining these steps have been developed. However, the FDA currently has one staff member who has currently worked through all nine steps and is in a position to lead this process. CSOs have not been involved in the implementation of this process. In addition, experience to date suggests that the nine-step regulatory process required to finalize community forest management agreements presents administrative and capacity burdens on existing institutions and on communities (see Box 3 for details of the nine-step process and challenges associated with its implementation).

Box 3: Steps and Associated Challenges to Establish a Community Forest Management Agreement

Step	Challenge
Step 1. A community submits to the FDA an application with a US$250 non-refundable application fee for an Authorized Forest Community status.	$250 may be a difficult amount to generate for Liberia's rural communities. Potential partners may be willing to pay this on behalf of the community, but this could compromise the community's relationship with a potential commercial partner
Step 2. FDA gives a 30-day notice to the community and adjacent communities for a socio-economic and resource reconnaissance survey.	FDA staff lack mobility and may require support to play this role
Step 3. FDA surveys and demarcates the community forest land area in collaboration with the community and relevant government agencies.	There is no approved format for this survey to date though a template has been developed with support of USAID. Fewer than 10 FDA staff have been involved in its implementation to date. There are fewer than 5 staff at FDA that can support a demarcation and the ability to house and manage spatial data is limited.
Step 4. FDA posts in the community for a period of 30-days the results of the survey and the demarcation. FDA also consults adjacent communities for them to review the report.	FDA staff lack mobility and may require support to play this role. Literacy levels in the hinterland are low and a meaningful review of reports requires meetings with communities.
Step 5. FDA assists the community to resolve any conflicts, following which the agency and the community work together to cut a line around the identified forest area.	The capacity of FDA to resolve conflicts is limited. Land Conflict Centers have been established in some counties but they have limited training and community forestry experience
Step 6. After checking there are no other competing claims to the forest, and having demarcated a line around the identified forest area, the FDA and community post the results for everyone to see.	Cutting a line around a community forest can be time consuming and labor intensive. FDA staff require per diem for their time.
Step 7. When there is a problem with the survey and/or demarcation, the FDA, members of the community, and other relevant government representatives, resolve the dispute.	See challenge in Step 5 above.
Step 8. Once all disputes have been resolved, the FDA confirms that the community may organize itself into a Forest Community, which requires the creation of an administrative and governance structure.	This involves elections of a general assembly, executive committee and creation of a management body. These entities must also draft by-laws and constitutions. FDA lacks capacity to support these processes, and these present challenges to illiterate community leaders.
Step 9. FDA and community sign a CFMA	Communities may require support to understand the terms that they are negotiating.

Management Planning. The FDA is required to approve management plans, that would in theory govern the development and implementation of forest enterprises. However, the number of staff at the FDA that are capable of providing critical review of a management plan is extremely limited. While the University of Liberia does provide courses on forest management planning, forest management

plans currently in place for Protected Areas, FMCs, and CFMAs have all been developed with support from the private sector and/or NGO/donors. Further, as was confirmed by institutional stakeholders, the ability of FDA to oversee the implementation of the management plan is limited by logistical constraints; FDA staff have limited access to the forests that they are charged to manage.

Forest-based Enterprises. Finally, it should be noted that there are currently no examples of viable forest-based enterprises in any of the existing community forest sites. This is in part because it has taken a great deal of time (4+ years) to complete the nine-step process, but this can also be attributed to a number of other factors. This includes limited market potential for NTFPs (USAID PROSPER, 2015), either because markets do not exist or communities are so remote that transportation costs render the activity non-viable. The need to understand the existing resource base and determine sustainable offcuts before harvesting timber also has limited the development of forest-based enterprises. The inventories to determine this information take time and expertise, which is lacking in the forestry sector, and estimations of growth and yield are not currently available (e.g., the NFRL uses a 25-year rotation as a proxy for sustainability, but this is not based on Permanent Sample Plots or growth and yield tables based upon the same).[11] This is exacerbated by limited capacity of community members to manage machinery such as portable sawmills, the limited availability of such technologies in Liberia, and the difficulty of transporting and maintaining equipment in remote forest areas of Liberia.

Tree Crops. There is some potential for tree crops to enhance the economic productivity of community forests, particularly where it is integrated into agroforestry systems that provide a diversity of livelihood options. Tree crops could provide community resources on degraded forestlands where they would also increase the overall carbon stock. However, it should also be considered that planting of tree crops on degraded forestlands will require time before economic benefits are realized. Further, it should be noted that economic benefits will not necessarily accrue to individuals, but to the community. Another consideration is that tree crop planting on degraded forestland may result in increased pressure to clear primary or other secondary forest to meet the demand for farmland. Because of this, stakeholders suggested that tree crop interventions should focus on agroforestry or intercropping systems where food production is integrated.

Chainsaw logging. Chainsaw logging, or "pit sawing" in local parlance, is the main source of domestic timber. Estimates of volume from 2010 suggest that between 86,000 m^3 and 201,000m^3 per year are sold in Liberian markets (Blackett et al., 2009). The techniques used in chainsaw logging are extremely crude and result in huge loss of biomass. One estimate suggests that only 31 percent of timber is captured when raw logs are converted to rough planks (Blackett, Lebbie, & Marfoe, 2009).

A 2010 United Nations Food and Agricultural Organization (FAO) study reported that just under 4,000 people are employed in the sector in every county of Liberia (FAO, 2010). However studies from 2009 reported that almost the same number was employed in Rivercess alone (Green Advocates, 2009). In 2016, it is likely that the number of people employed in chainsaw logging is even higher (see Blackett, Lebbie, & Marfoe, 2009; FAO, 2010). In 2010, it was estimated that individuals benefited from chainsaw logging at an average rate of US$189/month. Communities also receive direct benefits from chainsaw logging through the payment of fees by chainsaw loggers or timber traders, with fees ranging in USD from a few hundred to tens of thousands (Blackett, Lebbie, & Marfoe, 2009).

Until the passage of the chainsaw regulation (Reg. 115-11) in 2011, chainsaw logging was illegal. The regulation provided for the legalization of chainsaw logging but limited it to community forests and private or deeded forest land (Reg. 115-11§2). Further, the land on which harvesting is to take place must be "identified by the FDA as suitable for commercial use, must be validated by the FDA (which requires data collection and analysis of local forestry, ecological, and socio-economic data and preparation of a written report on the suitability of the area for the proposed use), and have written permission from the FDA and FPIC of the community or the private land owner (Reg. 115-11§2).

[11] A 2013 USAID supported study reported that it "is impossible to assess the sustainable potential of the forests of Liberia as there has been no complete, robust forest inventory in Liberia since 1968."

Prior to the development of the regulation, stakeholders (Blackett, Lebbie, & Marfoe, 2009; FAO, 2010) raised concerns that the FDA did not have the capacity to issue and enforce chainsaw permits, and these same concerns were raised in stakeholder consultations in 2015 and 2016. An open letter from the Chainsaw and Timber Dealers Union to the FDA in 2012 outlined a number of concerns with implementation of the regulation, including the limitation of chainsaw logging to community forests (of which there are currently only nine) and private lands, and the lack of guidance on how to conduct FPIC.

3.2.2 Land Outcomes and Issues

Outcome 4: Increased Land Security

Land tenure security provides many benefits to individuals and communities. Secure tenure rights can provide access to capital (through loan security), and studies have shown that land under secure tenure is invested in, and managed more sustainably, than land that where tenure security is non-existent or limited. Importantly for Liberia, it should be noted that ambiguity of title or tenure rights has led to conflict in multiple cases involving customary community owners and concessionaires, and customary community owners and the government with the expansion of the PAN (see Box 4 and related discussion under Outcome 6).

Box 4: Conflicts between Communities and Concessionaires

As a national strategy with far-reaching implications on land use and land rights, stakeholders consistently drew analogies between concession agreements and proposed REDD+ interventions. The public consultations led by government agencies only strengthens the not entirely incorrect perception held by many stakeholders that REDD+ is a type of government program or concession with carbon as the resource for development. Accordingly, the challenges faced by concessionaires were particularly relevant for microeconomic issues related to governance and conflict.

Stakeholder consultations revealed a number of sources of conflict between communities and concessionaires. These conflicts have stemmed from multiple sources but include:

- Lack of recognition of customary rights and limitations on access to land
- Misunderstandings about benefits/payment schedules
- Benefits not received
- Limited consultations prior to concession grant or in the commercial development and conversion of community lands.

Process to Secure Customary Forestland Rights. Currently, there are limited ways in which communities may secure their customary rights to land. The primary means at this point is through the development of a CFMA as per the Community Rights Law. A CFMA is a legal agreement between the FDA and a community that recognizes community rights to use and manage their forest resources for 15-year renewable periods. Such an agreement also conveys ownership rights of the forest resources to communities. However, it should be noted that the rights to manage and use these resources may be revoked by the FDA.

The nine-step process to secure forest tenure is presented in the Community Rights Law (CRL) Regulation (see Box 3 for summary of steps). There is little experience or expertise in undertaking the process although a number of resources have been developed through USAID funding to guide the process. These materials still require endorsement by the FDA in order for FDA, civil society, private companies, or any other entity to support the CFMA development process.

Limited Forestland Available for Communities. As depicted in Figure 2.1, much of Liberia's rural (and forested) land base is already committed to existing agricultural, mining, and timber concessions; proposed timber concessions[12]; and proposed PAs. All of these areas are presumed to be government land. Stakeholders did point out that the draft Land Rights Bill included provisions that would allow communities to be compensated for the taking of their customary lands for PAs but that this has

[12] A number of FMCs are currently unallocated and may be reclassified as community forests. However, at present, they have been identified by the FDA as suitable for commercial exploitation.

reportedly been removed from subsequent drafts under consideration by the legislature.[13] The PPAs represent an estimated 934,842 ha (GoL, 2012a), and undoubtedly overlap with some customary rights.

Technical Capacity. Even with the passage of the Land Rights Bill, a limiting factor to widespread demarcation of community lands will be the capacity of government agencies to meet demand. For example, there are currently 81 registered land surveyors in the country (Land Commission communication, 2016). However, not all of these are qualified surveyors, and the skills of recently trained surveyors are limited (e.g., a USAID-supported training in 2013 of land surveyors revealed that many of the participating surveyors could not accurately identify the number of degrees in a circle). Similarly, the only one FDA staff member has undertaken all nine CFMA steps, but the USAID People, Rules and Organizations Supporting the Protection of Ecosystem Resources (PROSPER) project plans to develop a training program for numerous FDA staff in 2016/2017.

Protected Area Expansion and Land Rights. The expansion of the PAs could also override many communities' customary rights, leaving many people without secure land rights. Experience from Sapo National Park and the East Nimba Nature Reserve suggests that these customary owners may use land around the PA more intensely following as land availability decreases.

Outcome 5: Adequate Access to Land for Livelihoods

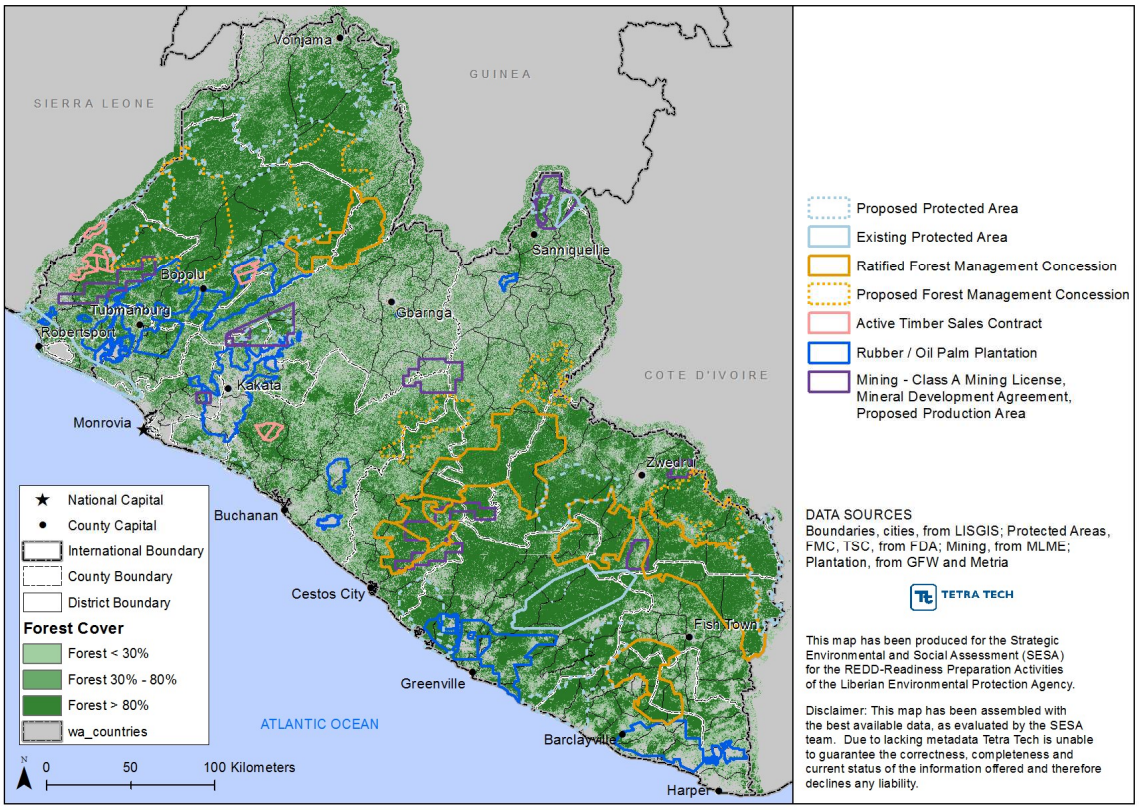
Discussion of Related Priority Issues. Access to land was identified as a high priority issue by groups in all parts of the country, of particular importance in more populous areas such as Bong County and areas where large agricultural concessions are competing for land. For example, half of the women's groups in Sinoe (the site of the GVL oil palm concession) identified access to land as a top 5 priority (out of 17), as did 10 of 17 groups in densely populated Bong (men and women).

Population Growth Impact. As farming is still the primary livelihood for the majority of rural dwellers, the pressure for land is resulting in smaller and less productive plots for individuals and families in more populous areas of Liberia. This is likely to continue with few viable options for alternative, sustainable livelihoods. With an annual population growth rate of 2.4 percent (World Bank, 2016), even less populated areas will experience increasing land pressure on the existing land base. Here, population growth is leading to increasing pressure and encroachment into forests, unsustainable use of forest resources, and forest degradation and ultimately threatens the ability of forests to provide subsistence benefit to local communities in the future.

Concessions' Impacts. Further pressure on the land base is exerted by concessions that currently are estimated to cover over 2 million ha of the rural land base (see Figure 3.1 below). Communities around concession areas reported a number of land-related issues including decreased access to both primary and secondary forestland for farming, conversion of primary forests (by both concessionaires and communities), land-seeking by in-migration of "outsiders" seeking employment from concessions (the social implications of this are discussed in Outcome 6), and reports of concessionaire employees using the forest outside of the concession area for hunting, charcoaling, and other activities. These pressures further compound the effects of population growth and create additional pressure on the land base.

[13] A recent study by the Rights and Resources Initiative (2015) suggests that the costs associated with meeting the 30 percent target for PAs would result in economic displacement costs ranging from tens to hundreds of millions of dollars.

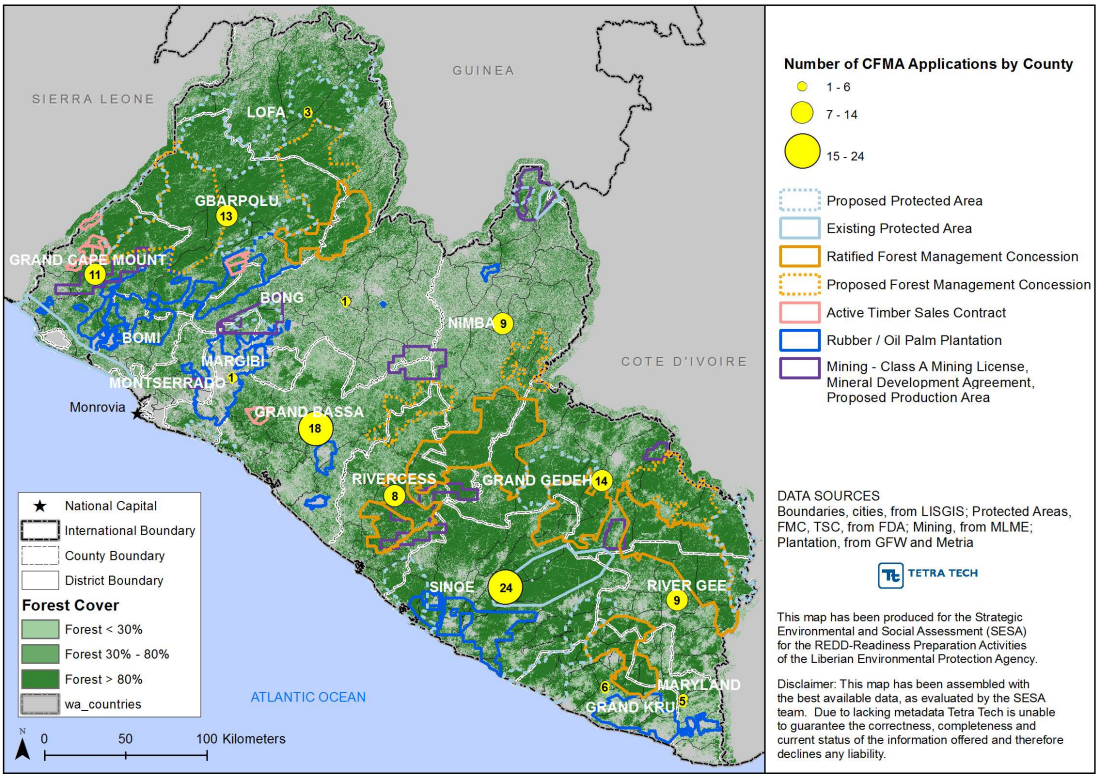
Figure 3.1: Existing Concessions, Protected Areas, and Proposed Protected Areas



Protected Area Expansion Impacts. Coupled with estimates of current PAs (291,169 ha; GoL, 2012a), PPAs (967,756 ha), and unallocated forest concession areas (~710,000 ha), much of Liberia's land base is subject to conflicting interests and ownership claims, which could result in increased pressure on forests and limits the forestlands that are available to support livelihood activities.

Commercial Logging Impacts. Most recently, there has been a proliferation of applications for CFMAs that cover many of the forested areas of the country (see Figure 3.2). If CFMAs will be used for commercial logging purposes (as opposed to FMCs) then it is highly likely that the land available for livelihoods (particularly food production activities) will be further reduced.

Figure 3.2: Existing Concessions, Protected Areas, Proposed Protected Areas, and Selected CFMA Applications by County[14]



Land Pressure and Land Grabbing. Finally, while deeds are not common in rural Liberia, in more populous areas where deeds are more prevalent, it was reported that those with deeded land have more land security than those with customary ownership, and generally, hold larger plots of land through such mechanisms. Further, interviews with members of the Land Commission suggest that areas where land pressure is increasing, there is evidence of land grabbing by local and Monrovia-based elites through registration of deeds, or other filings of claim to land.

Outcome 6: Reduced Conflict over Land

Discussion of Related Priority Issues

Concessions and Communities. In areas where concessions are active, conflicts were identified as a priority issue. For example, in Sinoe, where agriculture, mining, and timber concessions are all operating, 6 of the 14 focus groups in the regional meeting identified conflicts in their top 5 priorities (out of a possible 17).

Despite requirements in the Public Procurement and Concessions Act for FPIC with affected communities, a 2013 study commissioned by the Liberia Extractive Industries Transparency Initiative (LEITI) found that few community consultations were initiated by the government prior to finalization of many concession agreements (LEITI, 2013). As a result, many communities were not aware that their customary lands had been ceded to concessions for commercial development, nor did they understand the scope and scale of the development. Benefit-sharing agreements in the form of Social Agreements were generally negotiated by leaders in the community or districts using templates that were designed by government agencies, and there was little opportunity for meaningful debate, discussion, or negotiation, primarily because local leaders lacked the knowledge and skills to

[14] According to the Community Forestry Working Group, there were 120 applications for CFMAs in July 2016 but the location by district could only be identified for 67 of the applications. As a result, the map presents the number of applications by county.

adequately represent their people. This lack of capacity was consistently ranked as a priority issue by communities in concession areas throughout the country. As a result, many Social Agreements lacked specificity. For example, "construction of a school" is a common provision but no mention was made of the size of the structure, the construction materials, how the structure would be maintained and by whom, and most importantly, who would teach in the schools and with what materials. Many agreements also included provisions or benefits that the concessionaire would provide regardless of any Social Agreement (e.g., roads and bridges).

Community and Government Conflicts. The experience of communities in and around the East Nimba Nature Reserve (ENNR) where a PA was created with limited consultations with communities mirrors some of the experiences documented with communities around the Sapo National Park where communities and government have clashed over rights and access to the park. In Sapo, this has resulted in forced evictions of artisanal miners from the park and special security forces enforcing regulations (Small, 2012). The primary concerns by communities in and around the ENNR were the lack of consultations with communities prior to the creation of the PA, and the limited involvement that they have had in its management. The creation of community forests in the area, along with support from USAID, AML, and conservation organizations supported by AML (Conservation International [CI] and Fauna and Flora International [FFI]), relations with the community have improved substantially. However, it is important to note that these investments represent millions of dollars.

Some of the original issues included lack of community participation in the identification of the ENNR boundaries, the questionable designation of a strict nature reserve in an area that has clearly been shaped by human forces, and the FDA's inability to manage or enforce the PA status. Since that time, AML, with considerable assistance from AML's sub-grantee Fauna and Flora International, has developed and started to implement a management plan. It should be noted, however, that similar levels of support are not available for other proposed PAs.

In-migration-Resident Conflicts. In areas where forest and agricultural concessions were located, many communities identified conflicts over land resulting from in-migrants. In these areas, it was reported that concessions attracted in-migrants seeking direct or indirect employment with the concession operators. These migrants often did not find such employment, but stayed on seeking land from the community authorities or intermarrying with the locals as a means of accessing land through customary means.

In areas that abut Côte d'Ivoire, Guinea, and Sierra Leone (e.g., northern Nimba, Lofa, and Grand Gedeh), the loosely guarded borders were often ignored by community members (often of the same clan or ethnic group) who crossed the boundaries seeking to secure land through customary means. In areas where the pressure on land is increasing, (e.g., northern Nimba) the potential for conflict was quite pronounced.

Land grabbing by local and Monrovia-based elites was also identified in stakeholder consultations. This was not regarded as a source of conflict, but an indication of the poor governance and limited control by local people over their resources (see Governance Outcomes below).

Outcome 7: Existing Land Rights Are Maintained

Contract Rights. The intent of the Land Rights Bill is to recognize customary rights to land while at the same time, supporting the development of a more modern land administration system. As noted above, the land rights to much of the Liberian rural land base are currently held through agricultural, forestry, or mining concessions. While concerns have been raised that these rights (occupation, use, and management) may not have been conveyed in compliance with the FPIC of customary land owners as required in the Public Procurement and Concessions Act (PPCA; LEITI, 2013), many of these agreements have been ratified by the legislature and therefore carry the force of law. Concession holders have made significant investments in the development of their concession areas and have the right to expect that their land rights and related agreements will be respected. Failure to do so undermines the fragile development that Liberia is currently undertaking.

It is also important to note that security of contract and related rights form the bedrock for existing and future domestic and direct foreign investment. Failure to protect or recognize contracted rights increases risk factors for investors and provides disincentives to credible investors.

FPIC Requirements. While concessionaire/investor rights are clearly important, existing land rights of customary owners are also relevant and should not be disregarded, as has been the case in Liberia historically and more recently in the allocation of concessions without legally mandated community consultation (LEITI, 2013). These rights are recognized not just in the proposed Land Rights Bill but also are found in the PPCA that requires FPIC as part of the concession development process. Failure to consult with communities and recognize customary land rights has contributed to conflict between communities and concessionaires in Sinoe (GVL) and Cape Mount (Sime Darby), which threatens to undermine the investments sought by the government through concession agreements. Further, World Bank OP4.12 requires such consultation.

3.2.3 Governance Outcomes and Issues

There is no standard definition of the term "governance." However, a review of forest governance literature consistently identified **five major principles** related to good forest governance: **transparency, capacity, participation, accountability,** and **equity**. In the governance assessment methodologies reviewed (e.g., FAO, FCPF, and World Resources Institute [WRI]) indicators or criteria are used to measure compliance with these principles and applied against systems of governance. These systems are generally broken down into three components: (1) the **actors** that are involved in forests and its management; (2) the actual **practices** and **interactions** in the forests by or between the actors; and (3) the formal and informal **legal systems and rules** that "govern" forest practices and actors. Together, these three components make up a governance system (Kishor et al., 2012). A recent study of governance issues for REDD+ in Liberia was conducted for FCPF-World Bank and informed the identification and development of these issues (FCPF-World Bank, 2012).

Outcome 8: Local Leaders Have the Skills and Information to Represent Their Constituents

Community and regional stakeholders throughout the country consistently commented on the inability of community leaders to represent their constituents' interests because they lacked information or skills. While there is clearly a disparity in the education levels between local community leaders and more sophisticated business and government leaders, education alone was not of primary concern. For example, in the stakeholder meetings in Margibi County where education levels and proximity to the capitol of Monrovia provides leadership with greater access to information and other resources, the ability of decision makers to negotiate on behalf of their communities was identified as a priority issue, ahead of many other livelihoods issues, and a primary source (or potential source) of conflict.

Lack of Knowledge and Information. Stakeholders pointed to Social Agreements signed by affected communities in FMC areas as an indication of the lack of knowledge and information about such issues on the part of that community leaders. They pointed to the similarity between the content of the Social Agreements, the low benefits that were allocated to communities relative to the value of the resources, and the lack of specificity (e.g., roads were promised but with no details regarding quality or maintenance and schools of no pre-determined size were included in agreements but no mention was made of the means to support teachers or provide teaching materials), suggesting that discussions were limited with community leaders, and that the level of understanding regarding the value of the resources was not well understood by leaders representing community interests. Related to this, stakeholders also reported that the manner in which benefit agreements were developed left community leaders susceptible to corruption. Specifically, it was reported at a number of stakeholder meetings that community leaders were often bribed by the "powerful" to make decisions that were not necessarily in their communities' interests. As a result of these concerns, the FDA and stakeholders have since revised the templates used for Social Agreements and three (of seven) Social Agreements have been renegotiated with communities.

Outcome 9: Equitable and Functioning (Effective) Benefit-Sharing Mechanisms Are in Place

Functionality of Existing Systems. Currently, benefit-sharing mechanisms vary significantly across sectors. In the forestry sector, a benefit-sharing mechanism for communities affected by FMCs was established as part of legal reforms in the forestry sector. The mechanisms required concessionaires to pay into a benefit-sharing trust to be managed by a National Benefit-sharing Trust Board (NBST), which includes CSO, donor, and government representation. Affected communities could access the funds through proposals submitted to the NBST for review and approval. However, the actual implementation of the NBST has been poor; although funds were deposited into the Ministry of Finance by the concessionaires, only a fraction of those funds have been deposited into the NBST, and that only occurred in 2015 after considerable pressure from communities and the FDA. Reportedly, NBST funds were used by the Ministry of Finance to cover other budget shortfalls. In addition, communities have been challenged to develop proposals that are compliant with the guidelines established to access funds. Donors, including the Environmental Law Institute, have supported the GoL, the NBST, and affected communities to establish guidelines for the development of proposals. To date, no proposals have been developed that meet the funding criteria and funds have not been distributed, although the Voluntary Partnership Agreement (VPA) recently provided funding to support their development with CSO support.

Technical Capacity Constraints. Under CFMAs, communities are entitled to 55 percent of the benefits from commercial operations. Under the CRL and its regulation, an account must be established for any benefits received and for distribution of those benefits. The regulatory framework does provide for some safeguards to ensure that those responsible for distribution of benefits are accountable to the community. However, only three of the current nine CFMAs have received benefits, set up accounts, and established benefit distribution processes. These three communities have received considerable assistance in setting up these systems, and have had considerable oversight of their actions by USAID programs, conservation organizations (CI, FFI), and private sector partners (AML). This experience suggests that putting in place and implementing accountable and transparent systems presents formidable challenges.

In the three cases above, benefits have been derived through partnership agreements related to forest management and conservation efforts (e.g., funds to support forest guard patrols, biomonitoring, and Conservation Agreements). None of these communities has actually negotiated an agreement with commercial logging companies. However, where communities have negotiated agreements (e.g., Social Agreements under TSCs/FMCs, agricultural concessions, or contracts under PUPs), the benefits to communities have been limited. Under PUP contracts (nullified by Presidential Order), communities generally negotiated benefits that were considerably lower than benefits that accrue to the government on government lands. For example, stumpage rates were generally between US$1 and US$3/m^3 for timber while other tangible benefits lacked specificity, e.g., “a school” or “a clinic,” without regard to support for teachers or nurses, or materials. The similarity between the content of the Social Agreements suggests discussions were limited with community leaders and that the value of resources was not well understood by leaders representing community interests (see also Outcome 8 above for related discussion). It is important to note that this contrasts with the reformed process for Social Agreement negotiations piloted in three of the FMC areas noted in Outcome 8 above. However, it is important to note that support for these negotiations was provided by a CSO.

County Development Funds and Social Development Funds. In contrast to the agreements above that provide benefits to communities, the government receives funds directly from mining concessionaires through contributions to the County Development Funds and Social Development Funds. Since 2010, mining companies have contributed approximately US$10 million annually to these county funds where they mine. However, stakeholders reported that the use of these funds was not always transparent, and did not benefit directly the affected communities.

Expectations of Concessionaires’ Role in Development. It is also important to note the history of concessionaires in Liberia, and the perception by many Liberians of the role that companies should play in the country’s development. While Liberia is known internationally for its model of “growth

without development," the perception of many Liberians is that large concession holders like Firestone and LAMCO (a large mining concern that operated extensively in the country for decades prior to the mid-1980s) provide services that Liberians do not expect or look to the government to provide. As a result, there is a widely held expectation that concessions will provide jobs and services to local communities that in many countries would be provided by the government through tax revenues from concessionaires. This is relevant for REDD+ programming, since REDD+ interventions are being regarded as a type of concessions by many stakeholders.

Community Cohesion. The related issue of community cohesion also arose during the consultations. Specifically, it was noted that structural changes in the economy, such as the introduction of a cash economy and/or wage-based earnings, have the potential to erode community cohesion. This may also be possible through the introduction of dramatic disparities in wealth, or conflicts over land or other resources. For example, it was reported in the Gba Community of northern Nimba compensation for land takings by AML caused conflicts within the community regarding the ownership of land that would be compensated. Further, large cash infusions into the community without proper training in financial management could also lead to conflict within the community if it is not managed in a transparent of accountable manner.

Outcome 10: Law Enforcement Increased

Capacity to Implement. Stakeholders repeatedly mentioned that Liberia had good forest laws but poor practice. In part, this was explained by the relatively recent development of the NFRL, the CRL, and related regulations. However, limited resources related to training and implementation of the law were identified as the biggest obstacles to implementation of the forest law. Interestingly, most institutions suggested that they had the human resources to support implementation of the legal framework, but were hindered most by lack of equipment (vehicles, computers and phones). This was an interesting statement given the limited formal training in technical areas within the FDA and other institutions. For example, FDA staff participants in a USAID inventory and demarcation exercise reported that they had not previously received training or participated in such a comprehensive exercises (personal communication).

Similarly, enforcement of forestry laws will require both training in the content of the law and its implementation.

The EPA's legal framework is less developed than the forestry law. Even so, the EPA is even more hindered in the implementation of its national mandate through its limited staff and two-vehicle fleet.

Outcome 11: Credible Grievance Redress Mechanisms in Place

Conflict and the ability to manage conflicts was identified as a major issue in most parts of the country. This was particularly true in politically and economically remote regions of the country where land use decisions (particularly concessions) were perceived as imposed on the community by the central government. This had particular resonance for the REDD+ program as many stakeholders view REDD+ programming as akin to a concession arrangement.

Existing Institutions. There are currently few formal mechanisms to address conflicts that arise between communities and concessionaires and/or the government. Highly publicized conflicts between concessionaires and communities have involved interventions by the government (including imprisonment of protesters), which have at times inflamed conflicts. Land Conflict Centers (LCCs) exist in a three counties (Maryland, Lofa, and Nimba) to assist existing dispute resolution institutions and personnel—customary courts and leaders, courts and judges, government offices and officials at the county level, and nongovernmental and community-based organizations and their leaders—to better handle and resolve disputes over land and property. Assistance includes, but is not limited to, case intake, investigation, conflict analysis and strategy design, identifying possible resolution institutions/mechanisms, counseling parties on procedural options, making appropriate referrals, observing and monitoring dispute resolution processes, convening intermediaries to address larger and more complex disputes, and compiling data on procedures and outcomes of settlement efforts. At this time, the LCCs are in a nascent stage, have little direct experience in conflict management, and are not mandated to directly serve as mediators.

3.3 BIOPHYSICAL OUTCOMES AND ISSUES

3.3.1 Climate Change Outcomes and Issues

Outcome 12: Emissions Reduced and Carbon Sequestered

This outcome emerges from targets to improve energy efficiency and reduce GHGs as set out in the Initial National Contribution (GoL, 2015d) and reinforced in the Intended Nationally Determined Contribution (INDC) document (GoL, 2015d). Drivers of deforestation and degradation, and associated measures to address them and achieve conservation of carbon stocks, are discussed extensively in various REDD+ documents, including the REDD+ Strategy Aide Memoire (LTS, 2015a). Additional considerations relevant to achieving this outcome noted through the SESA process are provided below.

GHG Emissions and Carbon Sequestration in Liberia. Total national GHG emissions for 2000 (excluding those from forest woody biomass, grassland, and soils) were estimated at 8,022 Gg CO_2 equivalent, of which 67 percent and 32 percent were attributed to the energy and agriculture sector, respectively. The bulk of agricultural emissions (99.2%) came from animal husbandry (enteric fermentation [96%] and manure management [3%]; GoL, 2015b). Energy derived from woody biomass emitted a further 17,631 Gg CO_2 equivalent. When offset against the 114,442 Gg CO_2 equivalent captured within its forests and grasslands, Liberia had a net sequestration of 88,789 Gg CO_2 equivalent for 2000 (GoL, 2015d).

These levels of carbon sequestration, however, need to be considered alongside the long-term vision for Liberia: an estimated increase in population from 3.5 million in 2008 to 10.3 million in 2058; high reliance on charcoal and firewood for cooking;[15] ambitious plans for economic development and associated implications for potential GHG emissions; and the country's targets to reducing GHGs by at least 10 percent by 2030 and be carbon neutral by 2050 (GoL, 2015b; GoL, 2015d).

Commercial Agriculture. While most palm oil concessions in Liberia are members of the RSPO and thus are bound to adopt their standards, this is not supported by any legal requirements. Further, potential shortfalls in the current RSPO approach to addressing conservation of carbon stock have been identified (WWF, 2013). In response to this, the RSPO (2013) committed to developing better methods of addressing carbon assessment. It produced a carbon assessment tool (RSPO, 2014a) and GHG assessment procedure for new plantings (RSPO, 2014b), but these may not be sufficient to achieve Outcome 12 for REDD+ purposes.[16]

The RSPO recently released the "Next" addendum initiative (RSPO, 2015) for its members that introduces measures that exceed current RSPO Principles and Criteria (P&C) requirements, including those for deforestation and GHG emissions. However, these are voluntary rather than mandatory.[17] Even when RSPO standards apply, HCS areas to be avoided are generally excluded from the

[15] In 2009, it was estimated that 70% of the urban population uses charcoal for cooking (compared to 5% of the rural population) and that 91% of the rural population uses firewood for cooking (compared to 21% of the urban population; GoL, 2015d).

[16] For example RSPO (2014) recognizes that its suggested threshold value for HCS would only be applicable in the context of palm oil certification and not as a generic HCS threshold value for other purposes, such as REDD.

[17] "RSPO Next" is a **voluntary** add-on to the RSPO's P&C for sustainably grown palm oil. It defines advanced criteria in order to address deforestation and GHG emissions from palm oil production as well as strengthening human rights commitments. Key elements of RSPO Next policies include:

- **No deforestation,** only allowing companies to develop a palm oil plantation in areas where vegetation and soil contain low stocks of carbon, and limiting CO_2 emissions caused by any form of forest conversion.
- **No fire** for clearance or other purposes.
- **Reduction of GHG emissions** across entire palm oil operations (including mills and other facilities).
- **Respect for smallholders' and workers' rights,** including agreement on decent living wage terms and provision of outreach programs to support smallholders with sustainability and business skills.
- **Enhanced transparency and traceability.**

concession's operational area and placed outside of operator control. Without complementary measures such as Conservation Agreements, these areas may become threatened by other activities, notably commercial timber (as discussed below, but HCS is not specifically addressed) and community use.

There is no RSPO equivalent commitment for rubber plantations or small private farms in Liberia, thus these growers are not subject to measures for conserving HCS.

Commercial Forestry. There is currently no mechanism being applied to set aside, let alone enforce, conservation of HCS areas within TSCs or FMC areas. Application of standards such as those of the Forest Stewardship Council (FSC) or RSPO may place areas outside of the concessionaires' control or responsibility.

While FMCs are intended to be managed sustainably, there are no inventory-based data by which to define sustainable annual allowable cuts, including in retaining HCS. Currently, a 25-year rotation is used as a proxy for sustainability. However, no inventory-based evidence exists to demonstrate the sustainability of this approach. Indications are that current rates of harvesting are not sustainable (see USAID GEMS, 2013. and related discussion in Outcomes 3 and 21), although it is not clear whether or how this incorporates considerations in relation to HCS.

Protecting such HCS areas from community uses is likely to be challenging without complementary measures such as Conservation Agreements or monitoring of forest management plans under a CFMA.

Retention of Existing Forests versus Creation of New Forests. Although the INDC identifies both forest protection and enhancement as mitigation measures for climate change (through reforestation, afforestation, creation of timber plantations, and agroforestry), most of the stakeholders consulted felt that the priority for REDD+ should be on retention of existing forest areas rather than on creation of new ones. The main reason provided was that the threat level to existing Liberian forests requires urgent attention. While this may be a valid rationale in terms of achieving the desired biodiversity outcomes (Outcomes 14–17), it is unclear which approach would deliver a better outcome in terms of maximizing carbon stock, and thus would be worthy of further consideration. For example, oil palm has significant carbon value and may offer sequestration potential where plantations can be established without destroying forests or releasing carbon already in the soil (WWF, 2016). Such an approach would need to be considered in relation to WB OP4.04, which has a presumption against conversion of natural habitat, and in terms of its potential for indirect leakage effects (e.g., "pushing" shifting agricultural activities into forests).

Several stakeholders did promote the extension of existing forests into degraded areas through agroforestry and linking such measures to increased agricultural productivity. Such "pulling back" of farming from forest boundaries to allow for natural regeneration where consistent with the landscape (as has been identified as a biodiversity conservation management approach, see Biodiversity Outcomes below) could also enhance carbon stocks.

Mangroves. While mangroves are a significant sequester of carbon, their land cover in Liberia is small (less than 0.02% of the nationally forested area; FFI, 2012) so that their protection or expansion is unlikely to contribute significantly to climate change mitigation. However, owing to their importance both for biodiversity and for climate change mitigation, they should specifically be addressed in the REDD+ Strategy.

Similarly, the role soils play in storing carbon may be worthy of consideration in the REDD+ Strategy, and (as identified under Outcome 20) their conservation could offer additional environmental benefits in terms of soil productivity.

Outcome 13: Resilient Landscapes and Livelihoods

Climate Change Vulnerability. The importance of resilient landscapes is recognized by the World Bank and others as being key to achieving both climate and development goals; protection and restoration of forest landscapes is a priority in such areas. Owing to its reliance on rain-fed agriculture, low capacity to adapt, and low economic base, Liberia is likely to be disproportionately

affected by climate change. The National Adaptation Program of Action (GoL, GEF, and UNEP, 2008) recognizes that "*adaptation to increasing climate variability and climate change is a very important topic in Liberia.*" This has been further reiterated in the INDC (GoL, 2015d).

Although constrained by a lack of data, an evaluation of the vulnerability of biophysical and social systems (Stanturf et al., 2013) suggests that by 2060:

- Grand Cape Mount and Bomi will experience the greatest climate changes;
- Effects on agricultural production are likely to be most marked in Bong and Lofa counties and, to a lesser extent, in Nimba County;
- Upland rice will be particularly vulnerable; cassava is better adapted to higher temperatures, drought, and erratic rainfall, and is less likely to be affected;
- Increases in crop pests and diseases associated with the warming climate are likely;
- Predicted changes in aridity indicate that forests in eastern Liberia are likely to be most impacted by drier conditions, with implications both for biodiversity and the various ecosystem services they provide;
- The main risk to coastal ecosystems arises from both mean sea level increases (projected to be one to two meters) and storm surges to which many of the urban areas of Liberia are vulnerable. Reduction in areas of mangrove wetlands (if they are unable to adapt to sea level change) could result in loss of a range of social, ecological, and economic values including fuelwood, medicinal plants, nursery areas for fisheries, protection from storm surges, coastal erosion, and flooding (in addition to their role in carbon sequestration).

Climate-resilient Crops. Similarly. any REDD+ measures aimed at creating "*diversified livelihood options from forests*" (Outcome 2 above) in relation to livelihood safeguards should take into account climate change resilience of specific crops and varieties, including to changes in rainfall, pests, and diseases.

Mangroves. Mangroves play a particularly significant role in terms of creating resilience to climate change due to their functions in flood regulation, serving as a buffer against violent storm surges, and protecting shorelines from erosion, They may thus be of particular importance in protecting coastal communities from the impacts of climate change, which could be also be reflected in the REDD+ Strategy.

3.3.2 Biodiversity Outcomes and Issues

Outcome 14: Conservation of Natural Habitats

Natural Habitat. Owing to its relatively unmodified state, much of Liberia is likely to qualify as "natural habitat," as defined in WB OP4.04. In this category, most plant and animal species are original native. Under WB OP4.04, any activities in such an area must:

- Demonstrate there are no feasible sustainable alternatives to achieve the project's substantial overall net benefits; and
- Ensure acceptable mitigation measures are in place.

Owing to the spatial extent of natural habitat within Liberia, these requirements will likely apply to many of the REDD+ interventions.

Critical Natural Habitats. Based on the IUCN Red List of Threatened Species, it is estimated that 16 animal species in Liberia are critically endangered (CE), 4 plant and 33 animal species are endangered (EN), and 43 plant and 53 animal species are vulnerable (VU). However, due to lack of systematic survey efforts, these figures are likely low. As described below under Outcome 15, areas outside of forests, notably mangrove and wetlands, as well as contiguous habitats also support species of such high conservation status.

Many areas supporting such species are likely to qualify as "critical natural habitats" under WB OP4.04. Any REDD+ intervention funded by the WB with the potential to affect such areas will need to demonstrate that it does not result in significant conversion or degradation of such habitat, in accordance with the specification of that OP. While this requirement will generally apply to interventions that affect forests, it could also apply to non-forest areas (e.g., new infrastructure and agricultural activity in or close to swamps or wetlands).

Many of the REDD+ interventions that support conservation of forests have the potential to enhance the protection of natural and critical natural habitats. However, the degree to which this occurs will depend on the intervention locations. Therefore, the promotion of outcomes that retain, enhance, or restore natural habitat should be considered during intervention site selection.

Outcome 15: Conservation through Landscape Approach

Protected Areas. Despite considerable investment, notably the World Bank Consolidation of the Protected Area Network (COPAN) and Expansion of the Protected Area Network (EXPAN) initiatives, securing legal designation of such areas has proved extremely challenging and costly. Further delays may arise depending on the timing and final form of the Land Rights Bill (specifically, proposals for handling of community land) currently before the legislature. Even if implemented as currently proposed, the PAN would only cover 15 percent of the forest areas.

Technical Capacity. To date, effective management of gazetted PAs has been constrained due to a range of factors including lack of inter-sectoral coordination, inability to enforce regulations, conflicts with community uses and lack of sufficient community involvement in decision-making and ownership, and significant costs associated with PA establishment and management (FFI, 2012).

Biodiversity Outside the Proposed PAN. Numerous areas outside of the currently proposed PAN are important for biodiversity and support significant concentrations of rare, threatened, endangered, and endemic species or are used seasonally or temporally by major concentrations of them. They too need to be taken into account when considering conservation management.

Approximately 54 percent of Liberia is included within 25 KBAs, designated for their global biodiversity importance and as conservation priorities. These areas have potential to support management of important biodiversity outside of the PAN. Their boundaries may be outdated, however, and limited measures are being undertaken within them to safeguard biodiversity. Only 8 percent of KBAs in Liberia are currently subject to legal protection—substantially lower than the 22–88 percent of KBAs in West Africa as a whole (World Bank, 2015). The Liberian KBAs have been and remain vulnerable to population pressures and related rapid development and natural resource use. Notably, there are significant overlaps between KBAs and various timber, agriculture, and mineral concessions (Geoville, GmBH, and Metria AB, 2011; World Bank, 2015). This situation highlights the considerable challenges faced by Liberia in balancing commitments to support conservation of globally important biodiversity and achieve economic development.

Despite its membership in the Ramsar Convention and designation of five Ramsar sites (covering 95,879 ha), Liberia has not developed a wetland inventory, let alone management measures. A recent report to the convention (2014) estimates that wetland conditions are deteriorating overall.

Mangroves, which are particularly rare (classified in the draft Liberian HCV National Interpretation as HCV 3), play an important ecological function as spawning grounds for fish, crabs, mollusks, and other forest life, and as feeding and breeding grounds for migrant birds and other species of high conservation value (e.g., crocodiles [VU], Leatherback turtles [CE], and manatees [VU]). They thus warrant particular attention in terms of conservation.

Several studies that focused on endangered species (Tweh et al., 2014; Blanc et al., 2007) confirm that areas outside proposed or existing PAs are likely to be important for biodiversity conservation, and many may qualify as critical natural habitat. While most of these are located within forests, they may also occur in non-forested areas, notably wetlands and swamps, and stretches of contiguous habitat supporting important fauna (e.g., leopard and elephants [VU]) or endemic fauna (e.g., Picarthes) and

flora. This will be relevant when considering REDD+ options outside of forest areas (e.g., location of infrastructure and alternative agricultural activities).

Conservation through Landscape Approach. Conservation stakeholders consulted as part of SESA have indicated that the eventual PAN, being developed by the Liberia Forest Sector Program (LFSP), may differ from the form currently proposed. They advocate that PAs may best contribute to achieving the desired conservation outcomes by taking into account both recent data on important biodiversity (e.g., Junker et al., 2015) and the evolving land use planning context.

The latter includes the emergence of areas zoned for commercial use and their associated conservation management requirements: HCV set asides from commercial agriculture potentially supported by P-PAs; biodiversity offsets from mining, potentially supported by Conservation Agreements; and requirements for sustainable timber extraction for FMCs as well as CFMAs and their associated management plans.[18, 19] The proposed PAN thus may not be the only mechanism to protect 30 percent of Liberia's forests but rather a critical element of a package of integrated and complementary management measures (set asides, offsets, CFMAs, etc.), as anticipated by the draft national HCV interpretation (FFI, 2012).

The importance of adopting a (holistic) landscape approach to developing such a model has been highlighted by several stakeholders consulted during the SESA. Such an approach should take into account landscape mosaics at different spatial scales.[20] Many of the mosaic elements are outside the currently proposed PAN, but nonetheless perform an ecological function that may be under threat and are therefore priorities for action. Such landscape elements identified at the transnational and national spatial scale include:

- The Nimba highlands bordering Guinea and Côte d'Ivoire;
- The Greater Gola Landscape (also known as Peace Park), which includes the Gola Forest; National Park (to be gazetted) and the Foya National Forest that links with the Gola Rain Forest National Park in Sierra Leone;
- The Wonegizi Mountains, which are contiguous with the *Massif du Siama* Biosphere Reserve in Guinea; and
- The proposed Grebo Protected Area, which links with the *Forêt Classé du Cavally* and the Taipo National Park in Côte D'Ivoire and with the Sapo National Park in Liberia.

In summary, while PAs are a key component in achieving Liberia's conservation outcomes, they are unlikely to deliver these on their own, both due to challenges implementing them and the need to conserve important biodiversity features outside of them. They may rather need to be planned and implemented in an integrated manner with other management measures (i.e., not necessarily strict protection) within the same biodiversity landscape to maintain its integrity.

An important step in enabling the adoption of such an approach is a systematic national landscape categorization that builds on the KBA analysis, proposed HCV national interpretation, and recent field work and analyses to classify different landscapes in terms of their ecosystem functions and values. This can then inform the development of the specific conservation management measures associated with the different land uses within each landscape, to ensure the overall package functions in an integrated and complementary manner.

[18] The HCV concept was developed by the FSC, but it is now used by other certification schemes including the RSPO and development finance institutions (see Box 1). A Draft National Interpretation of HCV for Liberia was produced in early 2013 by FFI and the Proforest Initiative (FFI, 2012).

[19] It is understood that the FDA intends for CFMAs to play a role in delivering sustainable forest management and REDD+. Although confirmation is pending, they may also intend for CFMAs to play a role in achieving the 30% forest protection target.

[20] Much of landscape ecology has developed around the paradigm of a landscape mosaic consisting of patches (e.g., of habitat or ecosystems) arranged in a matrix (the predominant habitat or land cover), with specific elements that can be described as corridors, barriers, and edges.

The biodiversity benefits of the REDD+ Strategy are therefore likely to be maximized if a similarly holistic approach to biodiversity conservation is adopted that considers interventions through a package of integrated and complementary measures for each of the different land uses at a landscape scale rather than focusing on PAs alone.

Outcome 16: Reduce Forest Biodiversity Loss from Shifting Cultivation and Other Community Exploitation of Forest Resources

Impact of Shifting Cultivation. A course analysis of the land cover and population centers undertaken as part of SESA (Rothe, Golombok, and Lorenz, 2015) indicates that much of Liberia's forests (over 30% of closed forests and 65% of open dense forests) are subject to use for shifting agriculture. While shifting cultivation can be a significant driver of forest loss, the extent to which this occurs is primarily a result of population density (i.e., when use exceeds carrying capacity) and accessibility, and therefore varies significantly by location.

Population influx (e.g., job seekers in the vicinity of commercial developments or attracted to new areas as a result of new roads) may also be a significant contributor to shifting cultivation and forest and biodiversity loss in the future. This may be further compounded by the increasing "squeeze" on available land for agriculture due to land take for commercial purposes and gazettement of PAs.

While alternative intensified agricultural options to divert agriculture and other forest-based activities away from forests have been piloted (discussed under Outcomes 3 and 4), the level of success and uptake to date remains low. Communities continue to express a strong preference for continued farming in forestlands because of soil fertility and the opportunity for intercropping (see Outcome 1 discussion for more detailed discussion on the livelihoods aspect of shifting cultivation).[21]

The carrying capacity of alternative, sustainable livelihood options and their ability to support a growing population within a reduced amount of land and to divert agriculture away from forests successfully has not been established. Some lessons have emerged regarding activities within a larger "land sparing/land sharing" debate, although it is too early to determine a correlation with likely changes in levels of forest use.

Similarly, as discussed under Outcomes 2 and 3 above, the ability to enhance livelihoods from forest activities (e.g., community forestry management systems and forest-based enterprises) potentially linked to CFMAs or Conservation Agreements has not yet been established. (Emerging initiatives such as the Sierra Leone Gola REDD Project and an activity between AML/CI and the Gba Community in northern Nimba County could provide insights.) However, others may conversely introduce threats, notably from commercial forestry. There are also indications that tree crops may offer some potential alternative, sustainable livelihood options.

In the context of limited evidence, a consistent and integrated approach is needed to consolidate and analyze the results of existing and future pilots and trials. This could inform the REDD+ Strategy and how it is subsequently implemented though specific interventions.

Bushmeat. While it is recognized that reducing levels of bushmeat hunting may ultimately be best addressed through suppressing demand (from both urban areas and local communities), stakeholders generally believe that its consumption is so ingrained in Liberian culture that results will require significant time. If measures are to be undertaken to address bushmeat demand, they should be complemented, at least in the short term, by interventions targeted at the supply side.

Most conservation NGOs believe that supply side interventions should focus on regulating protected species hunting and the sustainable use of other non-protected species, with alternatives for any net loss of protein (where bushmeat provides a local food source) or income generation (where it is sold to urban areas). Many bushmeat hunters are not local, and restrictions on hunting by incomers could enable a more sustainable offtake of non-protected species by local communities. Based on experience (e.g., at Wonegizi), this would require appropriate incentives. As identified in Outcome 2, there are limited examples of these initiatives, few successes in the introduction of alternative protein

[21] Consultations undertaken as part of the SESA identified a strong preference for forest-based agriculture.

sources, and limited understanding of what constitutes a sustainable level of offtake. Additionally, any effort to provide an alternative protein source that promotes significant animal husbandry would need to take into account potential GHG generation (as identified under Outcome 13 above).

Stakeholders expressed a range of views on bushmeat consumers and interventions to influence demand. Some stated that most bushmeat is sold for consumption in urban areas, with the income being used to purchase other protein sources (e.g., frozen fish and chicken, which are becoming increasingly available in rural areas). However, most respondents believed bushmeat to be a key source of protein for local communities. As in other areas of the prioritization exercise, this emphasizes the need for more empirical data, including likely future trends, prior to finalizing REDD+ options.

Charcoal. Stakeholders were generally in agreement that addressing the demand side of charcoal use could bring the most immediate success. This could take the form of promoting fuel-efficient stoves in urban areas to reduce levels of charcoal use significantly. Such an approach is also broadly consistent with Liberia's Initial National Communication relating to climate change (GoL, 2015d), which advocates replacing cooking stoves of low thermal efficiency (5–10%) with those of higher efficiency (40%). This approach is likely to be more successful in urban than rural areas. Cooking stove uptake levels in rural areas have been low in pilots, generally attributable to the cost of purchasing charcoal rather than collecting free firewood; the multiple function of firewood stove for cooking, drying bushmeat, and rice; and the cultural role that cooking fires play in rural households.

Chainsaw Logging. While the application of the VPA to chainsaw logging could reduce impacts, questions were raised about whether a more cost-effective solution may be available. As noted under Outcome 3, chainsaw logging techniques may be highly inefficient, resulting in a low conversion rate to rough planks An approach that increases efficiency of this activity may assist in achieving the REDD+ objective under Priority 1.7, but this would need to be underpinned by a better understanding of the sector.

Mangroves. Although their spatial extent and overall contribution to reducing carbon emissions is low, mangrove forests are considered to be among the most threatened of ecosystems globally and, therefore, may warrant particular attention under the conservation element of REDD+. Potential areas to address include overexploitation for wood (notably for drying fish) and building, overfishing, and pollution.

Addressing all of the above would require development of alternative, sustainable livelihood options to replace loss in subsistence or in cash-generating activities. The options would likely need to focus on a combination of intensified agriculture and small enterprises, as discussed above regarding shifting agriculture. Similar challenges are likely with respect to demonstrated viability, and further investigation will be needed prior to selecting which options to support and under what circumstances (including through REDD+).

Outcome 17: Reduce Biodiversity Loss from Commercial Activities

Threats and Opportunities. Commercial concessions threaten biodiversity both directly (primarily through land take) and indirectly (leakage and population influx bring shifting agriculture and other exploitation of natural forest resources required to support the increased population levels). Commercial activities may offer some opportunities through the development and adoption of evolving industry standards (RSPO, FSC, etc.) for safeguarding biodiversity. Due to pressures for commercial development, the window for capturing such opportunities may be closing. The REDD+ Strategy could help ensure that intended standards are adopted, biodiversity conservation safeguards achieved, and benefits captured.

Timber Concessions. Eleven percent of Liberia and approximately 20 percent of the country's closed dense forests are contained within existing FMCs (which in turn comprise over 70% of closed dense forest and a further 15–20% of open dense forest). If managed sustainably (as intended in legislation), these areas have the potential to deliver biodiversity conservation benefits. However, more specific and rigorous management practices and innovative management structures (e.g., commercial operators, government, and CSOs) are likely required. Indications are that this is not occurring.

A further 7 percent of the country has been proposed for future FMCs, which would bring the amount of closed dense forest to 29 percent, 13 percent under FMCs. However, a recent Letter of Intent (LOI) between the FDA and the Government of Norway places a moratorium on future FMCs until legal compliance and satisfactory procedures are in place. While it is possible that these areas may be allocated as CFMAs, the moratorium would also apply if the areas were to be used for commercial forestry.

Although TSC areas comprise 50 percent closed dense forest, (Rothe, Golombok, & Lorenz, 2015), they are not subject to biodiversity conservation measures. As a result, TSC areas are vulnerable to biodiversity loss or damage through clear felling operations. However, given the relatively small spatial extent of such contract areas (3% of the Liberian landscape), impacts may be limited.

The VPA aims to improve forest governance, including sustainable forestry. By ensuring compliance with applicable laws, the VPA should, in principle, support biodiversity conservation, but this would require a national legal framework and specific biodiversity management mechanism that are not yet in place.[22] Further, the VPA currently does not address development of legal standards for CFMAs. This should be addressed, particularly if CFMAs will play a more central role in commercial logging, as has been suggested by the FDA.

Commercial Agriculture. Thirteen percent of Liberia is within the search area for agricultural concessions. This area comprises over 50 percent closed or open dense forest and, therefore, is likely to support significant biodiversity. Although most of these areas will qualify as HCV and be set aside by the RSPO-compliant operators of palm oil concessions, no legal provision requires adherence to such standards and there are no such requirements for rubber plantations or private farms.

Even where RSPO standards are applied and HCV areas are proposed for set asides, there may be challenges to:

1. Ensure they are not vulnerable to logging or shifting agriculture, particularly due to one or a combination of:
    a. Absence of requirement for the concessionaire to subject these areas to management regimes and/or protect them from other uses, or of other legal provision for their protection; and
    b. Opposition from local communities where "jobs for land" are available, resulting in resistance to allocating land as "set asides," as this would bring neither jobs nor land, which could be particularly important in the context of losses experienced elsewhere in the concession area;
2. Prevent leakage of activities that would otherwise occur within the concession or its set asides to other areas of biodiversity importance.

Further, in the absence of an outgrower model,[23] there is a lack of certainty as to the extent to which RSPO standards will apply to these independent farmers.

Unlike the timber sector, specific legislation applicable to the agriculture sector (including sustainable management) is lacking, with measures being broadly outlined instead in concession agreements. Nor is there a ministry with the mandate to regulate commercial agricultural activities; this function is currently undertaken by the National Bureau of Concessions.

The need to address these risks in a timely manner is underpinned by Liberia's LOI with Norway that commits to ambitious zero-deforestation policies for commercial agriculture. Under the LOI, only companies adhering to such policies and signing up to relevant Tropical Forest Alliance compacts are allowed to do business in Liberia.

Mining. Although numerous commercial mining concessions exist, many of these relate to exploration and will not proceed to full production. Mineral production has a small direct physical

[22] For example, the National Interpretation of HCV has not yet been adopted and there is no specific legislation relating to wildlife.

[23] Outgrowers are independent farmers that are contracted to develop and produce for a large commercial producer.

footprint (although the socio-economic area of influence can be extensive) but has potential for a wider-spread biophysical impact from the development of infrastructure (roads, processing facilities). However, unlike commercial agriculture, there are limited options for setting aside areas where high biodiversity value areas overlap with mines, since mine locations are defined by the location of mineral reserves.

Although a copy was not available to the SESA team, it is understood that the Draft Mining Act (2014)[24] requires compliance with the International Finance Corporation's (IFC) Performance Standards that include requirements for offsets.[25] Without planning, resources, and capacity, there is a significant risk that this could result in a number of isolated offsets that are unlikely to deliver the Liberian priority biodiversity outcomes that require a landscape approach. Recommendations have been made for a national offset scheme led by key government agencies (potentially, the REDD+ Implementation Unit), with contributions from mining companies and support from national and international conservation and development agencies and programs. This would ensure a coordinated and optimal selection of conservation offset areas for the entire sector that better achieves conservation objectives (World Bank, 2015).

While the draft REDD+ Strategy (Option 4.4) focuses on establishing offsets to result in zero net deforestation, focus should rather ensure that, as required by IFC Performance Standards (and the Mining Law when implemented), there is no net loss of biodiversity (which is more difficult to achieve than no deforestation) as well as no net loss of HCS. The strategy should also focus on adoption of a landscape approach to achieve the no net loss of biodiversity. Depending on its current status, this element of the REDD+ Strategy could also support the national biodiversity offset scheme as previously proposed.

3.3.3 Soil and Water Outcomes and Issues

Outcome 18: Water Quality Maintained

Data Availability. There are little baseline data available on hydrology and wetlands in Liberia.

Forest Conversion. Stakeholders consulted by SESA reported loss of forest vegetation around main water courses due to conversion for commercial forestry, agriculture, and mining, resulting in decreases in water availability and quality. Respondents highlighted increased sediment loads due to land clearance and plant movement particularly close to creeks, blocked waterways (both intentionally and due to trees falling into watercourses), and discarding of waste in watercourses.

Lowland Agriculture. The conversion of wetland and swamp land may pose significant environmental risks through disruption of hydrological processes and pollution. This is particularly relevant in view of the National Rice Development Strategy for Liberia (GoL, 2012c), which proposes to increase lowland rice cultivation fivefold between 2009 and 2018 and promotes conversion of swamps and use of chemical inputs. This strategy does not, however, include environmental safeguards related to ecosystem integrity (USAID, 2014a).

Commercial Agriculture. Commercial activities that involve the introduction of agricultural inputs to increase productivity and to control pests and weeds have the potential to impact water resources, particularly through the use of pesticides. WB OP4.09 guidance states that integrated pest management approaches that promote biological control should be adopted in favor of synthetic chemical methods.

Outcome 19: Soil Quality Maintained

Liberia's soils generally have poor chemical fertility and ability to retain nutrients and are often susceptible to erosion. Small-scale agriculture is thus highly dependent on the slash-and-burn regime through which soil nutrient and fertility soils levels are temporarily increased for several seasons

[24] Based on a review of the Draft Mining Law provided in Chapter 5 of World Bank, 2015.

[25] Offsets are measurable conservation outcomes of actions designed to compensate for significant residual adverse biodiversity impacts arising from project development after appropriate prevention and mitigation measures have been taken.

before returning to the fallow period in the cycle. Any effort to divert shifting cultivation from forest will therefore be dependent on the ability to develop reliable methods to maintain soil conditions under fixed agricultural models.

Measures that specifically protect sloping and riparian areas and water courses (e.g., through promotion of retention of forests) and those that maintain soil fertility under fixed agricultural regimes are likely to contribute to this outcome.

Specific measures to promote carbon content in soils should also be supported.

3.4 Macroeconomic Outcomes and Issues

3.4.1 Revenues

Outcome 20: Increased Sustainable Revenue Generation from Forests

Revenues from Logging. Currently, there are 20 active timber concessions in Liberia that generate approximately $2.8 million in revenues from land rental, stumpage fee, log export fee, contract administrative fee, annual coupe inspection fee, forest products fee, timber export license fee, wood product export fee, sawmill permit fee, etc. These revenues have not met expectations, and collection of revenues remains a challenge. For example, in a 2013 report commissioned by USAID it was reported that "only 5 percent of the annual bid premium, land rental, and contract administration fees were collected in 2011 that is $1,859,551 out of the $36,409,431 owed." The majority of that was supposed to come from annual bid premiums, however, a recent change in the law has rendered the annual bid premium a one-time payment which has led to further reductions in revenue projections from the sector. Further, the same study found that revenues generated from the concessions were not sustainable and that the front loading of royalties, taxes, and fees (albeit, often in arrears) caused undue financial pressure on concessionaires prior to selling timber (USAID GEMS, 2013). Finally, the same report found that FDA lacked the capacity to monitor concessions and control for illegal logging.

Uncertainty of Carbon-based Revenues. Despite this, concerns were raised by stakeholders about the viability of carbon sales replacing the revenues that are currently generated by timber. This is a legitimate concern given both the rigorous standards that must be met in order to access carbon funds, and the current low market value associated with carbon trading. Coupled with FDA's limited ability to monitor existing concessions and illegal logging, it will be important to determine if the REDD+ strategy options are able to provide the necessary incentives to replace revenues generated currently from timber.

3.4.2 Forest Goods and Services Outcomes and Issues

Outcome 21: Adequate Supply of Sustainable and Affordable Energy Sources for Urban Populations

Forest-based Energy Dependency. The electricity grid in Liberia was destroyed during the conflict years. Today, only 9.8 percent of the population has access to electricity (World Bank, 2015), and this is used predominantly for commercial economic production. As a result, domestic energy is derived almost entirely (80%) from woody biomass, and statistics from 2004 suggested that 95 percent of the population is depending on firewood or charcoal for cooking and heating. While firewood is the preferred cooking and heating source in rural areas, the most recent census (2008) found that charcoal was used by 70 percent of the urban population, and only 5 percent of the rural population. Statistics were even higher in Monrovia where 85 percent of the population relied on charcoal.

The demand for charcoal is driven primarily by urban populations, which is estimated at 2.2 million with half of that number living in the greater Monrovia area. Charcoal is primarily used for cooking and purifying water. Despite repairs and improvements to the electricity infrastructure, along with planned hydroelectric projects, electricity is still not accessible to large segments of urban Liberia either because of cost or availability. Further, the cost of electric cook stoves is beyond the financial means of most urban dwellers. Charcoal braziers which are the predominant stove in urban areas, are generally very simply constructed and are inefficient. Several projects have attempted to introduce

more efficient models of cook stoves but adoption of these technologies is not widespread. Simply stated, there are currently no available, comparably priced alternatives to charcoal for urban dwellers.

Charcoal Income for Vulnerable Populations. While charcoal is primarily a by-product of shifting cultivation, it represents significant income to farmers and others, particularly in areas near urban centers where the bulk of demand for charcoal originates. With rotations of between 30 and 45 years, rubber plantations also represent a significant (and potentially sustainable) source of charcoal. In addition, charcoal makers generally constitute a socially vulnerable group of people who as in the case of the Sherman Farm community, do not own the land on which they operate, but are mixed group of people economically displaced from other communities due to lack of opportunities for income. As a result, they find it challenging to fit in the traditional support structure and social network of their host communities.

Charcoal is a major cause of deforestation, particularly around urban areas these markets fuel demand. In addition, stakeholders reported that charcoaling is increasingly prevalent around concession areas where it met demands of workers and families associated with the concession activities. Charcoal also represents significant income in the peri-urban areas for both the charcoal makers, as well as middlemen, although reportedly, the middlemen benefit much more than the actual charcoal makers (see discussion under income below).

Outcome 22: Sustainable Domestic Timber Supply

Value-added Processing. There are no saw mills to process export-grade logs in Liberia so the majority of timber extracted from FMCs is shipped as logs to international markets where they are processed. Portable mills are marketed in Liberia, but they are not used extensively. The obstacles to adoption of this technology include availability of spare parts, limited availability of personnel to maintain and repair the saws, poor roads, ability to transport equipment.

Timber for domestic use, therefore, is primarily met through chainsaw logging. Chainsaw logging involves the use of chainsaws to fell and process logs. Many chainsaw loggers operate outside of the regulatory framework by negotiating with traditional leaders to extract timber on customary lands. Further, the Chainsaw Regulation presents formidable obstacles for chainsaw loggers to overcome if they are to harvest in compliance with the regulation (see discussion above under Outcome 3).

Chainsaw logging is a highly inefficient way to process logs and it is estimated that this process results in only about 30 percent recovery. However, in the absence of alternatives, chainsaw logging will remain the primary source of building materials in Liberia.

Outcome 23: Land is Available for Commercial Development

Liberia's reforms in the forestry sector, and revisions of public procurement laws were undertaken in order to support the development of the country and sustainable exploitation of Liberia's rich land and resource endowments on a large commercial-scale. Initiatives such as LEITI also attest to the government's commitment to sustainable management of those resources and to addressing issues of corruption that render many poor nations' resources a curse.

Stakeholders registered concern that REDD+ options might limit the land base available for commercial development. With much of the country already committed to development through concession agreements, such concerns are legitimate and raised questions about the feasibility of future large scale commercial developments existing side-by-side REDD+ programming options. Voluntary practices such as those recommended by the RSOP have the potential to support carbon neutral commercial development.

Limited Understanding of REDD+. However, it must also be recognized that within the government, there is limited understanding of REDD+ and despite laudable efforts to engage multiple sectors in the REDD+ Strategy Development, the understanding of REDD+ is limited. To garner support for REDD+ as an overall strategy will not only require changes within the forestry sector, but significant changes to the ways in which the agriculture, mining and land and infrastructure development sectors are managed. The budget and political will to support this must come from the highest levels of government. In doing so, decision-makers should carefully assess the commitment

that is being made to the country's forest resources and seriously consider the risk of over-committing to multiple interests. As is highlighted in Outcomes 4 through 7, there are already exist serious constraints to Liberia's land base (see Figures 3.1 and 3.2) and careful consideration needs to be taken for competing uses and interests, particularly for the most vulnerable.

Outcome 24: Jobs for Unskilled Workers

Jobs from The Forest Sector. While development of the forestry sector through FMCs, TSCs, and CFMAs has not provided the scale of jobs envisioned in the ten years since the reform law was passed, the forestry sector as it currently operates, provides significant jobs for a wide range of skilled and unskilled workers either directly or through ancillary goods and service provision. This group would include bushmeat hunters and farmers that supply the logging camps with food, charcoal makers, and small-scale merchants that cater to forestry workers.

This dependency and livelihoods link was noted by communities located near timber concessions. In addition, these same communities reported increased in-migration to their communities as people from outside the community moved to the area in search of work opportunities.

Educational Opportunities. In general, schools in the communities close to timber concessions, where they existed, were poorly resourced and lacked teachers, books or other teaching materials. Opportunities for youth in these communities was limited and vocational training opportunities even more so. Even where vocational schools do exist, graduates seldom find jobs in their fields. For example, the Forestry Training Institute in Tubmanburg has over 120 students enrolled per year, but very few graduates are able to find jobs in the forestry sector (personal communication).

As a result of the low education standards, jobs available for local community members are generally low skill jobs that do not require technical training. Even so, these jobs do provide cash paying positions to local community members and can change social dynamics.

4.0 LEGAL AND INSTITUTIONAL CONTEXT

4.1 LIBERIAN NATIONAL POLICY AND LEGISLATION

4.1.1 Constitution

The 1986 Constitution of Liberia forms the basis of environmental law, particularly Article 7, which provides for public participation of all citizens in the protection and management of the environment and natural resources in Liberia, and places responsibilities on state organizations to ensure this is met.

4.1.2 Policy and Legislation Applicable to Conservation and Environmental Management of the Forests

Overarching Environmental Management

The Act Adopting the Environment Protection and Management Law (EPML) is the principal legislation covering environmental protection and management in Liberia. It provides the legal framework for sustainable development, management and protection of the environment by EPA in partnership with relevant ministries, autonomous agencies, and organizations, and stresses inter-sectorial coordination while allowing for sector specific statutes.

In Section 4, the EPML states principles guiding the administration of the law. Those principles key to the REDD+ SESA are:

- The principle of sustainable development;
- The precautionary principle; and
- The principle of public participation.

Part III of the Law covers provisions for EIA, audit, and monitoring. Part IV deals with Environmental Quality Standards including for water and soil. Part V covers pollution control and licensing. Part VI makes provision for guidelines and standards for management of environment and natural resources, including: Protection of the Landscape from Environmental Degradation (Section 76); Forest Protection (Section 77), including production of guidelines for forest as a sink for greenhouse gases; Forestation and Afforestation (Section 78); Protection of Wildlife including creation of protected and managed areas (Section 79); and Conservation of Energy and Renewable Resources (Section 80). Part VII deals with protection of biodiversity; natural heritage, including in-situ and ex-situ conservation of biodiversity and land use planning; and natural heritage sites.

While EPML establishes the framework and principles required to safeguard the environment, implementing Regulations, and standards and controls anticipated in EPML, including those that could apply to REDD+ interventions, are still largely lacking.

The **National Forest Management Strategy** (2007) sets out a "3 Cs" approach that address commercial, community, and conservation values of forests in order to achieve the aim of sustaining the various benefits delivered by Liberia's forest. The strategy includes objectives, goals, and management actions to achieve this aim. Of particular relevance to environmental and social performance of REDD+ it identifies:

- Under the Commercial Forestry element of the Strategy, activities to develop and implement reforestation and mechanisms, and incentives to encourage improvement of private sector and local communities in reforestation;
- Under the Community Forestry element of the Strategy, development of a framework that allows communities to identify opportunities and management rules;
- Under the Conservation elements of the Strategy, alternative, sustainable livelihood opportunities to reduce dependence on forests and wildlife; and

- Improvement to public administration, land use planning taking account of ownership and tenure, and strengthening of associated legislation and its implementation.

Chapter 8 of The National Forestry Reform Law (NFRL) addresses environmental requirements and includes requirements to:

- Ensure sustainable yields when harvesting forest resources;
- Target measures to achieve reforestation and afforestation; and
- Promote planting of indigenous species of trees.

The regulations on pre-felling operations (105-07) with the Ten Core Regulations (GoL, 2007b), which require EIAs to be performed and approved by EPA for any felling activity under a forest license under which commercial activities are authorized, while Regulation 102-07 on Forest Land Use Planning requires identification of environmental impacts and coordination with EPA "to the extent feasible."

Biodiversity

Liberia ratified the Convention on Biological Diversity (CBD) on 8 November 2000. CBD is therefore the framework for national legislation and policy concerning conservation and sustainable use of biodiversity and equitable sharing of its benefits. Key commitments under CBD are adherence to the principle of "no net loss" of biodiversity and a pledge "*to set aside at least 10% of the land area for Strict Protection and 30% of the land area for protection and multiple-use for partial protection*." The key formal GoL guidance for CBD implementation is Liberia's 2004 National Biodiversity Strategy and Action Plan, which predates REDD+ and therefore does not consider potential conservation outcomes. The GoL's 2014 report to CBD describes the REDD+ Readiness/FCPF process; again the potential for biodiversity gains (or losses) is not explored in detail.

EPML also makes over-arching provisions for the management and protection of biodiversity. Section 80 provides an outline framework for the Protection of Wild Animals and Birds and includes provisions for conservation areas.

The Forest Network Act 2003 committed to creating a biologically representative network covering at least 30 percent (some 1.5 million hectares) of the estimated forested areas that existed in Liberia at that time. Section 9 of the NFRL, supported by the National Forestry Policy, Strategy and Regulations, together with the Community Rights Laws 2009, which subsequently amended the regimes applicable to community forests, establish the framework for the network's establishment. In addition to national parks and nature reserves, this regime includes national forests, strict nature reserves, game reserves, controlled hunting areas, community forests, conservation corridors, and buffer zones, within some of which are prohibitions on activities, including extractive activities.

The Wildlife and National Parks Act 1988 covers policies, objectives, administration, and establishment of protected areas (as well as their management, including plans and prohibited acts); controls on hunting; and establishment of protected species. The Draft Hunting Regulations specify a list of fauna species that are totally protected (appended as Schedule I to the Act). Both of these instruments are, however, likely to replacement or modification assuming the draft National Wildlife Conservation and Protected Areas Management Bill is enacted (it was approved by the Lower House in late 2014 but is awaiting approval by the Upper House). Key elements of this draft act relevant to REDD+ include:

- Provisions within the framework of national legislation (including EPML and NFRL) for establishment of a Protected Area Network and Conservation Corridors (together covering at least 30 percent of the currently forested land) and for the wider management of wildlife inside and outside protected areas;[26]

[26] Various legal instruments and commitments have potential for different interpretations of proposals for the PAN that need clarification. For example: EPML includes corridors within PAN (possibly with a lower level of

- Provision for sustainable use of conservation areas for the benefits of people, including enhancing social and economic benefits derived from wildlife as a source of protein, and of revenue and employment;
- Promotion of participation of local people, private landowners, and voluntary associations in management of conservation areas and wildlife management inside and outside protected areas;
- Provision of incentives for sustainable conservation and wildlife management, including alternate livelihood opportunities for forest-dependent communities, particularly those affected by protected areas;
- Integration of sustainable use of natural resources into wider national strategic plans and programs; and
- Recognition of traditional areas, such as bush schools, sacred society bush, and ancestor homes.

Water and Soils

Until recently, there was no coordinated framework for water resources management in Liberia, largely attributable to fragmentation of roles and lack of coordination between different agencies with responsibilities in this sector. The Integrated Water Resource Policy (2007) aimed to address this need through setting national priorities and roles of government agencies, the private sector, communities, and individuals in relation to water resource management.

The policy focuses on domestic needs rather than ecosystems maintenance, although it does recognize the need for soil and water conservation practices on upland slopes under the "Guiding Principles." Under "Water Allocations Principles" a requirement for conservation of the environment is recognized. The policy does not address or establish frameworks for developing specifics safeguards, (for example, restriction of activities near water features such as riparian areas and wetlands). Consequently, there are no specific controls or water sector policies relating to the nature of development or activities allowed in, or in the vicinity of, such areas.

Similarly, there is no specific Liberian policy or legal instrument relating to sustainable management of soils and standards to be achieved when undertaking activities that may affect them.

Likewise, although the EPML establishes important principles with respect to safeguarding the quality of the freshwater environment and for management of soil quality, there are not yet any standards or guidance documents that provide quantitative or qualitative standards. That said, Section 74 – Management of Rivers, Lakes and Wetlands states that the EPA may prescribe general or specific guidelines for their management, and: "*a) Measures for the prevention or control of soil erosion; b) The conservation of any vegetation growing in and around a river, lake or wetlands;* [and] *c) The contingency plan for the prevention and control of any deliberate or accidental discharge which is likely to pollute the river, wetland or lake …*"

Liberia ratified the International Convention on Wetlands of International Importance (Ramsar Convention) with EPA as the Administrative Authority and has designated five such sites (see Appendix 5 of the Convention for locations). Although a draft mangrove management plan has been prepared for Lake Piso, lack of resources has limited development of plans for other sites. Despite Ramsar membership, Liberia has not yet developed a wetland inventory, and estimates that wetland condition overall is deteriorating according to a 2015 report to the convention.[27] In principle, EIA is required for developments affecting wetlands. The report also indicates "no" to the obligation that

protection), yet clause 5.2 implies corridors are outside the PAN; Section 5.2.1 of the EPML includes Community Forests in the PAN, yet the definitions imply that Community Forests are not in PAN, unlike Communal Forests. Terminology regarding Community Forests, Communal Forest, CFMAs, and conditions applicable to each are unclear, as are the conditions applicable to Conservation and Commercial CFMAs. In addition, definitions of the area to which the 30 percent protection applies for the PAN varies (i.e., all forests, highest-value forests, or the entire country [identified for partial protection with 10 percent for full protection under the commitment to the CBD]).

[27] http://www.ramsar.org/sites/default/files/documents/2014/national-reports/COP12/cop12_nr_liberia.pdf

"Do your country's water governance and management systems treat wetlands as natural water infrastructure integral to water resource management at the scale of river basins?"

In addition, NFRL (Section 8.3) requires forest license holders to identify and protect wetlands and areas with fragile soils on forest lands. As a signatory to the African Convention on the Conservation of Nature Natural Resources and Soils (1968), Liberia is subject to Article 4 regarding soils and water.

Box 4. Issues for SESA Evaluation Related to Conservation REDD+ Strategy Options

- Requirement for sustainable management of forests, which recognizes the range of conservation, commercial, and community benefits (including those from REDD+) derived from them.
- Promotion of measures that address degradation and bring about afforestation and reforestation and encourages private sector and local community roles in such activities.
- Ensuring "no net loss" of biodiversity.
- Promotion of planting of indigenous tree species.
- Enabling setting aside at least 10 percent of the land area for strict protection and 30 percent for partial protection (CBD), and 30 percent of the forest areas for protection (NFRL).
- Restriction on activities allowed within protected areas depending on category.
- Recognition of the presence of, and need to protect, certain landscapes and ecosystems, species, and their habitats even when they occur outside protected areas.
- Promotion of measures to prevent or control soil erosion including fragile soils and wetlands on forest lands.
- Conservation of vegetation in and around rivers, lakes, and wetlands (implementation of obligations under the Ramsar Convention).
- Promotion of forests as carbon stores and sinks.
- Achievement of sustainable yields in forest harvesting.
- Enabling sustainable use of areas of conservation importance for enhancing social and economic benefits derived from wildlife as a source of protein, revenue and employment and providing incentives for such management practices.
- Strengthening and improving alternative, sustainable livelihood opportunities to reduce rural dependence on forests and wildlife.
- Promotion of a framework through CRL and its improved implementation that enables communities to identify opportunities and management rules in relation to forest use and recognizes their ownership and access rights.
- Promotion of participation of the private sector, voluntary associations, and other parties in conservation and wildlife management.
- Protection of traditional areas such as sacred sites.
- Strengthening forest law enforcement and its integration into wider national strategic plans and legislation.

4.1.3 Policy and Legislation Applicable to Commercial Activities in Forests

Commercial Timber Extraction

The National Forest Management Strategy (GoL, 2007a) sets out allocations for different types of use. The NFRL, together with the Ten Core Regulations (GoL, 2007b) and the Public Procurement and Concessions Act (2005), provide the framework for commercial exploitation of forest resources as summarized in Table 4.1 below (reproduced from GoL, 2012d). In addition, the Community Rights Law with Respect to Forest Lands (GoL, 2009) and its implementing Regulations to the Community Rights Law with Respect to Forest Lands (2011) recognize and regulate community forests including commercial activities within them, including provisions for both timber and NTFPs and apply to both international and domestic markets.

The FDA Tender Award Regulation (104-07) within the Ten Core Regulations outlines requirements relating to award and management of commercial extraction through FMCs, TSCs, and Forest Use Permits (FUPs). TSCs, which involve conversion, are only awarded where land is unsuitable for FMCs, which are subject to sustainable management practices. The regulation also requires consultation with local communities and establishment of a Social Agreement with them as a condition of award of contract (Section 22).

The Tender Award Regulation (Sections 72 and 74) stipulates measures for avoidance of environmental impacts and for implementation of sustainable management practices while that on pre-felling operations (105-07) contains requirement regarding EIAs (Section 41) and Social Agreements, and disbursement of funds to communities. The Regulation on Benefit-sharing (106-07) establishes specific level of payment to be made for land rental to counties and local communities and procedures for allocating such payments. In particular it specifies that 30 percent of land rental fees should be paid to both the counties under a County Forestry Development Fund and to communities through a Community Development Trust Mechanism. Existence of this revenue-sharing mechanism is especially relevant to REDD+ as it could be applied to/modified for carbon credit payment sharing.

Regulation 107-7 outlines more generally the total fees and taxes payable by the concessionaire including those for lands rental, stumpage and forest products as well as reorient for disclosure.

Table 4.1: Types of Commercial Arrangements for Forest Exploitation Enabled under NFRL and Supported by the Core Regulations (GoL, 2012d)

Name	Key Features
Forest Management Contract (FMC)	• Section 5.3 of NFRL • Offered on state-owned land • 25-year term • Size variable from 50,000 ha–400,000 ha • Offered on areas intended to be retained as permanent forest cover (i.e., intended for sustainable forest management)
Timber Sales Contract (TSC)	• Section 5.4 of NFRL • Offered on state-owned land • Maximum 3-year term • Maximum 5,000 ha • Offered on areas of degraded forest/land for conversion
Forest Use Permit (FUP)	• Section 5.5 of NFRL • May apply to public or private land. Private land is subject to landowners' permission. • Not for commercial timber extraction. Activities permitted under a FUP are limited to: charcoal, tourism, research and education, harvesting of NTFPs, and timber extraction for local community use. • Variable size of permits if the area remains open to multiple users. For areas where an FUP will grant exclusive use of a particular resource to the permit holder, the size cannot exceed 1,000 ha. • Single permits may be issued to individuals through regulation, with longer duration or broader scope. • Only certain groups are eligible for FUPs.
Private Use Permit (PUP)	• Section 2.6 of NFRL • Permit for use on private land, requested by or with written permission from the landowner • Variable duration and size. These are intended to be stipulated under forthcoming PUP regulations. • Unlikely that PUPs will demand sustainable forest management, although this will be clarified in the regulation.
Chainsaw Permit	• Being established under a Chainsaw Regulation • System envisages renewable permits for chainsaw operators and for communities. A community (but not an individual) may hold more than one permit. A chainsaw milling permit will have a term up to 2 years. • The regulation states that chainsaw milling is only permitted on community forest or private land, and in forest that has been deemed not suitable for forest management. Each permit would cover an area up to 1,000 ha.

Name	Key Features
Community Forest Management Agreement (CFMA)	• Provided for under the CRL and established under the CRL Regulations • To be established on areas subject to community ownership, requiring the community to established management structures (Community Forestry Management Body) and develop a management plan • For areas over 5,000 ha, commercial activities are subject to the same requirements as FMCs or TSCs

The National Forest Management Strategy (GoL, 2007a) identifies a substantial area (24% of forest land) for "mixed agriculture and forestry" on "non-permanent" forest land, but does not provide clarification on how this should be implemented. The largest land allocation (48%) in the strategy is for "long term multiple sustainable use" comprising land identified as suitable for commercial, conservation, and community use. However, these proportions from the strategy need updating based upon developments since and the new REDD+ Readiness forest cover data. These limitations also apply to the following estimates provided by FDA:

- Existing FMCs cover 10.5 percent of the country while a further 7.4 percent of the country is proposed for such uses. Together, these encompass some 45 percent of dense forests of Liberia.
- A total of 3 percent of the country (comprising 6% of the dense forest) is currently under TSCs, with further area (number, areas, and locations have been requested by the SESA team) also proposed for such uses.
- Nine CFMAs are currently designated. A further 120 proposals for formation of CFMAs have been made.

A moratorium on PUPs was put in place in 2012 (Executive Order 44), recognizing that the logging was in practice executed by commercial companies (in effect, as FMCs) rather than for individual owners to meet their personal needs as intended. Between 2009 and 2011, more than 60 PUPs were issued covering more than 2 million hectares of forestland. A report by a Presidential Special Independent Investigative Panel revealed that the PUP issuing process was characterized by abuses and violations of NFRL. The moratorium on PUPs was issued through in January 2013. The intent of the moratorium was to halt logging under existing PUP and to stop issuing of any additional permits until actions were taken to remedy the situation. These actions included, but were not limited to: criminal prosecutions, review of the relevant legal and regulatory framework, validation of deeds, audit of the FDA, and public sensitization. Since that time, significant work has been undertaken to address these issues. There have been prosecutions of officials involved in the PUP process, and outreach and awareness campaigns were initiated, and reviews of the regulatory framework have begun. The review of legislation revealed the need for specify the standard qualifications for PUP holders through promulgation of Regulation (NFRL §5.2iii). A draft regulation was prepared in August 2015 but has not been submitted to the FDA Board for approval. The Voluntary Partnership Agreement Support Unit (VPA-SU) is assisting in the regulatory development process at FDA.

Section 46 of FDA Regulation 107-07 on Certain Forest Fees makes provision for Saw Mill Permits. The Chain Saw Milling Regulation (2012) allows for chainsaw logging in areas up to 1000 ha in community forests or privately deeded land that and is identified by FDA as suitable for commercial use in keeping with Section 4.4 of NFRL; validated by the FDA pursuant to Section 4.5 of NFRL and where consent has been received from the community or owner as relevant. The regulation places specific condition on such activities including compliance with the Code of Forest Harvesting Practices for Chain Sawing Operation payment of stumpage fees and prohibition of export, and makes provision for a chain of custody. It further requires 30 percent of all stumpage fees collected to be distributed to affected communities through the National Community Benefit-sharing Trust mechanism established by FDA Regulation 106 -07 on Benefit-sharing. Chainsaw activities are also restricted within 30m of a watercourse.

NTFP and Charcoal

FDA Regulation No. 111-08 on the Commercial and Sustainable Extraction of NTFP regulates the commercial use of NTFPs. The regulation covers management and commercialization, permits,

allowable export, processing, and taxes and fees. Plant-based NTFPs are classified as fiber, food, medicinal herbs, construction material, and fuelwood. Very small quantities are exempted from fees and taxes. However, key informants indicated that in practice this regulation is rarely enforced.

Hunting is controlled and regulated under the Wildlife and National Parks Act (1998), Regulation 25, which includes limitations on areas, seasons, and methods. The Act also specifies a list of fauna that are totally protected (Schedule 1). This Act is updated by the Hunting Regulations, which are likely to be superseded by the draft Wildlife Conservation and Protected Areas Management Act (Section 6.3.3) that addresses hunting of wild animals and includes provision for licenses and exemption for persons hunting for both subsistence and commercial purposes, and anticipates creation of regulations relating to such activities. The draft act also prohibits the hunting of protected species.

Non-Forestry Activities Resulting in Forest Conversion

Other than TSCs, which allow for forest conversion on areas up to 5,000 ha, activities involving forest conversion (e.g., for commercial agriculture or mining) are subject to their own agreements with the GoL. In practice, this seems not to require compliance with NFRL.

Liberia currently has no laws that specifically govern how agricultural companies are awarded contracts or regulate their activities. Rather, companies are legally obligated to follow the terms of concessions that are negotiated with the government. Such contracts are normally overseen by the Ministry of Internal Affairs, with participation from the Ministry of Agriculture. Such concessions generally allow companies to develop up to defined proportion (typically around 70 percent of their gross concession area), with additional land allocated in the case of palm oil concessions for oil palm production by out-growers. Concession agreement typically require Community Development Funds for the benefit of affected communities. In the case of GVL, an Oil Development Fund was established. Mechanisms for benefit-sharing are more case-specific and less well defined and regulated in other sectors than for the forestry sector.

The two main oil palm companies, GVL and Sime Darby, have voluntarily committed to the international RSPO rules. Sime Darby Plantation is also a signatory to the Sustainable Palm Oil Manifesto. These rules require protection of HCV and HCS forest, meaning that much of the plantable area defined in concession agreements should be set aside conservation areas. Such commitment also requires concessionaires to respect customary property rights of communities and to ensure that plantations are not developed on such land without FPIC of affected communities.

The current gross concession areas known to be allocated for agriculture is more than 10 percent the country. The lack of legal framework similar to that for forestry concessions for agricultural concessions has been criticized by the international community and Liberian civil society. For example, Global Witness (2015) reports intimidation of communities, inadequate provision of information, land conversions without FPIC, and failure to compensate for losses related to GVL plantations where an estimated 41,000 people are affected. These complaints were, however, rejected by the RSPO.

Carbon Credits

As with most countries, Liberia currently has no legal framework for accounting or trade in carbon credits. As was noted in the Forest Strategy SEA in 2007, and is still applicable today, “there are still several challenges that need to be addressed before REDD strategies are put in place.” This include minimizing intersectoral conflicts, particularly from mining and agriculture, building the necessary capacity for forest inventory and systemic monitoring of carbon stocks, and determining the potential economic revenue from carbon credits and emission reductions and viable synergies between these and other forest land uses.

4.1.4 Policy and Legislation Applicable to Community Uses of Forests

In terms of land rights, land tenure historically comprised a combination of customary orally established property rights, on which there was community consensus, and legal documentation. As the case studies illustrate, some individuals in community lands have recently sought to acquire individual land deeds. However, the case studies more generally show that customary allocation of

farm land (for shifting cultivation) by community leaders, while varying in process between communities, largely remains in effect. Nevertheless, reduced land availability and gradual weakening of traditional practices is a challenge.

Absence of a verifiable land register, loss of many records during civil conflicts, and prevalence of transactions without reference to existing documents has led to confusion and conflict over land tenure and forest resource access and use. In addition, unregistered and untitled land was previously considered as public land, further contributing to the insecurity experienced by people with claims to private and customary land rights. This situation has weakened ability to undertake effective land management including commercial and conservation based forest management.

The Liberia Land Commission Act (2008) established the Land Commission in 2009 to address uncertainty over customary land rights through proposing, advocating and coordinating reforms of land policy, laws and programs. The Land Commission has since been disbanded and an interim entity put in place as a stopgap measure while the legislature considers a bill to create a longstanding Land Administration entity that would assumedly, assume land administration responsibilities that are currently spread across several ministries.

The Land Rights Policy (2013) sets out recommendations for land rights of four basic types: public lands (managed in the public interest), government land, a new category of land owned by a community and managed in accordance with customary practices, and with equal protection as private land; and private lands (land owned by an individual or private entity). The policy also recommends a new formal category of community land to strengthen governance arrangements. Land Commission research indicates that up to 30 percent of Liberian land area may qualify as community land while recent requests for parties holding forest deeds to submit their documentation for verification indicated that this may cover a high percentage of forested areas, although most claims remain to be authenticated. Significant amounts of such land may overlap PAs (or PPAs), in which case the Land Policy suggests an additional category of Customary Protected Area. A draft of the Land Rights Act (Land Rights Bill) currently before the legislature significantly lessens land available for classification as community customary land by providing that all proposed Protected Areas are categorized as government land. If passed, this provision will significantly limit any Customary Protected Area category since the proposed PAN covers approximately 30 percent of the forest estate. The draft legislation does not provide for compensation to communities if land is taken for GoL Protected Areas. Community land claims also likely overlap commercial concessions, which raises further challenges relating to the requirement that FMCs and TSCs are allocated on public land.

The National Forest Policy has two key aims: to achieve governance reform and policy alleviation. In relation to community rights, it includes several objectives relevant to the REDD+ SESA (no date):

- To ensure that commercial forestry, community forestry, and forest conservation activities are integrated and balanced to optimize economic, social, and environmental benefits from the forest resource.
- To contribute to national development goals of poverty alleviation and increased food security by increasing opportunities for forest-based income-generating activities.
- To grant more equitable access to forest resources so that the potential for future conflict is reduced and benefits from forestry development are shared.
- To ensure all stakeholders participate in formulation of forestry policies and in conservation and management of the forest resource.
- To maximize the contribution of the sector to income, employment, and trade
- As identified above under “Commercial Timber Extraction,” the various FDA regulations include provisions relating to community rights and interests including:
  - Consultation with local communities and establishment of a Social Agreement with them as a condition of award of contract (Regulation on Tender Award and Administration 104-07)

- Social Agreements and disbursement of funds to communities. (Pre-Felling Operations 105-07)
- Payment to be made for land rental to counties and local communities (Section 41 in Regulation on Benefit-sharing 106-07)

4.1.5 Other Sectors Resulting in Loss of Forests or Reduced Community Access to Them

As identified above the regulatory framework relating to community rights to forest lands subject to agricultural and mining concessions, is less developed than that which has been developed for forestry and influenced rather by concession-specific arrangements, as well as international frameworks such as the RSPO. Concession agreements may (and often do) include provisions that exempt concessionaires from compliance with legislation or regulations that are instituted after the concession agreement has been passed (see for example, Article 31 of GVL concession agreement, and Section 9 of the AML Mineral Development Agreement).

4.1.6 Potential Gaps in National Policy and Legislation and their Implementation

A determination of the policy and legal framework required for implementation of REDD+ activities in Liberia, and identification of the need to enhance current frameworks to deliver this, is in the realm of the REDD+ strategy team. An initial indication of potential gaps or challenges in applying current legislation relevant to the management of environmental and social performance of REDD+, including those identified in earlier forest sector and REDD+ studies (World Bank, 2010; GoL, 2012b and 2012d; USAID, 2014b) as well as the inception report for Strategy team (LTS, 2015b) and the REDD+ Policy, Legal, and Institutional Framework Draft Report (LTS, 2016d) identifies the following:

- Absence of national policy, legislation, and supporting regulations governing carbon rights, for example, to provide systems required for carbon accounting at the level required for REDD+, such as forest inventories, and forest monitoring systems.
- Lack of effective regulatory frameworks for commercial forestry, including uncertainty over applicability of the existing regulatory framework to the concession allocation process and the fiscal regime for various concessions.
- Lack of implementing legislation and guidance for the Land Rights Policy, including mechanisms to address rights of individuals and communities to use and own forests and to deal with emerging claims, including within existing concessions and protected areas.
- Conflicts among provisions in legislation both within and outside the forestry sector, for example between the CRL and the CRL Regulations (with respect to stumpage) and NFRL, and between CRL and the Public Procurement and Concessions Act (with respect to competitive bidding, community revenue entitlement, etc.). There are also potential inconsistencies relating to protected areas within various legislative instruments as discussed earlier in this report.
- Lack of inter-sectoral coordination and integration of legislation and procedures in relation to forest land use planning at a national level with the 3 Cs operating in parallel systems within FDA (overlaps of land allocation) as well as granting of overlapping concessions by different ministries (see discussion in Section 3.2.2 above). A specific coordination mechanism are needed:
  - between the EPA, FDA and Ministry of Agriculture to promote shared policy goals and develop integrated approaches to achieving them is critical for this and would have to include meaningful participation of communities or their legitimate representatives;
  - FDA and the Ministry of Lands, Mines and Energy to coordinate efforts to align policies, incentives and create enforceable regulations related to development of alternative energies (with Rural Renewable Energy Agency) and mining policies (Mining Department).
- Regulations to manage charcoal and chainsaw logging are inadequate and unimplementable.

- EIA requirements must include identification of "direct, indirect, cumulative, short-term and long-term effects on both the natural and built environments" and measures for avoiding, mitigating, minimizing and monitoring such impacts (EPML, §14(1)) but does not define how to include a comprehensive assessment of the secondary and cumulative impacts of proposed road construction on natural forests (LTS, 2016d).
- Overlapping tenure claims where one of the claimants is a customary user.
- EPML implementing Regulations, and standards and controls, including those that could apply to REDD+ interventions, are still largely lacking.

4.2 INSTITUTIONAL CAPACITY

4.2.1 Enforcement

The FDA has a significant mandate to enforce forestry and environmental laws and regulations and has a dedicated Law Enforcement Unit which should be responsible for enforcement throughout the country. However, in practice, field staff, with extremely limited logistical support, are currently relied upon to monitor and enforce laws and regulations of which they are not familiar. As a result, enforcement of laws and regulations is extremely limited (LTS, 2016d).

4.3 POTENTIAL WB SAFEGUARDS

4.3.1 World Bank Environmental and Social Safeguards

The World Bank Environmental and Social Safeguards are used by projects funded by the World Bank. World Bank Safeguard Policy OP4.01, which provides guidance on the environmental assessment procedures for WB-funded projects, will also provide guidance in the implementation of the REDD+ Strategy. Relevant World Bank safeguards are summarized in Table 4.2.

Table 4.2: Relevant World Bank Safeguard Policies

World Bank Safeguard Policy	Brief Description	Potentially Reason for Trigger
OP4.01: Environmental Assessment	Under this policy, an initial screening determines the type of EA that will be triggered. An EA considers the natural environment (air, water, and land); human health and safety; social aspects (involuntary resettlement, indigenous peoples, and physical cultural resources); and transboundary and global environmental aspects. Type A projects are likely to have significant impacts and will require an ESIA. Type B projects have potential impacts, but are less significant, site specific, and usually reversible. These types of projects do not normally require an ESIA but do require environmental analysis and some form of an environmental management plan. Type C have no or minimal impact and will usually not require any additional safeguard practices.	All of the strategies involve creation of new development, or influence the management of existing/proposed "on the ground" development (e.g., proposals to create, or modify forest areas). Depending on their nature, scale, and local environment, such developments result in potentially significant environmental or social impacts or changes (positive and negative) that would otherwise not arise.
OP4.04: Natural Habitats	This policy is triggered by any project (sub-project) with the potential to cause significant conversion (loss) or degradation of any Critical Natural Habitats (protected or unprotected ecologically valuable habitats), either directly through construction or indirectly through human activities induced by the project.	Much of Liberia (outside urban areas, transport corridor, areas with large-scale agriculture, and other plantations) likely qualifies as natural habitat, including areas of human disturbance such as shifting agriculture and FMCs, if species composition remains largely native. A large part of this natural habitat (including land both within and outside of existing and proposed protected areas) may also qualify as critical natural habitat. All of the proposed strategies could potentially trigger this safeguard policy.
OP4.09: Pest Management	This policy requires safe, effective, and environmentally sound pest management.	Under Priority Strategy 1, permanent agriculture and reforestation activities may be introduced. Activities associated with implementation of these strategy options could involve the use of agricultural inputs that would trigger this policy.
OP4.11: Physical Cultural Resources	This policy requires countries to avoid or mitigate adverse impacts on physical cultural resources which include movable or immovable objects, archaeological and historical sites, historic urban areas, sacred sites, grave yards, burial sites, structures, paleontological, historical, architectural, religious, aesthetic, or others that have unique natural, social and cultural significance.	While unlikely to be triggered by the REDD+ strategy, cultural resources may nonetheless be relevant to the ESMF, owing to the potential for cultural features to be affected at project level. This factor is relevant for projects that require conversion of land or involve changes in management regimes or access to land as under Priority Strategies 1-4. These cultural resources may include sacred sites within forests which may be difficult to identify through an EA process due to the secret nature of sacred societies in Liberia.
OP4.12: Involuntary Resettlement	This policy aims to avoid or minimize involuntary resettlement where feasible, exploring all viable alternative project designs; assist displaced persons in improving their former living standards, income earning capacity, and production level, or at least in restoring them; encourage	While it is anticipated that the REDD+ strategies will not involve options that take land, shelter or assets from local communities various components may influence (positively or negatively) people's access to such resources for example through proposals for management of

World Bank Safeguard Policy	Brief Description	Potentially Reason for Trigger
	community participation in planning and implementing resettlement; and provide assistance to affected people regardless of the legality of land tenure. The policy covers any loss of land or other assets resulting in relocation or loss of shelter; loss of assets or access to assets; loss of income sources or means of livelihood whether or not the affected people must move to another location. When the policy is triggered, a Resettlement Action Plan must be prepared.	protected areas, or concessions. However, that has not been clarified in the strategy document. Even if this is clarified, reduced access may affect livelihoods of certain people (e.g., farmers, hunters, harvester of NTFPs, etc.) using natural resources in and around the proposed REDD+ intervention site. Therefore, this safeguard could be triggered by implementation Priority Strategy 3.
OP4.36: Forests	This policy aims to reduce deforestation, enhance the environmental contribution of forested areas, promote forestation, reduce poverty, and encourage economic development. The policy applies to projects: i) that have or may have impacts on the health and quality of forests; ii) that affect the rights and welfare of people and their level of dependence upon or interaction with forests; iii) that aim to bring about changes in the management, protection, or utilization of natural forests or plantations under public, private, or communally ownership. EA tools include: environmental assessments, poverty assessments, social analyses, Public Expenditure Reviews, and other economic and sector analyses.	All REDD+ Priority Strategies will likely qualify under at least one of the three areas of OP 4.36. In particular, widespread poverty in Liberia and livelihoods and wellbeing are closely linked (directly or indirectly) to forests, with those in rural areas having few sustainable alternatives and being specifically vulnerable to forest-based interventions.

5.0 PRESENTATION AND ASSESSMENT OF PRIORITY 1

5.1 PRIORITY 1 STRATEGY OPTIONS

Priority 1 focuses on strategic options to reduce the drivers of deforestation that emanate from communities use of forests and related resources. In recognition that these communities are dependent on the forest for their livelihood activities and that deforestation activities are primarily driven by a lack of sustainable alternatives, the strategic options attempt to provide alternatives and increase the productive use of forest and forest land resources. The five SOs to support this priority are:

1.1 Reduce impact of chainsaw logging through better regulation, improved efficiency and developing alternatives;

1.2 Reduce impact of charcoal industry on forest through better regulation, improved efficiency and the development of alternative energy sources;

1.3 Reduce expansion of shifting agriculture in forest areas by promoting permanent food cash crops in non-forest areas and through conservation agriculture;

1.4 Locate services and new infrastructure development beyond a 3km buffer from areas of dense forest and PAs (including PPAs); and

1.5 Integrate hunting, artisanal mining, and forest restoration into community-led livelihood and sustainable forest management practices.

A brief description of the interventions associated with these SOs and the geographic focus for implementation thereof is summarized in the Intervention Plan from the REDD+ Strategy and presented in Table 5.1 below while comments and assumptions regarding these interventions are described below.

Table 5.1: Priority 1 Strategy Options

	1. Reduce forest loss from chainsaw logging, charcoal production, and shifting agriculture				
Strategy Options	1.1 Reduce impact of chainsaw logging on forest through better regulation, improved efficiency and developing alternatives.	1.2 Reduce impact of charcoal industry on forest through better regulation, improved efficiency and the development of alternatives energy sources.	1.3 Reduce expansion of shifting agriculture in forest areas by promoting permanent food & cash crops in non-forest areas & through conservation agriculture.	1.4 Locate services and new infrastructure development beyond a 3km buffer from areas of dense forest and Protected Areas (including PPAs).	1.5 Integrate hunting, artisanal mining & forest restoration into community-led livelihood & sustainable forest management practices.
Interventions	Study of domestic timber industry (LFSP s-c 2.3, VPA-SU conducted by FAO for FDA) Revision of Regulation # 115-11, Chainsaw milling (VPA-SU) Develop Emissions Reference Level (ERL) for domestic timber (LFSP/Monitoring, Research and Verification (MRV) Road map) Regulate and eventually include chainsaw logging under the timber legality assurance system (VPA-SU activity 10)	Study of charcoal industry (LFSP Subcomponent 2.3) Develop ERL for charcoal industry (MRV/LFSP] Charcoal production regulation - pending 2016-17 (VPA-SU). Development of national energy policy with mitigation activities in INDC including: • Promoting private investment in renewable energy (hydro, biomass and solar, etc.). • Rehabilitate existing hydro-power plants and build new hydro-power plants. • Produce and distribute 280,543 energy saving cook stoves that use fuel wood and 308,004 energy saving cook stoves that use charcoal by 2030. • Implement large scale biomass projects to generate about 30 MW by 2030.	Strengthened Capacity for Sustainable Agriculture (LFSP Subcomponent 2.4. US$4 million). This will promote sustainable agricultural practices and reduce slash-and-burn agriculture in the targeted landscapes (building on WB-MoA projects Small Holder Tree Crop Revitalization Support Project (STCRSP) and West Africa Agricultural Productivity Program (WAAPP) in Grand Gedeh, River Gee, and Bomi counties). Development of national agriculture policy with adaptation activities in INDC including: • Intercropping, irrigation and the optimization of lowland/swamp farming. • Develop climate resilient crop/agroforestry diversification and livestock production systems.	Improved Land Use Planning (LFSP Subcomponent 2.1) will support the preparation of the current land use map at the sub-national (for the targeted landscapes) and national levels.	Recognition of "Authorized Forest Communities" (LFSP) LFSP subcomponents 1.1and 2.3 addressing Sustainable livelihoods. LFSP subcomponent 2.2: strengthened management of protected areas in targeted forest landscapes.

	1. Reduce forest loss from chainsaw logging, charcoal production, and shifting agriculture
Cross-cutting Interventions	• Estimate activity data and develop Forest Emissions Reference Level (FERL) for forest degradation/deforestation/conservation/restoration practices: charcoal, chainsaw logging, shifting agriculture (LFSP and MRV 2.4, 2.5) • Strengthen local institutions for forest management: (LFSP *Subcomponent 2.3. Community Forestry in Targeted Forest Landscapes (US$10.5 million).* Under this subcomponent, the project will support activities on a demand-driven basis to assist forest communities in (a) strengthening community governance and institutions to manage community forestlands and common pool resources (in accordance with the CRL and the Land Rights Policy); (b) promoting and supporting productive natural resources management investments based on an integrated 3Cs approach at the level of community lands, of which forest will be a significant land use component; and (c) improving livelihoods by creating job opportunities and improving income from the use of communities' customary land and forest resources. • Support to community forestry, sustainable forest management in community forests and improving livelihoods (NGO Working Together document, Activity 4. Community Action for Conservation). • Revision of existing guidelines for forestry plantations (VPA-SU p. 42).
Targeting	The Geographical scale for intervention is the targeted landscapes of the LFSP, plus the sites of REDD+ relevant projects located outside of these: The Arcelor Mittal Biodiversity Offset Nimba Landscape; Wonegizi and Gola. Target beneficiaries of LFSP are Up to 70 communities supported to conduct a Socioeconomic Profile Reconnaissance Survey. Up to 40 Community Action Plans, Community Land Use Plans and up to 40 community training exchanges. Up to 40 communities supported on timber and non-forest timber products certification (p. 61).

5.1.1 Strategy Option 1.1: Reduce Impact of Chainsaw Logging on Forest through Better Regulation, Improved Efficiency, and Developing Alternatives

General Comments

Strategy Option 1.1 aims to reduce deforestation through a three-pronged approach that involves better regulation; improved efficiency; and the development of sustainable alternatives.

Regulation. There is currently a regulatory framework in place to govern chainsaw logging in Liberia. The regulation requires inventories and planning by the FDA, and limits chainsaw logging to private lands and community forests. If properly implemented, the regulation would provide considerable oversight and limit chainsaw logging in Liberia's forests. However, the regulation is not currently implemented, and the FDA has limited capacity for enforcement thereof. Finally, it is not clear what regulatory reforms are proposed to strengthen this regulation.

Improved Efficiency. Chainsaw logging is incredibly inefficient means to process timber with recovery rates estimated at between 20 and 50 percent. Training may improve the recovery rates to the higher end of this scale, but it may be more efficient to invest in alternatives.

Revenue Generation. The fees charged on sawn timber, regardless of species or dimension, are currently set at US$0.60 per plank.

Development of Sustainable Alternatives. Sustainable alternatives include the development of value-added industry that would help to meet the demand for sawn timber that is currently met primarily through chainsaw logging. Currently FMCs include provisions that require value-added industry development but these have not been enforced and concessionaires claim that compliance would undermine their profitability.

Assumptions

It is assumed that the three-pronged approach will have limited impact in the short-term. Regulatory reform will have little impact on the sector until FDA develops the capacity to enforce the existing (and reformed) regulation; improving efficiency through training will have limited impact on the chainsaw logging efficiency overall, and will require intensive training that is currently not available; finally, the alternatives that are needed to address the demand side will take time and investment to develop. Further, enforcement of FMCs will have limited impact. In the medium-term, the development of alternatives has the highest likelihood of success but will require significant investment, and training.

5.1.2 Strategy Option 1.2: Reduce Impact of Charcoal Industry on Forest through Better Regulation, Improved Efficiency, and the Development of Alternative Energy Sources

General Comments

Strategy Option 1.2 aims to reduce deforestation through a three-pronged approach that involves better regulation; improved efficiency; and the development of energy alternatives.

Regulation. There is a draft charcoal regulation that requires approval from the FDA Board. However, prior to finalization, FAO is funding a study to better understand the scope of charcoal use within the country. This study will inform the finalization of the regulation. Assumedly, the regulation will provide greater oversight and efficiency within the sector. However, given the weak technical and logistical capacity of the FDA, it is likely that the FDA will require considerable support to implement and enforce the regulation. Importantly, it should be noted that charcoal distribution networks are well organized and provide significant income to those in the middle- and top-end of the charcoal value chain. It is not clear how easy it will be to disrupt the charcoal value chain.

Improved Efficiency. Charcoaling contributes considerably to greenhouse gas emissions and kilns are generally not efficiently constructed, nor are the charcoal braziers. Training in better techniques

may address this, as will the development and distribution of stoves. However, scaling up of these efforts will be necessary to provide significant impact.

Development of Alternatives. Most of the urban population is dependent on charcoal for their fuel. Alternatives will need significant investment and time before they come on line. Further, it has been estimated that average income rates would have to increase more than five-fold in order for electricity to become a viable alternative for urban dwellers (Jones, 2015).

Assumptions

It is assumed that the three-pronged approach will have limited impact in the short-term primarily because the charcoal market is demand driven, the development of alternative energy sources will take time, and the use and adoption of these alternatives will require increases in income. Similarly to chainsaw logging, regulatory reform will have limited impact on the sector until FDA develops the capacity to enforce anticipated regulation. The greatest impact will likely come from improving efficiency through training, though an effective strategy to scale up these efforts will need to be articulated.

5.1.3 Strategy Option 1.3: Reduce Expansion of Shifting Agriculture in Forest Areas by Promoting Permanent Food and Cash Crops in Non-forest Areas and through Conservation Agriculture

General Comments

Strategy Option 1.3 aims to reduce shifting agriculture through a three-pronged approach that involves the development of permanent food crops; development of cash crops; and through conservation agriculture.

Development of Permanent Food Crops. The majority of Liberian farmers are engaged in shifting cultivation and there remains significant need to understand the challenges around the development of permanent food crops. What is known is that the majority of farmers do not have experience in permanent agriculture systems. Additional obstacles to the development of permanent agriculture are manifold and include limited availability of soils that will support permanent agriculture; limited availability of agricultural inputs (seeds, fertilizers, pesticides, equipment, etc.); cost of inputs which is prohibitively expensive to most farmers; poor infrastructure which provides significant challenges to distribution of inputs; and lack of technical expertise to support permanent agriculture development. Areas around existing infrastructure and markets have greater potential to successfully overcome these obstacles and are the most likely candidates for targeted efforts.

Development of Cash Crops. The same challenges outlined above for permanent food crops also present challenges to the development of cash crops. In addition, poor infrastructure limits access to large portions of the country, particularly at the end of the farming season when rains have made the majority of Liberia's roads impassable (only 25% of Liberia's roads are considered all-weather roads). Also, it is important to note that the seed sources for cash crops (particularly tree crops) are not currently available and are prohibitively expensive.

Conservation Agriculture. Conservation agriculture has the potential to increase the sustainability and productivity of agriculture through the conservation of soils. Conservation agriculture promotes a no-till approach (already practiced in Liberia) coupled with the introduction of natural fertilizers to develop and maintain the top soil level; and crop rotation which allows soils to regenerate while providing protection against insect invasions. It should be noted that there is limited experience in conservation agriculture in Liberia.

Assumptions

It is assumed that this approach will have limited impact in the short-term since it will be extremely difficult to scale up activities throughout the country to the majority of farmers. Further, the most success is likely to be achieved in areas where there is greater access to infrastructure and markets which are also the areas that are furthest away from forests threatened by shifting cultivation.

Training of experts to support these activities will also take years to develop at scale. Infrastructure will continue to be a challenge in the short term for the economic viability of cash crops, while also presenting challenges to the distribution of inputs. Introduction of new techniques will face cultural challenges to its adoption, and could adversely affect the work load of women.

5.1.4 Strategy Option 1.4: Locate Services and New Infrastructure Development Beyond a 3km Buffer from Areas of Dense Forest and Protected Areas (Including Proposed PAs)

General Comments

Strategy Option 1.4 addresses the assumption that shifting cultivation is facilitated by the access provided by the development of infrastructure and so limits infrastructure development from dense forest areas and PAs and PPAs. However, this strategy option does not address the development of infrastructure used to access resources in concessions since these are contracted rights that cannot easily be terminated. Further, this strategy option does not directly address the need to develop infrastructure to facilitate the development of alternatives to shifting cultivation.

Assumptions

Given the financial limitation of the GoL budget, and the remote location of most dense forests and Protected Areas, it is assumed that most of these areas are not prioritized for infrastructure. As a result, it is assumed that this option will have limited to no impact.

5.1.5 Strategy Option 1.5: Integrate Hunting, Artisanal Mining, and Forest Restoration into Community-led Livelihood and Sustainable Forest Management Practices

General Comments

Strategy Option 1.5 aims to integrate the hunting, mining, and forest restoration into forest management practices, assumedly through the development of forest management plans that include the sustainable management of these activities.

Hunting. Hunting is related to the conservation aspect of REDD+. However, rural Liberians rely on the hunting (and trapping) of bushmeat as their main protein source. Adequate research has not been conducted to determine whether local consumption of bushmeat is sustainable, but studies suggest that the urban demand is a major driver of commercial, and larger-scale hunting. While education and awareness at the community level, along with management may reduce the hunting of endangered and protected species, the strategy does not address the urban demand driver.

Artisanal mining. It is not clear how extensive artisanal mining activities are in dense forests of Liberia or the impact that they are having on biodiversity, or deforestation. However, many unskilled workers depend on mining and hunting for their livelihoods. In recognition of this and in an attempt to better regulate the sector, the Ministry of Lands Mines and Energy has been conducting studies of artisanal and small-scale mining (ASM) to identify barriers to legal artisanal mining and opportunities for stimulating the sector. In support of the mineral policy the Ministry of Lands, Mines, and Energy (MLME) is looking toward several measures that include adoption of new licensing procedures that are supportive of rural artisanal poor artisanal miners, capacity building for artisanal miners and the organization and development of mining communities for sustainable growth of the sector, mobilizing private sector investment and tracking and monitoring of all ASM licensees' activities. If successful, ASM may have potential for poverty alleviation by generating rural employment and income that can reduce migration from rural to urban areas. Further, the Mineral Policy of March 2010 promotes an integrated approach that considers ASM within rural development planning processes.

Additionally, LEITI has recently completed a Scoping Study of the Mining Sector in Liberia. The study, amongst other things assessed the artisanal and small-scale mining (metalliferous minerals: gold, diamond) and quarry operations (granite and sand) in order to consider the possibilities of including all payments and revenue from the sector into the Extractive Industries Transparency Initiative reporting process in Liberia. The study reviews the scope of ASM including the licensing

procedures and needs of support for compliance in the sector, key players, locations of their operations and opportunities for including them under the LEITI reporting system.

Mining and Bushmeat. Artisanal mining activities attract influx of migrants and local people, including traders in mining settlements where the establishment of settlements and the related population growth creates additional demand for commercial and subsistence-level bushmeat which provides opportunity for local and migrant hunters.

Afforestation/Reforestation. There are limited afforestation efforts in Liberia at the community level, and it is not clear if these activities would be linked to chainsaw logging and charcoal activities. Further, planted trees are owned by those that plant them, which raises issues related to benefit-sharing.

That said, the National Forest Policy and Implementation Strategy of 2006 specifically addresses reforestation and forest plantation development with three major activities earmarked as follows:

1. Development of a national reforestation program inclusive of realistic annual targets for planting and agroforestry (5.2.1);
2. Development of mechanisms and incentives to encourage private sector and community involvement in reforestation activities (5.2.2); and
3. Promotion of tree planting in greenbelts within and around urban areas (5.2.3).

The NFRL includes a requirement to prepare a comprehensive reforestation policy and afforestation strategy but this has not yet been finalized.

Since 1971, a total of 9,741 hectares of forest plantion was planted across the country in various parts including Bomi; Tappita and Yekepa, Nimba; Cavalla, Grand Gedeh; Glaro, River Gee; Lecto, Grand Bassa and LTPC, Sinoe. Between 2001-2002 a total of 279 ha was planted by the FDA and Oriental Timber Company in Bassa-Rivercess. Between 1986-2000 the FDA conducted an afforestation project of 1,075 ha in Foya, Lofa County, which is recently being revitalized (International Tropical Timber Organization, 2008). Today the fate of most of these plantations remain in limbo due to inadequate financing and management. Further development faces challenges arising from the limited technical and scientific knowledge and resources required available to implement community-based afforestation and agroforestry schemes.

Finally, it should be noted that Liberia is part of an initiative supported by 10 African countries known as the African Forest Landscape Restoration Initiative. This pan-African, country-led effort has set a target to restore 100 million ha (386,000 miles^2) of degraded and deforested landscapes across Africa by 2030, with Liberia committing to reforestation of 1 million ha of degraded landscapes across the country. This initiative aims to increase vegetation cover to improve ecosystem services in degraded areas, increase rural income, and improve biodiversity richness. The AFR100 brings together, for the first time, political leadership with an ambitious package of financial and technical resources to support a large-scale forest landscape restoration effort across the continent. Nine financial partners and 10 technical assistance providers have pledged support, led by the New Partnership for Africa's Development Agency, Germany's Federal Ministry for Economic Cooperation and Development, and WRI (WRI, 2013).

Assumptions

Regulation of hunting and mining presents formidable challenges due to the remote location where these activities are undertaken and the limited capacity and resources to monitor and enforce them. Until such capacity is available, a community-based approach to the regulation of both activities is likely to be the most effective since communities are better able to monitor activities in their forests, and provide oversight. The FDA and the MLME would need to work with these communities to issue permits and to provide oversight, however, and this will require investments and time commitments to develop such systems. In addition, it must be recognized that artisanal mining and hunting activities will continue if viable livelihood options are not available to provide incentives to limit engagement in these activities.

5.2 PRIORITY 1 STRATEGIC OPTION IMPACTS

Below, each of the Priority 1 SOs is assessed against the SESA Outcomes identified as part of the SESA process and presented above in Section 3.0. For each SO, the impact is discussed and summarized in Table 5.2. The assessment informed the formulation of recommendations (comprises strategy adjustments, legal and institutional measures, and mitigation measures) to improve the environmental and social performance of the REDD+ Strategy and are listed in Table 5.2.

Priority 1 options will have a number of both positive and negative impacts which are summarized in Table 5.3 below. Some of these impacts will depend on how the strategic option is implemented (i.e., whether the outcomes are considered in program or policy design) and/or whether it may realistically be implemented. For example, SO that are heavily dependent on developing capacity or enforcing regulations may not be realized unless these issues are addressed.

5.2.1 Microeconomic Impacts

Livelihoods (Outcomes 1–3)

Outcome 1: Dependency on Shifting Cultivation Reduced. The capacity to enforce regulations related to chainsaw logging (SO1.1), charcoaling (SO1.2), hunting (SO1.5) and mining (SO1.5) is extremely limited. However, if implemented, these could actually increase the incidence of shifting cultivation if sustainable alternatives are not provided. Similarly, SO1.3 will only have an impact if viable, sustainable alternatives[28] are available.

It is unlikely that limiting infrastructure development to areas more than 5 kilometers from a Protected Area (SO1.4) will have a direct impact on shifting cultivation dependency in dense forest areas since the lack of infrastructure and service development will further limit the availability of agricultural and other inputs that may reduce shifting cultivation.

Outcome 2: Livelihoods Diversified. Activities and related policies designed to maintain or enhance HCV(1-4)/HCS forests by providing sustainable alternatives to shifting cultivation (SO1.3), managing chainsaw logging operations and charcoaling (SO1.1 and SO1.2), enforcing hunting and mining regulations (SO1.5) will only be successfully implemented if viable, sustainable livelihood alternatives are available for those displaced by implementation of these options. To date, there is poor evidence that there are viable sustainable alternatives to shifting cultivation for Liberia's rural population.

Outcome 3: Forest Management Improved through Community Forestry. This priority outcome is linked to the growing interest by communities in managing their own forests, and the strong possibility that many of Liberia's forests will be managed by communities in future. If SO1.1, SO1.2, SO1.3 and SO1.5 are linked to community forest management, they could have a positive impact on this outcome. However, the degree of impact will depend on implementation of community forestry—how extensively it is used to manage forest landscapes both by LFSP and others, and what resources are brought to bear on that effort.

Land (Outcomes 4–7)

Outcome 4: Increased Land Security. The development of permanent agriculture under SO1.3 could provide incentives to formalize land title, leading to more security of tenure.

Outcome 5: Adequate Access to Land for Livelihoods. No impacts were identified.

Outcome 6: Reduced Conflict over Land. The proposed options will have limited effect on this Outcome. However, enforcement of chainsaw logging regulations (SO1.1) could increase the demand for chainsaw logging in authorized areas such as community forests. This could lead to conflicts

[28] In this context, "viable alternatives" refers to livelihood activities that provide incentives for people to change livelihood activities and related behaviors and that can be easily adopted. For example, permanent agriculture may be an alternative livelihood, however if the tools, inputs (e.g., seeds, fertilizers, pesticides) expertise (extension services, identification of suitable soils), and markets (in the case of non-subsistence livelihood activities) are not readily available, it cannot be considered a viable alternative.

between communities and chainsaw loggers over land use, and threaten customary ownership. Alternatively, if the regulation cannot, or is not enforced, chainsaw loggers may opt to exploit less regulated customary lands and merely displace deforestation to these areas.

Outcome 7: Existing Land Rights Are Maintained. The proposed options will have limited effect on this Outcome. However, enforcement of chainsaw logging regulations (SO1.1) could increase the demand for chainsaw logging in authorized areas such as community forests. Depending on how able communities are able to negotiate with chainsaw loggers, regulate their actions, and distribute benefits, conflicts could arise between communities and chainsaw loggers over land use, and threaten customary ownership. Depending on whether the development of permanent agriculture (SO1.3) would require security of land tenure, the development of permanent agriculture could solidify customary claims, or could contribute to land grabbing. Afforestation activities (SO1.5) could provide security of tenure to customary owners or undermine those rights if land grabbing results.

Governance (Outcomes 8–11)

Outcome 8: Local Leaders Have Skills and Information to Represent Constituents. The proposed strategies in their current state do not address local governance issues so it is unclear how, or if, the strategy would affect this outcome.

Outcome 9: Equitable, Functioning Benefit-sharing Mechanisms in Place. Stakeholders raised concerns that charcoaling often benefits middlemen disproportionately. Management of charcoaling under SO1.2 could affect the existing relationships between charcoalers and middlemen dealers, and disrupt existing value chains.

Outcome 10: Law Enforcement Increased. Successful implementation of this strategy would strengthen this objective and larger governance objectives. However, enforcement of regulations related to chainsaw logging (1.1), charcoaling (1.2) hunting (1.5) and mining (1.5) will not be possible unless tremendous and long-term investments are made in capacity building of FDA in both technical and logistical terms. Without this, unenforceable policies and regulations will not only undermine the REDD+ strategy, but will undermine the rule of law.

Outcome 11: Credible Feedback and Grievance Redress Mechanisms in Place. It is not possible to assess the potential impact of the strategy options against this priority outcome as the Feedback and Grievance Redress Mechanism (FGRM) has not yet been developed and is not addressed in the strategy options above.

5.2.2 Biophysical Impacts

Climate Change (Outcomes 12–13)

Outcome 12: Emissions Reduced and Carbon Sequestered. All SOs under Priority 1 have the potential to contribute positively to Outcome 12, either *directly* through restricting or controlling activities (chainsaw logging and charcoal production) that result in forest loss (SO1.1 and SO1.2) or through establishing sustainable levels of hunting and artisanal mining and forest management (SO1.5), or *indirectly* through diverting activities away from forested areas (SO1.3 and SO1.4). However, SOs 1.1, 1.2, and 1.5 will only be achieved if the intervention does not displace such activities to other areas (i.e., through leakage) and the total net loss of biomass (under SO1.1 and 1.2) is less than what would occur in the absence of the intervention.

A focus on reducing levels of extraction by suppressing urban demand is likely to be key to achieving this objective. The promotion of alternative fuel sources and/or increasing burning efficiency through improved stoves as proposed through various measures under SO1.2 will therefore be important.

Similarly, improving the efficiency of chainsaw logging (which is currently understood to be low at approximately 30% [Blackett, Lebbie, & Marfoe, 2009]) and establishing woodlots for timber and fuelwood (highlighted as gap to be considered) for addressing activities under SO1.1 could improve performance in this area.

It is also noted that charcoal comprises only 8.5 percent of the firewood- and charcoal-based energy generation in Liberia (GoL, 2015d), which implies that measures to manage firewood harvesting, not

currently included in SO1.2, would perform better against Outcome 12 than those addressing charcoal. Similarly, addressing conservation of carbon sequestered in mangroves under SO1.2 would improve performance in this area. Promotion of livestock rearing and the potential use of nitrogen-based fertilizers to increase soil productivity (SO1.3) could contribute to GHG emissions, resulting in negative performance against this outcome as a result of enteric fermentation and emissions of nitrous oxides.

Outcome 13: Resilient Landscapes and Livelihoods. Retention and creation of carbon stock, associated with all SOs under Outcome 12, may contribute to the maintenance of climate-resilient landscapes and thus provide protection from climate-related shocks to food and livelihood. The degree to which this would be achieved, however, will depend on the interventions and their locations. Interventions relating to food and cash crop activities (SO1.3) could have either significant positive or negative impacts on resilience, depending on the choice of crops and seed varieties used. Therefore, it is important that interventions be appropriately designed to optimize the climate-resilient benefits and avoid adverse impacts.

Biodiversity (Outcomes 14–17)

Outcome 14: Conservation of Natural Habitats (WB OP4.04 and 4.36). While all SOs under Priority 1 are likely to promote Outcome 14, their performance could be enhanced by prioritizing interventions under SO1.1, SO1.2, and SO1.5 in areas that may qualify as critical natural habitat. Non-forest areas may qualify under such criteria and could thus be affected through the siting of agricultural activities or new infrastructure under SO1.3 and SO1.4. Particular features of concern are swamps and wetlands that could be targeted for lowland agriculture under SO1.3.

Outcome 15: Conservation through Landscape Approach. While most SOs under Priority 1 are likely to promote retention or creation of forests, results could be more effectively achieved and maximized if locations that support conservation features within a wider biodiversity landscape mosaic (discussed under SO3.4) are prioritized. Promotion of permanent crops (SO1.3) and siting of infrastructure and services in non-forest areas (SO1.4) may impact both directly (siting) and indirectly (due to induced development and land uses) on biodiversity features that are present outside of forests, including those that may qualify as critical natural habitat. Particular features of concern are swamps and wetlands that could be targeted for lowland agriculture.

Outcome 16: Reduce Biodiversity Loss from Shifting Cultivation and Other Community Activities. Most of the SOs could contribute to this outcome, but only if they successfully divert human activity away from forest areas while maintaining the necessary social economic safeguards, including sufficient alternative livelihood options to replace the compounded losses from all the activities listed above. As discussed above, the evidence to date for such changes is limited.

Outcome 17: Reduced Biodiversity Loss from Commercial Activities. None of the interventions under Strategic Priority 1 relate to or have the potential to affect commercial activities, and therefore will have a neutral influence on Outcome 17.

Water and Soils (Outcomes 18–19)

Outcome 18: Water Quality Maintained and **Outcome 19: Soil Quality Maintained.** Promotion of forest retention and establishment of woodlots under SO1.1, SO1.2, and SO1.5 could result in vegetation maintenance, thus safeguarding water and soils through soil stability and productivity and regulating water flows. The degree of positive outcome will be highly dependent on the location and nature of interventions.

Depending on methods adopted, SO1.3 could involve the use of chemical inputs (fertilizers and pesticides) that could contaminate soils and water, thus resulting in noncompliance with WB OP4.09 and the Stockholm Convention. Activities close to or within wetlands or swamps could also affect their integrity and that of downstream water resources. While the degree of impact for each site where interventions are implemented may be at a small scale, the cumulative effects could be significant. By contrast, conservation agriculture will generally avoid such impacts and positively affect soil quality in areas where it is practiced.

Population growth around new infrastructure, and services as a result of measures under SO1.4, could place pressure on natural resources, notably water and soils.

5.2.3 Macroeconomic Impacts

Revenues (Outcome 20)

Outcome 20: Increased Sustainable Revenue from Forests. Royalties from chainsaw logging are currently limited to US$0.60 regardless of species or dimension (reportedly not regularly collected). It is not clear what regulatory reforms are proposed (SO1.1). If reforms do come in the form of increased taxes, these could serve as disincentives for chainsaw logging; however, failure to enforce such provisions could result in no net difference.

Revenues from charcoal and other sustainable, alternative livelihoods (e.g. timber and NTFPs) could be collected more systematically, resulting in modest revenues for the government (SO1.2). However, resources would need to be dedicated to this effort. Similarly, successful development of cash crops could positively affect revenues (SO1.3) if efficient systems for tax collection are implemented. However, this is not likely to have a significant impact on the economy in the short term. Finally, electricity generation has the potential to generate income for the government (SO1.2), but this too will only be realized in the long term.

Forest Goods and Services - Domestic Markets (Outcomes 21–23)

Outcome 21: Adequate Supply of Sustainable and Affordable Energy for Urban Population. Currently, charcoal is the main source of energy for the majority of urban dwellers. The development of alternative energy sources has the potential to address this demand, but will take significant time and investment to realize (SO1.2), and will require increases in purchasing power of urban dwellers. More efficient cook stoves could reduce the volume of charcoal utilized in the short term, but incentives to develop and distribute these stoves would need to be developed.

Outcome 22: Sustainable Domestic Timber Supply. Currently, chainsaw loggers are the primary suppliers of the domestic wood market. Changes to the way that chainsaw logging is managed, including enforcement of a regulation limiting chainsaw logging in community forests (currently only nine in the country) and private lands, could result in serious disruptions to the domestic timber supply. However, enforcement in the short term will prove to be a challenge with the current capacity. The development of sustainable alternatives through the development of small or portable sawmills has the potential to address this demand, but significant time and investment are needed to develop these in the interim.

Outcome 23: Land is Available for Commercial Development. No direct impacts were identified.

Employment (Outcome 24)

Outcome 24: Jobs for Unskilled Laborers. Chainsaw logging (1.1), charcoaling (1.2), hunting (1.5), and mining (1.5) provide low skill laborers with livelihoods and income. For example, the Charcoal Union of Liberia has almost 1,000 members and primarily comprises the middlemen and distributors in and around Monrovia (Jones, 2015). The number of chainsaw loggers is unknown and there is no recent data, but older estimates vary widely from just under 4,000 countrywide (FAO, 2010) to 3,500 operating in Rivercess alone (Green Advocates, 2009). Given the increases in deforestation from chainsaw logging, it is likely that this number is significantly higher. Similarly, it is unclear how many low skill workers are dependent on hunting and mining as their primary employment (SO1.5), but anecdotal information suggests that these numbers are not insignificant. Changes to the way in which these resources are managed could result in the loss of jobs for these workers. This could lead to increased migration to urban areas, or could fuel deforestation if subsistence livelihood options, particularly shifting cultivation, are pursued. The development of alternative, sustainable livelihoods for these workers could replace many of these jobs, but this will require investments in technology as well as training—particularly at the technical training school level that is currently not included in the SO descriptions.

Table 5.2: Impacts of Priority 1 Strategy Options by Outcomes

REDD+ Strategy Options	SESA Outcomes																							
	1. Dependency on shifting cultivation reduced	2. Livelihoods diversified	3. Forest management improved through community forestry	4. Increased land security	5. Adequate access to land for livelihoods	6. Reduced conflict over land	7. Existing land rights are maintained	8. Local leaders have skills/info to represent constituents	9. Equitable, functioning benefit-sharing mechanisms in place	10. Law enforcement increased	11. Credible grievance redress mechanisms in place	12. Emissions reduced and carbon sequestered	13. Resilient landscapes and livelihoods	14. Conservation of natural habitats	15. Conservation through landscape approach	16. Reduce biodiversity loss from community activities	17. Reduce biodiversity loss from commercial activities	18. Water quality maintained	19. Soil quality maintained	20. Increased sustainable revenue from forests	21. Adequate supply of sustainable/affordable energy for urban pop.	22. Sustainable domestic timber supply	23. Land is available for commercial development	24. Jobs for unskilled workers
	Livelihoods			**Land**				**Governance**				**Climate Change**		**Biodiversity**				**Water & Soils**		**Rev.**	**Forest Goods & Services**			**Jobs**
1.1 Reduce impact of chainsaw logging on forest through better regulation, improved efficiency and developing alternatives.	7, 19	1				19	19	5		7		8, 19	12	13	13	15, 19		16	16	7				20
1.2 Reduce impact of charcoal industry on forest through better regulation, improved efficiency and the development of alternatives energy sources.	7, 19	1						5	6	7		9, 10, 19	12	13	13	15, 19		16	16	7				20
1.3 Reduce expansion of shifting agriculture in forest areas by promoting permanent food and cash crops in non-forest areas and through conservation agriculture.	1, 2, 15	1					2	5				11	11	13, 14	13, 14	15, 19		16, 7	16, 17	7				
1.4 Locate services and new infrastructure development beyond a 3km buffer from areas of dense forest and Protected Areas (including proposed PAs).								5						14	14			18	18					
1.5 Integrate hunting, artisanal mining and forest restoration into community-led livelihood and sustainable forest management practices.	7, 19	1					2, 4	5		7		19		13	13	15, 19								20

Key

	Positive performance against the SESA outcome. In some cases performance can be enhanced through adoption of specified **Mitigation Measure(s)** at project implementation stage.
	Negative performance may occur but can generally be addressed through adoption of specified **Mitigation Measure(s)** at project implementation stage.
	Negative performance may occur without **Legal or Institutional Capacity Strengthening Measures.**
	Negative performance or uncertainty regarding performance due to lack of specificity in SO, which require **Adjustments** to strategy options before they are finalized.
-	Neutral performance against SESA outcome
1, 2, etc.	Reference to recommended Modifications outlined in Table 5.3 required to address potential negative environmental and social impacts and harness positive impact of the REDD+ Strategy.

Notes

1. Where several types of impact and requirement for mitigation (Adjustments, Legal and Intuitional Capacity Strengthening, or Mitigation Measures) are identified, the color relates to the highest ranking impact.
2. For ease of reading, cross-cutting Legal and Institutional Strengthening Measures that apply to the management of numerous impacts associated with the strategy options are not all itemized above but included in a separate section in Table 5.3.

5.3 RECOMMENDED ADJUSTMENTS

The impacts described above have the potential to positively or negatively affect the performance of REDD+ in Liberia against the 24 identified SESA Outcomes. The degree of impact may in large part be determined by:

- How and where the interventions are undertaken;
- The phasing or timing of activities;
- Whether issues of capacity are addressed adequately;
- The development of regulations or standards to support implementation; and
- The allocation of sufficient budget to implement all aspects of the interventions.

Where the REDD+ Strategy options may result in negative performance against the SESA outcomes, recommendations have been made to improve such performance. Table 5.3 presents a summary of the recommended modifications applicable to SO under REDD+ Priority 1. These recommended adjustments fall into one of three categories as follows:

1. **Strategy Adjustments.** These are highlighted in red in Table 5.3 and relate to areas where, without modification, the SO could promote interventions that give rise to significant adverse environmental or social impacts. These may be challenging to subsequently address at the intervention, planning and implementation stages without revisions to the SO themselves. For this reason, it is recommended that these adjustments be fully considered prior to finalization of the REDD+ Strategy to strengthen or clarify SO moving forward. These adjustments typically modify the strategy wording and in some cases may propose additional strategy options. For example, mangroves are important carbon sinks, and provide critical natural habitat for biodiversity and yet are not addressed directly in the strategy as it stands. The inclusion of mangroves could enhance performance against several of the SESA outcomes.
2. **Mitigation Measures.** These relate to areas where, without specific measures, interventions implemented under the strategy could either give rise to:
    a. Negative impacts, which can be addressed through established mitigation measures, (siting considerations, etc.) at project implementation These are highlighted in yellow in Table 5.3; or
    b. Positive impacts, which can be enhanced through established measures at project implementation. These are highlighted in green in Table 5.3.

    These measures can be developed as each intervention is planned and implemented. While they do not therefore require any modification to the SOs, they have been identified in the SESA to ensures that they are included within the ESMF and are thus considered as appropriate through its application and implementing mechanisms (screening, ESIA, etc.) to enable potential impacts to be both identified and managed at the project level.
3. **Institutional and legal measures.** These measures focus on building **institutional capacity** for implementation, or address **legal gaps** that exist in the current framework but are required to ensure the SESA outcome are achieved. Capacity interventions focus on developing the technical and logistical expertise to implement the strategy and may also take into account realistic time frames for their implementation in light of current capacity constraints, including budgetary constraints or limitations. Legal interventions include the development of legal mechanisms that are needed to implement the strategy. These may include regulations, national standards, or even coordinating committees that may be necessary to realize REDD+ SESA Outcomes. The REDD+ Strategy currently does not address these issues, but these will be critical for the effective implementation of REDD+. Accordingly, these should be incorporated directly into the Strategy, or plans to consider these issues incorporated into the transformation stage. These are highlighted in orange in Table 5.3.

Table 5.3: Priority 1 Proposed Strategy Adjustments, Institutional and Legal Measures, and Mitigation Measures

	Recommended Modifications	Strategy Options	Where This Should Be Addressed		
			Strategy Adjustment (Transformation Phase)	Institutional & Legal Strengthening Measures	Mitigation Measures (ESMF)
1	Design realistic sustainable livelihoods interventions that are based on research, and in consideration of availability of inputs and expertise.	1.1, 1.2, 1.3, 1.5			x
2	Identify policies and/or mechanisms that are needed to support the development of market chains and inputs to support alternative, sustainable livelihoods, and the champions of these reforms under SO1.3.	1.3		x	
3	Articulate how customary rights of individuals within areas subject to forestation will be protected including, if secure tenure is required, avoiding benefitting local elites at the expense of customary users.	1.3, 1.5			x
4	Proposed forestation activities should include appropriate processes and mechanisms relating to resettlement including where required FPIC processes and mechanisms to ensure that customary rights of individuals and communities are protected with regard to afforestation activities and other measures.	1.5			x
5	Provisions for FPIC are required where new forest areas are being considered to ensure consideration of customary land owners and users (cross-cutting).	All SO			x
6	Type of research that will be undertaken under SO1.2 and what it will inform should be clearly articulated in the strategy.	1.2	x		
7	Implementation and enforcement of current and proposed alterations to regulations related to chainsaw logging (SO1.1), charcoaling (SO1.2), hunting and mining (SO1.5) as well as revenue collection (SO1.1,1.2,1.3) will require a strong capacity building component within the FDA, both technically and logistically. The inclusion of realistic timelines for the development of requisite skills sets/capacity and ability to implement those skills needs to be factored into strategy options since currently, there is limited capacity to implement any of the SO.	1.1, 1.2, 1.3, 1.5		x	
8	Include sustainable practices in chainsaw logging, e.g., through linking SO1.1 to woodlots interventions under community forestry.	1.1	x		
9	In view of firewood's national contribution to GHG, it warrants a specific inclusion under SO1.2 or an SO of its own.	1.2, new SO	x		
10	Recognize carbon and biodiversity conservation of mangroves through their inclusion within SO1.1 and 1.2,and/or through an SO of its own.	1.2, new SO	x		
11	Recognize the contribution to GHG of livestock rearing and nitrogen based fertilizers, and where possible, promote those species and products/practices that have low contributions.	1.3			x
12	Promote interventions in locations that play a role in supporting climate change resilience.	1.1,1.2, 1.5			x

	Recommended Modifications	Strategy Options	Where This Should Be Addressed		
			Strategy Adjustment (Transformation Phase)	Institutional & Legal Strengthening Measures	Mitigation Measures (ESMF)
13	Promote interventions that divert pressures away from, or conserve, areas of forest that may comprise critical natural habitat or play an important role in the biodiversity landscape. Ensure no conversion of critical natural habitat.	1.1, 1.2, 1.5			x
14	Ensure that new development outside of forests avoids mangroves, non-forest critical natural habitat, or other non-forest areas that play an important role in the biodiversity landscape, giving particular attention to swamps and wetlands.	1.3,1.4			x
15	Adaptations learned from proposed pilots under LFSP, AML and Society for the Conservation of Nature in Liberia (SCNL) and Royal Society for the Protection of Birds (RSPB) sites should be made to the Strategy and/or additional diverse sites identified for pilots to inform refinement of SO1.3 to ensure it can successfully divert activities form forests and thus support SO1.1, 1.2. and 1.5 before they are more widely implemented.	1.1,1.2, 1.3,1.5	x		
16	Promote interventions at locations where they can contribute to soil and water conservation.	1.1,1.2			x
17	Ensure agricultural developments avoid use of prohibited pesticides and chemicals, adopt IPM approaches and adequate safeguard to protect wetlands and water resources. Where possible promote conservation agriculture.	1.3			x
18	Ensure siting of interventions under SO1.4 take account of potential impacts from population growth and associated pressures on natural resources.	1.4			x
19	Ensure measures are implemented to address both (i) the potential for leakage of community activities from within the areas subject to strategy interventions (e.g., due to restriction on activities) to other areas of HCS and HCV and (ii) new pressures on such areas due to population influx (e.g., attracted by new infrastructure and opportunities).	1.1,1.2, 1.3,1.5			x
20	Specify how alternative skills and jobs to low-skilled laborers that are currently engaged in activities that will be affected by implementation of the REDD+ Strategy Options will be provided.	1.1, 1.2, 1.5	x		
Cross-cutting Legal and Institutional Strengthening Measures					
21	A description is required of the institutional arrangements that are either currently in place, or need to be developed to ensure the cross-sector budgeting, planning and coordination necessary for implementation of the SO option. This should include a mechanism for donor coordination.	ALL		X	

6.0 PRESENTATION AND ASSESSMENT OF PRIORITY 2

6.1 PRIORITY 2 STRATEGY OPTIONS

Priority 2 focuses on Strategic Options to manage the drivers of deforestation and forest degradation in forest concessions. While recognizing the contract rights of concessionaires, the REDD+ strategy focuses on conservation objectives within these areas. The five SOs to support this priority are:

2.1. Ensure that all industrial logging is practiced to high conservation standards in keeping with national regulations and international standards;

2.2. Conserve and maintain areas of highest conservation value within commercial forestry concessions, such as important wildlife corridors;

2.3. Review TSCs to ensure compliance with forestry laws and EIA standards and establish a strong presumption against further TSCs on dense forest and within 5 km of Protected Areas;

2.4. Prevent unregulated chainsaw logging and charcoal production within forestry concessions; and

2.5. Manage commercial forestry in community forests larger than 1,000 ha to achieve sustainable logging standards as apply to FMCs.

Brief description of the interventions associated with these SO and the geographic focus for implementation thereof is summarized in the Intervention Plan from the REDD+ Strategy and presented in Table 6.2 while comments and assumptions regarding these interventions are described in the narrative below. However, two cross-cutting general comments apply to this Priority and are summarized below for consideration.

Timing: Clarify whether strategies apply to existing or future concessions and in the case of the former how these will be enforced retrospectively. **Clarify standard:** For clarity when the term “high conservation value” is used it should relate to the FSC definition of HCV and its draft national interpretation for Liberia and clarify which of HCV principles 1-6 apply. Similarly the term “high carbon stock” should be defined and used consistently.

Table 6.1: Priority 2 Strategy Options

	REDD+ Strategic Priority 2: Reduce impact of commercial logging in all forestry concessions				
Strategy Options	2.1 Ensure that all industrial logging is practiced to high conservation standards in keeping with national regulations and international standards.	2.2 Conserve and maintain areas of highest conservation value within commercial forestry concessions, such as important wildlife corridors.	2.3 Review TSCs to ensure compliance with forestry laws and EIA standards and establish a strong presumption against further TSCs on dense forest and within 5km of PAs.	2.4 Prevent unregulated chainsaw logging and charcoal production within forestry concessions.	2.5 Manage commercial forestry in community forests larger than 1,000 ha to achieve sustainable logging standards as apply to FMCs.
Interventions	Develop forestry regulations (VPA-SU) Assist FDA in law enforcement (regulatory and administrative procedures with the Ministry of Justice & FDA) (VPA-SU) Capacity building in Legality Assurance System (VPA-SU) Review of the Code of Harvesting Practices (VPA-SU) Introduction of new chain of custody, legality verification system and Legality verification Department in FDA (VPA)		Review status and legality of TSCs (LoI) and moratorium on the award of new industrial logging concessions (LFSP) (see below cross-cutting interventions).	Third-party access to concession areas regulation - pending 2-16/17 (VPA-SU)	Map existing standards for low impact logging practices and identify a standard suitable for community forests in Liberia (LoI) Integration of CFs into the Legality Assurance System, to ensure same standards as FMCs (VPA-SU) Mapping of (increasing) CFMA applications (VPA-SU)
Cross-cutting interventions	• Moratorium on the award of new industrial logging concessions, including CFMAs that are backed by companies until all concessions have been reviewed (LoI, section iii Legal reform and law enforcement). • Review of legality of existing logging and other land use contracts, leading to the cancellation of illegal and non-performing concessions (LoI, section iii Legal reform and law enforcement). Legal reform for effective implementation of REDD+ related laws and policies (LFSP sc 1.2). • Review existing standards for RIL and adapt/apply for use in Liberia (LoI). • Experiment with direct payment system to communities and individual landowners for contributions to protecting forests and for community forestry (LoI). • Forest Governance program with FDA and MoJ to perform regulatory work and admin of justice for forestry laws (VPA-SU). • GIS, Mapping and forest management planning support to FDA, to improve commercial and community forestry practices (VPA-SU). • restructuring of FDA Community Forestry, Commercial Forestry and Research & Development (GIS Division) Departments functions, starting in Region 3 (Buchanan HQ) in 2016 then expanding to other regions by 2018 (VPA-SU Activity 4/4.1). [Region 3 extends up to Nimba. The LFSP western targeted landscape is in region 1, eastern in region 4.] • Strengthening and monitoring of Social Agreements between logging concession holders and affected communities. • Updating of forest concession maps and development of a comprehensive Forest Management System. • Strengthen environmental impact licensing and monitoring of forestry through capacity building to EPA (activity 3.5).				

	REDD+ Strategic Priority 2: Reduce impact of commercial logging in all forestry concessions
	• Coordination of community forestry Development committees by establishing the National Union of Community Forestry Development Committees (NUCFDC) and by capacity building support to CFDCs (VPA-SU). • Support to develop a Functioning and Effective National Benefit-sharing Trust Board (NBSTB). • Create or update strategic forest management plans for all 7 current FMCs (no plans currently exist) (VPA-SU p.14). • Capacity building for the private sector to engage in VPA (VPA-SU Activity 5.1). • Capacity building for NGO coalition to support independent forest monitoring and assistance to CFDCs and CFMBs (VPA-SU activity 5.2).
Targeting	Priority 2 initiatives would be geographically targeted at forestry concession areas, including community forests.

6.1.1 Strategy Option 2.1: Ensure That All Industrial Logging is Practiced to High Conservation Standards in Keeping with National Regulations and International Standards

General Comments

Strategy Option 2.1 focuses on the introduction of reforms in the commercial logging sector that will strengthen the conservation practices associated with commercial logging in FMC, TSC, and CFMA areas.

Existing Contracts. Existing TSCs and FMCs have been ratified by the legislature and changes thereto may require legislative action. However, many of the existing FMCs and TSCs have not fully complied with contract terms which could provide the government an opportunity to cancel those contracts and develop alternatives under reformed terms. Cancelation of contracts would have negative implications for the collection of tax revenues and may be met with political resistance. In addition, contractual changes, even if introduced through legislation, could impinge on existing contract rights and in some cases, open the government to liability for legal damages. Finally, it should be noted that concessionaires holding existing contracts claim that they are not able to fully comply with contract terms (e.g., requirement to invest in value-added processing) and still maintain a profit (USAID/GEMS, 2013). For example, according to the UN Panel of Experts on Liberia, the Managing Director of Atlantic Resources Limited, a FMC holder, explained that his company had acquired PUPs because their logging operation was not profitable as a result of time-consuming and cumbersome legal requirements (United Nations Security Council, 2012).

International Standards. There are a number of international and regional standards that provide guidance for sustainable forest management (e.g., FSC, Sustainable Forestry Initiative, and International Standards Organizations). However, these standards are voluntary and not enforceable by law. Some of these standards could be included under the Voluntary Partnership Agreement (VPA) but would have to be agreed to by both parties. Many of these standards do include social safeguards that could be used to protect the rights of customary users of forestlands subject to commercial logging.

Enforcement Capacity. There is limited technical and logistical capacity for enforcement of existing or proposed regulations. Currently, FDA in many cases, is dependent on concessionaires to access sites for regulation, presenting a clear conflict of interest. This issue is being addressed through support for the VPA process, but this reportedly remains a constraint, particularly for post-harvest monitoring. It was noted in the stakeholder workshops, that many field staff responsible for monitoring logging operations and enforcing the forestry law and regulations are stationed in remote regions without adequate logistical support. Specifically, many staff lack working vehicles or motorbikes in these areas. Further, when vehicles are available, it was reported and observed that there often was not adequate supply of diesel or gasoline to operate these vehicles.

Incentives for Compliance. The imposition of additional requirements on existing or new contracts may further erode profits and incentives for contractors to comply with contract requirements or regulations that are not strictly enforced.

Assumptions

Existing contracts will likely not be subject to additional conservation standards or regulations because imposition of these standards would likely conflict with existing contract rights. For future contracts, standards could be introduced as part of negotiations, but legal enforcement would require enactment of standards through a legislative process. The VPA provides a mechanism to enact some of these requirements. Further, development and adoption of a standard for Liberia (many international standards allow for regional or national standards within the existing international standard) will require time and budgeted commitment to a multistakeholder process.

Given the proliferation of CFMA applications, many supported by logging contractors, it is likely that contracts between logging concessionaires and community forestry organizations will be the preferred mechanism for commercial logging in Liberia. Currently, the regulations governing these contracts is

limited and development of regulations to govern these contracts will require a multistakeholder consultation process throughout the country which will require appropriate planning and allocation of budget. Further, the capacity to monitor and enforce regulations will require budget and training commitments.

6.1.2 Strategy Option 2.2: Conserve and Maintain Areas of Highest Conservation Value within Commercial Forestry Concessions, such as Important Wildlife Corridors

General Comments

Strategy Option 2.2 focuses on on-the-ground measures to strengthen conservation practices associated with commercial logging in FMC, TSC, and CFMA areas.

Existing Contracts. Existing TSC and FMC have been ratified by the legislature and changes thereto may require legislative action. However, many of the existing FMCs and TSCs have not fully complied with contract terms, which could provide the government an opportunity to cancel those contracts and develop alternatives under reformed terms.

High Conservation Value (HCV). HCV refers to a standard that has been developed by the FSC to describe and manage forests that have high biodiversity and other conservation values. HCV standards can be developed at a regional or national level and may be adopted and recognized by governments and the FSC. Currently, Liberia has a draft HCV definition.

Enforcement Capacity. There is limited technical and logistical capacity for enforcement of conservation standards.

Assumptions

Commercial logging under FMCs, TSCs, and CFMAs would not be subject to the same standards or regulations since they are used for different types of forest management outcomes, represent different sizes, differ by ownership, and include different ownership rights.

The capacity to monitor and enforce at present, is extremely limited and will require significant investments in training and equipment to meet demand.

6.1.3 Strategy Option 2.3: Review Timber Sale Contracts to Ensure Compliance with Forestry Laws and EIA Standards and Establish a Strong Presumption Against Further TSC Contracts on Dense Forest and within 5km of Protected Areas

General Comments

Focus on TSC. Strategy Option 2.3 focuses on TSCs. Assumedly, other strategy options under Priority 2 (relating to industrial logging and commercial forestry) would address issues associated with TSC so it is not clear why there is a standalone option dealing exclusively with TSC.

Location of TSC. According to the NFRL, TSCs are to be allocated on areas of less than 5,000 ha, and "must be consistent with the National Forest Management Strategy," which identified areas suitable for TSCs. The vast majority of those lands identified are not currently within 5 kilometers of a Proposed Protected Area.

Assumptions

It is assumed that the EPA and FDA will be responsible for monitoring and compliance. It is also assumed that TSCs will be allocated as per requirements of the NFRL, which require that they be areas identified in the National Forest Strategy. Few of these areas are currently located within five kilometers of a PPA.

6.1.4 Strategy Option 2.4: Prevent Unregulated Chainsaw Logging and Charcoal Production within Forestry Concessions

General Comments

Strategy Option 2.4 attempts to regulate chainsaw logging and charcoaling activities in concession areas. The development of concessions involves the development of access road for logging which also provides access to third parties for logging and charcoaling activities, in addition to other resource exploitation (e.g., hunting and NTFP collection).

Regulatory Challenges. Interventions to address this include the development of regulations for third parties in concession areas (forthcoming with support from the VPA), along with the incentives for community self-regulation through Social Agreements and Conservation Agreements. It should be noted that regulation of these activities by the FDA is particularly challenging given the remote location of these activities and the limited mobility of the FDA.

Community Self-regulation. Conservation Agreements and Social Agreements may provide communities with incentives to better manage activities within a concession area by their community members, but may have limited effect on in-migrants that move to the area in search of economic opportunities. Further, it is not clear which parties would be responsible for the development and monitoring of Conservation Agreements or if they would be a voluntary measure. We note that experience in Liberia with Conservation Agreements is limited.

Profitability of FMC. Further, it should be noted that concessionaires currently claim that profit margins under FMCs are limited (USAID GEMS, 2013). This suggests that Conservation Agreements would require commitment of time and resources on the part of concessionaires that may not be prioritized.

Management of Chainsaw Logging and Charcoaling in FMCs. Finally, we note that FMCs have been identified as appropriate areas for commercial activities. As such, in some cases, it may be appropriate for chainsaw logging and charcoaling, under a management regime, to be undertaken in these areas.

Assumptions

It is assumed that this approach will have limited impact in the short-term. Regulatory reform will have little impact on the sector until FDA develops the capacity to enforce the existing (and proposed) regulation; while the development of Conservation Agreements and Social Agreements will take time to develop, monitor and implement. Further, there are currently no incentives provided for the development of Conservation Agreements and limited experience with their successful implementation.

6.1.5 Strategy Option 2.5: Manage Commercial Forestry in Community Forests Larger than 1,000 Hectares to Achieve Sustainable Logging Standards as Apply to FMCs

General Comments

Strategy Option 2.5 attempts to address the regulatory gap that currently exists for community forests less than 5,000 ha. However, a blanket requirement for FMC standards to be applied is not necessarily applicable to small-scale operations since FMC regulations were developed for large-scale commercial logging on large tracts of land with a 25-year rotation and lower threshold of 1,000 ha may not be sufficient. In addition, we note that ESIA are required for all operations over 50 ha.

6.2 Priority 2 Strategic Option Impacts

Below, each of the Priority 2 SOs is assessed against the SESA Outcomes identified as part of the SESA process and presented above in Section 3.0. For each SO, the impact is discussed and summarized in Table 6.2. The assessment informed the formulation of recommendations (comprises strategy adjustments, legal and institutional measures and mitigation measures) to improve the environmental and social performance of the REDD+ Strategy and are listed in Table 6.2.

Priority 1 options will have a number of both positive and negative impacts which are summarized in Table 6.3 below. Some of these impacts will depend on how the strategic option is implemented (i.e., whether the outcomes are considered in program or policy design) and/or whether it may realistically be implemented. For example, SO that are heavily dependent on developing capacity or enforcing regulations may not be realized unless these issues are addressed.

6.2.1 Microeconomic Impacts

Livelihoods (Outcomes 1–3)

Outcome 1: Dependency on Shifting Cultivation Reduced. Activities under SO2.5 support CFMAs to engage in commercial logging, this could have a positive impact on reducing shifting cultivation since benefits from commercial logging could provide alternative, sustainable livelihoods that mitigate the need for shifting cultivation.

SO2.4 focuses on the prevention of chainsaw logging and charcoal production within forestry concessions, activities that are often undertaken by local communities or in-migrants. Enforcement of regulations, if possible, may limit livelihood options for community members from within the forests (e.g., hunting, shifting cultivation, and NTFP collection), and lead to the displacement of these activities ("leakage") to adjacent forest areas. Adoption of HCV or HCS standards that recognize community rights could address and offset this impact.

Outcome 2: Livelihoods Diversified. CFMA engagement in commercial forestry (SO2.5) provides alternative, sustainable livelihoods for communities.

Limiting TSC around PAs (SO2.3) could limit potential livelihood options for communities located around Protected Areas, since TSC could be used to convert forestland to other purposes that support livelihoods and mitigate community dependency on adjacent Protected Areas.

Outcome 3: Forest Management Improved through Community Forestry. The application of FMC standards to forests over 1,000 hectares could improve forest management (SO1.5). However, the requirements for FMCs are designed for large-scale logging on large tracts of land and also involve extensive involvement of the FDA, which is already limited in its capacity to manage the existing FMCs. Regulations that require FMC-compliant standards could significantly limit the potential of communities to engage in smaller-scale commercial logging, and provide disincentives for companies to engage with communities.

Land (Outcomes 4–7)

Outcome 4: Increased Land Security. The recognition of community rights through HCV 5 or HCV 6 could support customary claims to land (SO2.1). Limiting charcoaling and chainsaw logging activities within a concession area (SO2.4) may increase the pressure on land outside of the concession. This is most likely to happen where concessions attract in-migrants seeking economic opportunities.

Outcome 5: Adequate Access to Land for Livelihoods. The recognition of community rights through HCV 5 or HCV 6 could help ensure that communities have adequate access to lands for livelihoods (SO2.1).

Outcome 6: Reduced Conflict over Land. Conflicting claims to land by concessionaires and communities as a result of application of FSC or other standards (SO2.1), could give rise to conflict. Limiting charcoaling and chainsaw logging activities within a concession area (SO2.4) may increase the pressure on land outside of the concession. This is most likely to happen where concessions attract in-migrants seeking economic opportunities.

Outcome 7: Existing Land Rights Are Maintained. The recognition of community rights through HCV 5 or HCV 6 could detract from the land rights of concession holders (SO2.1). Limitations on concession logging rights that exceed legal requirements could infringe on property rights and may be grounds for compensation under contract law.

Governance (Outcomes 8–11)

Outcome 8: Local Leaders have Skills and Information to Represent Constituents. Stakeholder consultations suggest that many community leaders lack the requisite knowledge and skills to adequately represent their constituents in the development of Social Agreements with concessionaires that may be used to regulate chainsaw logging and charcoaling (SO2.4). This suggests that Social Agreements may not adequately address these issues unless community leaders are provided with adequate information and understanding of related issues covered by the Social Agreements. Similarly, Community Forestry Management Bodies may not have the requisite skills to manage forests to FMC standards, or to monitor compliance of logging contractors (SO2.5).

Outcome 9: Equitable, Functioning Benefit-sharing Mechanisms in Place. No direct impacts were identified. However, benefit-sharing schemes will be more equitable and function more effectively if stronger governance is in place through capacity building.

Outcome 10: Law Enforcement Increased. Strategy Option 2.1 emphasizes enforcement of existing legislation. Successful implementation of this strategy would strengthen this objective and larger governance objectives. However, the limited capacity of FDA, EPA, and other agencies to enforce this law suggest the need for significant technical and logistical capacity building. Without this, unenforceable policies and regulations will not only undermine the REDD+ Strategy, but will undermine the rule of law.

Outcome 11: Credible Feedback and Grievance Redress Mechanisms in Place. No direct impacts were identified.

6.2.2 Biophysical Impacts

Climate Change (Outcomes 12–13)

Outcome 12: Emissions Reduced and Carbon Sequestered. For **FMCs**, the adoption of "high conservation standards" (SO2.1) and retention of areas of "highest conservation value" (SO2.2) are assumed to relate to HCV. This would include "carbon sequestration," as one of the ecosystems services under HCV 4 (see Box 1 in Section 2.1.2). Using this standard, SOs 2.1 and 2.2 should contribute to Outcome 12, but details on how this should be achieved in Liberia are not elaborated in the Draft National Interpretation. The proposed restrictions on chainsaw logging and charcoal generation in FMCs (SO2.4) should similarly promote Outcomes 12 and 13.

The level of potential benefit cannot, however, be established without further details of the specific standards proposed and the measures and mechanism for implementing them. For example:

- Recent evidence indicates that while the FSC P&C includes consideration of carbon sequestration (Principles 6 and 9), certified logging operations may not deliver greater conservation of carbon stock or lower GHG emissions than conventional logging operations (Griscom et al., 2014). Therefore, any SO aimed at reducing the impact of logging in FMCs should ensure that the standards proposed (and the method of their implementation in Liberia) will actually retain carbon stock.
- Priority 2 includes proposals to enhance law enforcement and harvesting, which should promote achievement of Outcome 12. However, these proposals do not outline the mechanisms for development and implementation of such standards. It is therefore not clear how and if these SOs can be achieved. The ability to apply any new standards retroactively to existing FMCs (24% of total forest) would be key to delivering this outcome.

The degree of positive performance toward Outcome 12 will also depend on whether the areas within the FMCs intended to deliver the HCS standards, and thus carbon sequestration (e.g., set asides, offsets, or areas subject to sustainable harvesting), become vulnerable to other pressures such as unsustainable use by communities (including their expansion from influx of people attracted to commercial areas).

For **TSCs**, although the measures to avoid dense forest (SO 2.3) will reduce the amount of carbon loss that may otherwise occur, the clear felling nature of TSC activities will nonetheless lower the total

level of carbon sequestered, unless accompanied by an offsetting program. Depending on the standards adopted, SO2.1 may include such measures, although it is unclear if the "high conservation standards" referred to in SO1.2 relate to TSCs or only FMCs and whether they will require offsetting of losses of carbons stock. In the absence of such specificity, it is not possible to assess the climate change impacts of the REDD+ measures addressed at TSCs. Further definition is also required concerning the mechanisms through which the presumption against TSCs in dense forest will be implemented and enforced.

In relation to CFMAs, the rationale for the choice of a threshold of 1,000 ha above which management measures should apply (SO2.5) may not be sufficient to ensure performance against Outcome 12, particularly if a significant number of CFMAs fall below this threshold.

Outcome 13: Resilient Landscapes and Livelihoods. All SOs under Priority 2 may contribute in some instances to maintaining climate-resilient landscapes through retention of forests. However, the degree to which this is achieved will depend on the specific measures adopted (e.g., percentage and location of forest retained).

Biodiversity (Outcomes 14–17)

Outcome 14: Conservation of Natural Habitats (WB OP4.04 and OP4.36). SO2.1 and SO2.2 are likely to promote Outcome 14 in FMCs. However, the degree to which this will be achieved will depend on the specific standards adopted as well as the degree to which interventions can be prioritized in areas that potentially qualify as such habitat.

If SO2.1 and SO2.2 do not apply to TSCs, then SO2.3 does not provide adequate safeguards to comply with WB OP4.04 and OP4.36 that do not support any conversion of critical natural habitat, since SO2.3 only restricts development in "dense forest." Similarly, non-compliance could result from management of CFMAs under SO2.5 that requires only "sustainable logging" rather than setting aside areas of high biodiversity value such as critical natural habitats.

Outcome 15: Conservation through Landscape Approach. SO2.1 and SO2.2 are likely to promote retention of forest biodiversity (through HCV Principle 2/FSC Principle 9 if the HCV standard is adopted) in **FMCs** and thus broadly support Outcome 15. The degree to which this is achieved will depend on:

1. The nature of the specific conservation standards and associated management mechanisms adopted (e.g., "set asides," "offsets," or areas allocated for "sustainable logging") and how these are determined and implemented, including whether they can be legally applied retrospectively to existing concessions, and the associated institutional requirements.
2. The extent to which these mechanisms and the locations in which they will be applied can play a role in conservation within biodiversity landscapes (as discussed under SO3.4). Notably, Priority 2 does not elaborate on the potential for set asides, offsets, or CFMAs as part of the conservation mosaic within such biodiversity landscape areas, although this gap may be addressed under SO2.2. Yet management at the biodiversity landscape level is a key approach being promoted by certain conservation stakeholders (both generally and specifically within Liberia) to harness the potential of evolving land uses to contribute to conservation outcomes (rather than relying entirely on the PAN). Thus, specific attention is warranted under Priority 2 to achieve Outcome 15.
3. Whether areas under these management mechanisms become vulnerable to other pressures. These pressures will come primarily from unsustainable use by communities, and they could be further exacerbated and expanded as a result of in-migrants seeking work in concession areas. SO2.4 may address pressures from chainsaw logging and charcoal extraction. However, the potential for some form of community agreement (as is proposed for mining and agricultural concessions in Priority 2) should be further expanded upon to enable Outcome 15 to be achieved.
4. Potential for the SOs to result in leakage of activities that threaten landscape ecosystems in other areas.

Similar considerations may apply to conservation of biodiversity in TSCs and CFMAs greater than 1,000 ha. The outcome will depend to some extent on whether the terms "all industrial logging" and "commercial forestry" in SO2.1 and SO2.2 apply only to FMCs or also to TSCs and commercial forestry in CFMAs greater than 1,000 ha:

- If SO2.1 and SO2.2 do not apply to TSCs, then the management measures under SO2.3 that relate to forest cover (but not specifically to biodiversity value) may not provide adequate safeguards to areas of biodiversity importance, particularly where these occur outside of dense forest.
- Similar considerations apply to CFMAs as the management measures under SO2.5 relate to rates of offtake rather than to conservation of areas of biodiversity value.
- A prohibition on TSCs within five kilometers of a PA (SO2.3) may have a positive impact on PA biodiversity since many threats arise from activities associated with commercial logging (in-migration, hunting, and shifting cultivation in and around cleared areas). However, this prohibition would not protect other biodiversity features that contribute to the biodiversity landscape, many of which occur outside of PA.
- The use of a threshold of 1,000 ha above which FMC management measures should apply to CFMAs (SO2.5) may not safeguard biodiversity, particularly if a significant number of CFMAs fall below this threshold. However, ESIA screening is required for any operation over 50 ha, and may, if its effective implementation can be promoted by the strategy, provide adequate consideration of biodiversity impacts.

Outcome 16: Reduce Biodiversity Loss from Shifting Cultivation and Other Community Activities. Although not specifically targeted at shifting agriculture, Priority 2 SOs could result in stronger regulation and controls than may otherwise occur in forest concession areas, and therefore could have a positive impact on this outcome. SO2.4 specifically addresses chainsaw logging and charcoal production. However, the SOs do not address the significant potential for negative impacts arising from:

- Leakage of such activities to other areas of biodiversity importance outside of the concessions, nor the contribution to such impacts due to the influx of people attracted to concession areas in search of employment possibilities; and
- Encroachment into areas set side from forestry by community or other uses.

Outcome 17: Reduced Biodiversity Loss from Commercial Activities. Aa all SOs are targeted at the commercial sector, performance against this outcome is reported above under Outcomes 14–16.

Water and Soils (Outcomes 18–19)

Outcomes 18: Water Quality Maintained and **19: Soil Quality Maintained.** The conservation of areas of high conservation value under SO2.1 and SO2.2 (including if the HCV standard is adopted through HCV 4/FSC Principles 6 and 9) should protect riparian areas and catchments as well as wetlands that could otherwise be negatively affected through water diversion, pollution, and vegetation clearance with downstream consequences.

Application of the EIA process (SO2.3) to TSCs should provide sufficient safeguards in these concession areas, but the same protection would not apply to CFMA areas of less than 1,000 ha (SO2.4). As discussed above with respect to biodiversity, strengthening the EIA process may provide a more effective safeguard in such instances.

6.2.3 Macroeconomic Impacts

Revenues (Outcome 20)

Outcome 20: Increased Sustainable Revenue from Forests. The introduction of additional regulations (or standards through a contract mechanism) could introduce additional costs to logging, and limit the actual extraction of logs for export (SO2.1 and SO2.2). This could result in reduced revenues from logging concessions.

Limitations on TSCs could also result in diminished revenues that would have been collected from TSC areas, although it is likely that the impact will be quite limited given the limited amount of land currently allocable under the National Forestry Strategy for TSCs within five kilometers of a PPA.

Revenue from commercial logging in CFMAs has the potential to provide revenues to the government. However, the imposition of FMC standards, particularly on smaller-scale operations, could significantly limit the incentives for companies to enter into agreements with communities (SO2.5).

Forest Goods and Services - Domestic Markets (Outcomes 21–23)

Outcome 21: Adequate Supply of Sustainable and Affordable Energy for Urban Population. No impacts were identified.

Outcome 22: Sustainable Domestic Timber Supply. The enforcement of existing regulations that require the development of value-added industry, or future regulations or standards that strengthen the same, could result in the development of additional value-added industry that could positively affect the availability of sustainable timber for the domestic market (SO2.1, SO2.3). However, these are not likely to have an impact in the short term. In addition, these requirements, along with conservation regulations, could further erode profitability of contracts.

Outcome 23: Land is Available for Commercial Development. No impacts were identified.

Employment (Outcome 24)

Outcome 24: Adequate Jobs for Unskilled Laborers. Limitations on TSCs could result in diminished employment opportunities for TSC workers (SO2.3). However, it is likely that the impact will be quite limited given the limited amount of land currently allocable under the National Forestry Strategy for TSCs within five kilometers of a PPA.

Table 6.2: Impacts of Priority 2 Strategy Options by Outcomes

REDD+ Strategy Options	SESA Outcomes																							
	1. Dependency on shifting cultivation reduced	2. Livelihoods diversified	3. Forest management improved through community forestry	4. Increased land security	5. Adequate access to land for livelihoods	6. Reduced conflict over land	7. Existing land rights are maintained	8. Local leaders have skills/info to represent constituents	9. Equitable, functioning benefit-sharing mechanisms in place	10. Law enforcement increased	11. Credible grievance redress mechanisms in place	12. Emissions reduced and carbon sequestered	13. Resilient landscapes and livelihoods	14. Conservation of natural habitats	15. Conservation through landscape approach	16. Reduce biodiversity loss from community activities	17. Reduce biodiversity loss from commercial activities	18. Water quality maintained	19. Soil quality maintained	20. Increased sustainable revenue from forests	21. Adequate supply of sustainable/affordable energy for urban pop.	22. Sustainable domestic timber supply	23. Land is available for commercial development	24. Jobs for unskilled workers
	Livelihoods			**Land**				**Governance**				**Climate Change**		**Biodiversity**				**Water & Soils**		**Rev.**	**Forest Goods & Services**			**Jobs**
2.1 Ensure that all industrial logging is practiced to high conservation standards in keeping with national regulations and international standards.				1	1	1	1		8	7		2, 10, 11	17	2, 18	2, 9	10, 11	2, 9, 10, 11, 18	20	20	-				
2.2 Conserve and maintain areas of highest conservation value within commercial forestry concessions, such as important wildlife corridors.										7		2, 10, 11	17	2, 18	2, 9	10, 11	2, 9, 10, 11, 18	20	20	-				
2.3 Review Timber Sales Contracts to ensure compliance with forestry laws and EIA standards and establish a strong presumption against further TSC contracts on dense forest and within 5km of Protected Areas.		-								7		2, 12, 15	17	2, 12, 14, 19	2, 9, 14	10, 11	2, 9, 10, 12 14, 18, 19	20	20					
2.4 Prevent unregulated chainsaw logging and charcoal production within forestry concessions.	10			4		4		8		7			17			10, 11	10, 11							
2.5 Manage commercial forestry in community forests larger than 1,000 ha. to achieve sustainable logging standards as apply to FMCs.			5, 6					8	8	7		16	17	2, 16, 18	2, 16, 9	10, 11	2, 9, 10, 11 16, 18	16	16	6				

Key

- Positive performance against the SESA outcome. In some cases performance can be enhanced through adoption of specified **Mitigation Measure(s)** at project implementation stage.
- Negative performance may occur but can generally be addressed through adoption of specified **Mitigation Measure(s)** at project implementation stage.
- Negative performance may occur without **Legal or Institutional Capacity Strengthening Measures.**
- Negative performance or uncertainty regarding performance due to lack of specificity in SO, which require **Adjustments** to strategy options before they are finalized.
- Neutral performance against SESA outcome.

1, 2, etc. Reference to recommended Modifications outlined in Table 6.3 required to address potential negative environmental and social impacts and harness positive impact of the REDD+ Strategy.

\- Negative impact with no recommendation

Notes

1. Where several types of impact and requirement for mitigation (Adjustments, Legal and Intuitional Capacity Strengthening or Mitigation Measures) are identified, the color relates to the highest ranking impact.
2. For ease of reading, cross-cutting Legal and Institutional Strengthening Measures that apply to the management of numerous impacts associated with the strategy options are not all itemized above but included in a separate section in Table 6.3.

6.3 RECOMMENDED ADJUSTMENTS

The impacts described above have the potential to positively or negatively affect the performance of REDD+ in Liberia against the 24 identified SESA outcomes. The degree of impact may in large part be determined by:

- How and where the interventions are undertaken;
- The phasing or timing of activities;
- Whether issues of capacity are addressed adequately;
- The development of regulations or standards to support implementation; and
- The allocation of sufficient budget to implement all aspects of the interventions.

Where the REDD+ Strategy options may result in negative performance against the SESA outcomes, recommendations have been made to improve such performance. Table 6.3 presents a summary of the recommended modifications applicable to SOs under REDD+ Priority 2. These recommended adjustments fall into one of three categories as follows:

1. **Strategy Adjustments.** These are highlighted in red in Table 6.3 and relate to areas where, without modification, the SOs could promote interventions that give rise to significant adverse environmental or social impacts. These may be challenging to address at the intervention, planning and implementation stages without revisions to the SOs themselves. For this reason, it is recommended that these adjustments be fully considered prior to finalization of the REDD+ Strategy to strengthen or clarify SOs moving forward. These adjustments typically modify the strategy wording and in some cases may propose additional strategy options. For example, mangroves are important carbon sinks and provide critical habitat for biodiversity, and yet they are not addressed directly in the strategy as it stands. The inclusion of mangroves could enhance performance against several of the SESA outcomes.
2. **Mitigation Measures.** These relate to areas where, without specific measures, interventions implemented under the strategy could either give rise to:
    a. Negative impacts, which can be addressed through established mitigation measures, (siting considerations, etc.) at project implementation. These are highlighted in yellow in Table 6.3; or
    b. Positive impacts, which can be enhanced through established measures at project implementation. These are highlighted in green in Table 6.3.

    These measures can be developed as each intervention is planned and implemented. While they do not therefore require any modification to the SOs, they have been identified in the SESA to ensure that they are included within the ESMF and are considered as appropriate through its application and implementing mechanisms (screening, ESIA, etc.) to enable potential impacts to be both identified and managed at the project level.
3. **Institutional and legal measures.** These measures focus on building **institutional capacity** for implementation, or address **legal gaps** that exist in the current framework but are required to ensure the SESA outcomes are achieved. Capacity interventions focus on developing the technical and logistical expertise to implement the strategy and may also take into account realistic time frames for their implementation in light of current capacity constraints, including budgetary constraints or technical limitations. Legal interventions include the development of legal mechanisms that are needed to implement the strategy. These may include regulations, national standards, or even coordinating committees that may be necessary to realize REDD+ SESA outcomes. The REDD+ Strategy currently does not address these issues, but these will be critical for the effective implementation of REDD+. Accordingly, these should be incorporated directly into the strategy, or plans to consider these issues incorporated into the transformation stage. These are highlighted in orange in Table 6.3.

Table 6.3: Priority 2 Proposed Strategy Adjustments, Legal and Institutional Measures, and Mitigation Measures

	Recommended Modifications	Strategy Options	Where This Should Be Addressed		
			Strategy Adjustment (Transformation Phase)	Institutional & Legal Strengthening Measures	Mitigation Measures (ESMF)
1	Specify more clearly what is included under "industrial logging" and "commercial forestry" – assumed to apply to FMC, TSC, and commercial CFMA areas but not explicitly stated.	2.1, 2.2	x		
2	Specify proposed standards to be adopted (FSC, HCV, HCS, etc.) that can be demonstrated to deliver the "high conservation standards" stated in SO2.1, and to "maintain areas of highest conservation value" in HCS stated in SO2.2 of different types of commercial forestry (FMC, TSC, CFMA).	2.1, 2.2	x		
3	Articulate how areas of "high conservation value" will be established for TSCs, FMCs, and commercial CFMAs, e.g., through set asides, offsets, and other methods and the legal basis for enforcement.	2.1	x		
4	Specify measures to address the indirect effects (land pressure, conflict, etc.) on areas of conservation importance (HCS and HCV) outside the forest concessions, arising from leakage of chainsaw logging and charcoal production from within them. This may be covered by the development of HCV 5 standards.	2.4		x	
5	Specify potential interventions and measures to engage and support Community Forest management planning with the private sector in CFMAs, and to strengthen the regulatory environment related to CFMAs.	2.5			x
6	Develop specific standards for community forestry.	2.5		x	
7	Map out capacity building and restructuring of the FDA to support implementation of activities with particular focus on the nature, components, processes, and delivery mechanisms to demonstrate how these will address the specific gaps.	ALL		x	
8	Map out the capacity building support for community organizations to support implementation of activities to ensure meaningful participation of affected communities.	2.1, 2.4, 2.5		x	x
9	Promotion of biodiversity landscape approaches (proposed under Priority 3), e.g., through prioritizing interventions that play a role within such landscapes and adopting integrates approach with other sectors (mining, agriculture, PAs).	2.1, 2.2, 2.3, 2.5			x
10	Ensure measures are implemented to address both (i) the potential for leakage of community activities from within the concessions subject to strategy interventions (e.g., due to restriction on activities) to areas of HCS and HCV outside of them, and (ii) new pressures on such areas due to population influx (e.g., attracted by new infrastructure and opportunities).	2.1, 2.2, 2.4			x
11	Ensure high conservation areas set aside from forestry and implemented through the strategy are	ALL			X

	Recommended Modifications	Strategy Options	Where This Should Be Addressed		
			Strategy Adjustment (Transformation Phase)	Institutional & Legal Strengthening Measures	Mitigation Measures (ESMF)
	protected from becoming vulnerable to community or other uses (e.g., through Community Agreements or similar as being applied to the mining and agriculture sectors).				
12	Specify requirement for offsetting of HCS/HCV loss from TSCs to ensure no loss of HCS/HCV.	2.3	x		
13	Clarify measures to be applied when TSCs are found to be non-compliant with forestry law.	2.3		x	
14	Replace "compliance with … EIA standards" with "compliance with … national EIA procedural requirements and management measures arising thereof," replace "dense forest" with "HCV/HCS forest," and remove reference to proximity to PAs. Consideration should also be given to specification of the need for TSCs to be outside of critical natural habitat.	2.3	X		
15	Clarify measures that will be adopted to implement the presumption against further TSCs in dense forest/HCV/HCS and how it will be legally implemented.	2.3		X	
16	Reference to the threshold of 1,000 ha in SO2.5 should be removed and replaced by a requirement for all commercial CFMAs >50 ha to be subject to EIA screening and, depending on the outcome of that exercise, to the relevant EIA process and any resulting management regime.	2.5	x		
17	Promote interventions in locations that play a role in supporting climate change resilience.	2.1-2.5			x
18	Promote interventions that divert pressures away from, or conserve, areas of forest that may comprise critical natural habitat or play an important role in the biodiversity landscape. Ensure no conversion of critical natural habitat.	2.1, 2.2			x
19	Only support TSCs outside of critical natural habitats.	2.3, 2.5			x
20	Promote interventions at locations where they can contribute to soil and water conservation.	2.1, 2.2			x
Cross-cutting Legal and Institutional Strengthening Measures					
21	Promote the finalization and adoption of Liberian national interpretation of HCV and, if FSC adopted, the national FSC Indicators for HCS.			x	
22	Identify mechanisms to implement HCV-HCS standards, through their inclusion in forestry or other relevant legislation relating to management of FMCs, TSCs, and CFMAs, which should give due consideration to existing contract rights and how to apply such requirement both to future concessions and retrospectively to those that have already been awarded.			X	
23	Support creation of addenda to the EIA legislation to include regulations and associated guidance for the forest sector consistent with adopted standards (e.g.,			x	

	Recommended Modifications	Strategy Options	Where This Should Be Addressed		
			Strategy Adjustment (Transformation Phase)	Institutional & Legal Strengthening Measures	Mitigation Measures (ESMF)
	requirement for consideration of HCV and HCS in the EIA process).				
24	Develop formal mechanisms and policies to promote innovative collaborative approaches with the private sector and CSOs to conservation including for example through aggregate offsets and Conservation Agreements.			x	
25	Support to creation of legal and institutional measure for creation of Community Agreements or similar for the forestry sector.			X	

7.0 PRESENTATION AND ASSESSMENT OF PRIORITY 3

7.1 PRIORITY 3 STRATEGY OPTIONS

Priority 3 focuses on the completion and management of the Protected Area Network as presented in the Liberia Forestry Strategy of 2007 and identified in 2003, and it prioritizes expansion of that network to cover 30 percent of the forests of Liberia. In recognition of the importance of engaging communities in achieving this objective, Priority 1 SOs are included as part of this overall strategy and presented as one of the four SOs under this priority. The four SOs to support this priority are as follows:

3.1. Complete the Protected Areas Network and strengthen management to prevent forest degradation;

3.2. Expand the Protected Areas Network to conserve 30 percent of forest land;

3.3. Reduce pressure on Protected Areas from surrounding communities (using Priority 1 measures); and

3.4. Develop and implement land use plans at the landscape scale to integrate production and conservation.

A brief description of the interventions associated with these SOs and the geographic focus for implementation thereof is summarized in the Intervention Plan from the REDD+ Strategy and presented in Table 7.1 while comments and assumptions regarding these interventions are described in the narrative below.

Table 7.1: Priority 3 Strategy Options

	REDD+ Strategic Priority 3: Complete and manage a network of Protected Areas			
Strategy Options	3.1 Complete the Protected Areas Network and strengthen management to prevent forest degradation.	3.2 Expand the Protected Areas Network to conserve 30 percent of forest land.	3.3 Reduce pressure on PAs from surrounding communities (using priority 1 measures).	3.4 Develop and implement land use plans at landscape scale, to integrate production and conservation.
Interventions	*LFSP Subcomponent 2.2. Strengthened Management of PAs of Targeted Forest Landscapes (US$8.2 million).* This subcomponent will contribute to the expansion, improved management, and more sustainable funding of Liberia's protected area network, providing the resources necessary to safeguard selected existing and future protected areas. The LFSP will support priority investments to strengthen the on-the-ground management of the Sapo, Lake Piso, Gola Forest, and Wonegizi protected areas. PPAs to be assessed under the LFSP are the Foya and Kpo Mountains PPAs in the northwest forest.landscape and the Grand Kru-River Gee, Gbi, and Senkwehn PPAs in the southeast. SCNL worked with the FDA to prepare the gazettement package for the proposed Gola Forest National Park, including consultations with all communities adjacent to the proposed Gola Forest National Park As part of the Gola MA Project, RSPB and SCNL are working with communities in the forest area between the proposed Gola Forest National Park and the proposed Foya Nature Reserve to demarcate Community Forests, parts	Commission a study to inform the identification and allocation of the target areas for conservation (LoI p.6) As part of the World Bank Liberia REDD+ Investment Program, compose an overarching strategy for the allocation of selected forest areas to protected area status, detailing adequate resources necessary to safeguard existing and future protected areas (LoI)	Measures to manage chainsaw logging, charcoal and shifting agriculture described under Priority 1. Community action for conservation. This consists of a number of programs operated by different NGOs with different funding sources, including: • Development of Conservation Agreements • Development of benefit-sharing mechanisms • Development of conservation trust funds and financing mechanisms for sustainable forest practices by communities. • Implementation of sustainable livelihood projects. (NGO Working together actions 4 and 6)	*LFSP Subcomponent 2.1. Improved Land Use Planning (US$1 million):* The subcomponent will support the preparation of current land use maps at the subnational (for the targeted landscapes) and national levels. Together with the results achieved and lessons learned from the inclusive strategic planning processes and land use planning at the community level (Component 2.3), a road map report to scale up land use planning above the community level (such as land use plans at the district level) will be developed Landscape approach to biodiversity conservation (NGO Working Together Document activity 7)

	REDD+ Strategic Priority 3: Complete and manage a network of Protected Areas			
	of which will be designated conservation areas			
Cross-cutting interventions	LFSP Further support for PA management includes i) Conservation Trust Fund; ii) Biodiversity offsets from mining; iii) Tourism potential study; iv) Capacity to FDA regional offices. Cross-cutting activities underway or planned by INGOs include (NGO Working Together Document): • Activity 1: Demarcation and legal gazettement of proposed and existing protected areas (PAs) • Activity 2. Monitoring of protected areas, community forests for conservation, and key landscapes (biomonitoring) • Activity 3. Protected area management frameworks • Activity 5. Compliance and law enforcement through community or government-led initiatives. • Activity 6. Sustainable financing for conservation actions within protected areas and community forests • Activity 8. Capacity building in biodiversity conservation for the next generation (Environmental education)			

7.1.1 Strategy Option 3.1: Complete the Protected Areas Network and Strengthen Management to Prevent Forest Degradation

General Comments

Strategy Option 3.1 focuses on the completion and management of the PAN with initial implementation in the three existing PAs (East Nimba Nature Reserve, Sapo National Park, and Lake Piso) and three additional areas (Gola, Grebo, and Wonegizi) primarily through support from the LFSP. The strategy recognizes that this will be a gradual process and we note that the six initial focus areas represent only a small portion of the 30 percent target. It is also noted that establishment of these areas will require legislative approval. That said, the strategy could be strengthened by reference to the phasing of these actions.

Biodiversity Values. The strategy aspires to expand the PAN to cover 30 percent of the forests of Liberia in line with a plan first drafted in 2003 and formalized in 2006. However, it also recognizes that considerable research and data collection is needed to determine the biodiversity value of these proposed areas. Further, the strategy recognizes that implementation will be gradual with an initial focus on the existing PAs and three additional areas but does not address how existing biodiversity values will be protected or maintained in other proposed PAs.

Customary Rights. The REDD+ Strategy points out that "[l]and ownership is also a critical factor because much of the land in proposed PAs is likely to be recognized as community owned, under the pending Land Rights Act." Interpreting this, it appears that this concern arises because the Land Rights Bill (as currently drafted) would formally recognize customary ownership rights. As such, any taking of customary land to establish PAs would require the government to undertake a formal consultation process (although it would reportedly not require compensation). However, the strategy does not address explicitly customary rights in the absence of the passage of the draft Land Rights Bill. While the passage of the Land Rights Bill would strengthen and formalize customary rights, such rights do exist under the Wildlife and National Parks Act of 1987, which requires consultations with communities (and compensation for takings). Finally, adoption of HCV 5 standards as proposed under Priority 2 and 4 could also reinforce these customary rights. Related to this, the history of PA establishment and management has been controversial and has resulted in considerable conflict between government and local people.

Capacity. The strategy also focuses on strengthening management to prevent forest degradation (assumedly within the PAN). While there is no timeline given for implementation of this strategy, it is noted that the current capacity of FDA is extremely limited.

Protected Area Approach versus Landscape Approach. SO3.1 should recognize that, while PAs are a key component in achieving Liberia's conservation outcomes, on their own they are unlikely to deliver these, and rather need to be planned and implemented in an integrated manner with other measures within the same biodiversity landscape, as outlined under adjustment 3.4a. SO 3.1 should therefore include specification for the identified interventions to be integrated with such other measures, rather than undertaken in isolation for PAs as currently implied.

Similarly, in recognition that biodiversity conservation outcomes need to be delivered by a range of management measures (strict protection and other types of management regime) the proposals to strengthen management specified in SO3.1 should not be restricted to PAs, but should also refer to those other areas that perform a function in the biodiversity landscape outside of the PAs. These measures should be consistent with those relating to biodiversity conservation within forestry, agriculture and mining concessions specified under Priorities 2 and 4.

Assumptions

The completion of the PAN will be a gradual and long-term exercise with an initial focus on the three existing Protected Areas along with Gola, Grebo, and Wonegizi. The effective rolling out of this strategy will be limited by the development of the technical capacity to establish and manage these areas which will require considerable time and allocation of resources. Regardless of whether the

Land Rights Bill is passed, it is extremely likely that communities will claim customary rights to lands proposed for the PAN. Under such circumstances, conflict is inevitable.

7.1.2 Strategy Option 3.2: Expand the Protected Areas Network to Conserve 30 Percent of Forestland

General Comments

Strategy Option 3.2 focuses on protection of forestlands through the completion of a PAN that covers 30 percent of the forest area. This is likely to ensure the inclusion of forestlands of biodiversity significance managed under PAs as well as offsets but does ***not*** envision the use of CFMAs.

Biodiversity Values. As with the completion of the originally proposed PAN (SO3.1), the strategy recognizes that considerable research and data collection is needed to determine the biodiversity value of these proposed areas, and that implementation will be gradual. However, a process and timeline for identification of these priority areas is not clearly articulated.

Customary Rights. As with SO2.1, the strategy recognizes that expansion of the PAN could impinge on the customary rights of local people if the Land Rights Bill which would formally recognize customary rights. However, it does not address the issue of customary rights in the absence of this legislation. While passage of the Land Rights Bill would strengthen customary rights, these rights still exist and should be considered when establishing PAs under Section 6 of the 1987 Wildlife and National Parks Act. Adoption of HCV 5 standards as proposed under Priority 2 and 4 could also reinforce these customary rights. Related to this, it is noted that there are currently more than 110 CFMA applications by local communities currently under consideration by the FDA. Many of these are based on customary land claims and it is likely that some of these will overlap with the proposed PAN and add a new dimension to the potential conflict between communities and the State which has characterized PA establishment.

It is not clear if commercial offset areas would be included in concession agreements areas, or if they would be areas that are identified and gazetted as part of the PAN for offset purposes. Most concessions may not be allocated within a Protected Area, so it is assumed that offset areas would have to be within a commercial concession area.

Assumptions

The completion of the PAN will be a gradual and long-term exercise with an initial focus on the three existing Protected Areas, three PPAs (Gola, Grebo, and Wonegizi), and adjacent forestlands. The effective rolling out of this strategy will be limited by the development of the technical capacity to establish and manage these areas which will require considerable time and allocation of resources. Regardless of whether the Land Rights Bill is passed, it is extremely likely that communities will claim customary rights to lands proposed for the PAN expansion. Under such circumstances, conflict is inevitable.

It is assumed that offset areas would not be designated as formal, legislated Protected Areas but identified as part of a larger landscape use and management plan or strategy.

The impacts and adjustments described under SO3.1 are equally relevant for SO3.2 since both involve the expansion of the current PAN (please see SO3.1 above). In addition to the impacts and adjustments described in that section, additional anticipated impacts and related adjustments from SO3.2 are described in the subsections below.

7.1.3 Strategy Option 3.3: Reduce Pressure on PAs from Surrounding Communities (using Priority 1 Measures)

General Comments

The issues, assumptions, potential impacts and proposed adjustments associated with SO3.3 are described in the five strategy options under Priority 1 above. In addition, the following is noted:

Conflict Potential. The establishment and management of PAs in Liberia have been marked with significant conflict between affected communities and government as land use and ownership shifts.

Such conflict can seriously undermine efforts to establish PAs and achieve conservation outcomes and must be addressed and managed from the outset with commitment to stakeholder engagement and the development and use of fair and impartial forums to consider and manage issues arising from the establishment process.

Coordination Efforts. NGO are identified as the primary implementers of initiatives associated with SO3.3. These activities include development of Conservation Agreements, benefit-sharing mechanisms, conservation trust funds and other financing mechanisms for sustainable forest practices. We note that the current experience in implementation of these activities is limited to fewer than 5 NGO in the country. Further, it is unclear how strategic selection of NGO sites will be coordinated with donors, NGO and FDA.

Evidentiary Base. The impact of this strategy will ultimately depend on extent to which the proposed activities mitigate deforestation activities in and adjacent to PAs. Despite many small-scale projects, there are no examples of implementation of these types of activities at scale that have effectively reduced dependency on shifting cultivation. The development and adoption of the proposed activities face many challenges including cultural (e.g., traditional practices), economic (e.g., infrastructure, inputs, and tools) and environmental (e.g., soil types) barriers to adoption, as well as limited capacity to plan and implement associated activities.

Assumptions

It is assumed that implementation of strategies 3.2 and 3.4 will be implemented concurrently with SO3.1 and in the same geographic areas.

7.1.4 Strategy Option 3.4: Develop and Implement Land Use Plans at Landscape Scale, to Integrate Production and Conservation.

General Comments

Biodiversity Landscapes. SO3.4 involves the preparation of land use maps at the national and targeted landscapes levels; and land use planning at the community level through a $1M commitment from LFSP and with local NGO. However, activities focus on the LFSP "target landscapes," which are defined largely by areas which have both value for conservation (as defined by the current PAN and areas of HCS) and are subject to land uses that are drivers of degradation and deforestation (e.g., areas subject to commercial concessions and shifting agriculture). These areas are unlikely to have the same boundaries as biodiversity landscape areas, i.e., areas within which the character of biological communities and/or management issues have more in common with each other than they do with those in adjacent areas.

Capacity. The allocation of significant time and resources will be necessary to develop the requisite capacity to support land use planning activities.

7.2 Priority 3 Strategic Option Impacts

Below, each of the Priority 3 SOs is assessed against the SESA outcomes identified as part of the SESA process and presented above in Section 3.0. For each SO, the impact is discussed and summarized in Table 7.2. The assessment informed the formulation of recommendations (comprises strategy adjustments, legal and institutional measures, and mitigation measures) to improve the environmental and social performance of the REDD+ Strategy and are listed in Table 7.2.

Priority 1 options will have a number of both positive and negative impacts which are summarized in Table 7.3 below. Some of these impacts will depend on how the strategic option is implemented (i.e., whether the outcomes are considered in program or policy design) and/or whether it may realistically be implemented. For example, SOs that are heavily dependent on developing capacity or enforcing regulations may not be realized unless these issues are addressed.

7.2.1 Microeconomic Impacts

Livelihoods (Outcomes 1–3)

Outcome 1: Dependency on Shifting Cultivation Reduced. Depending on how this strategy is implemented, this policy has the potential to increase shifting cultivation around PAs. The expansion of PAN through PPA and other areas of HCV 1–4 (SO3.1 and SO3.2) could decrease the land available for agriculture (primarily shifting cultivation). For the most part, PAs are remotely located and the availability of inputs to support communities to develop permanent agriculture is limited. Similarly, enforcement of laws on chainsaw logging (SO1.1), charcoaling (SO1.2) hunting (SO1.5), and mining (SO1.5) could further limit livelihood options rendering communities even more dependent on shifting cultivation for their subsistence needs. Importantly, implementation of SO3.1 and SO3.2 could require relocation of communities or individuals from the PAN, which could trigger Involuntary Resettlement Safeguards under WB OP4.12.

Depending on how landscape level plans are developed (SO3.4), this has the potential to positively affect community livelihoods by developing realistic and time bound plans for development of land and resources which could address dependency on shifting cultivation.

Outcome 2: Livelihoods Diversified. Communities located around PAs are, for the most part, remotely located and have little access to inputs for diversifying their livelihoods. In addition, completion and expansion of the PAN (SO3.1 and SO3.2) could further limit their access to forests, NTFP and other forest-based resources that contribute to their livelihoods. Implementation of this policy could render communities more dependent on shifting cultivation. Conservation Agreements have the potential to offset some of these impacts, but there is little evidentiary support to suggest that it will entirely mitigate the impacts of the expansion of PAN. The actual impacts will depend in large part on the ability of the FDA to manage the expanded PAN. Importantly, implementation of SO3.1 and SO3.2 could require relocation of communities or individuals from the PAN which could trigger Involuntary Resettlement Safeguards under WB OP4.12.

Outcome 3: Forest Management Improved through Community Forestry. The expansion of the PAN would leave very little dense forestland for communities to manage under CFMAs. The pressure on these less dense forest areas may be difficult for communities to manage sustainably as they attempt to generate livelihood options from these dense forests while further restricted from chainsaw logging, charcoaling and hunting (SO1.1, SO1.2, and SO1.5).

In addition, the proposed PAN (SO3.1 and SO3.2) by definition does not include community forests. This would limit the opportunities for communities to manage their customarily owned forests as community forests.

Depending on how landscape level plans are developed (SO3.4), this has the potential to positively affect community livelihoods by providing opportunities for community forestry within the larger biodiversity conservation strategy.

Land (Outcomes 4–7)

Outcome 4: Increased Land Security. SO3.1 and SO3.2 will have a negative impact on customary land right holders' security of tenure (both individuals and communities) whose lands are located within the proposed PAN. Importantly, implementation of these SOs could require relocation of communities or individuals from the PAN which could trigger Involuntary Resettlement Safeguards under WB OP4.12.

However, the landscape planning process (SO3.4) does provide opportunities for communities to plan and manage their lands within the larger landscape and so does provide the opportunity to increase land security of customary owners.

Outcome 5: Adequate Access to Land for Livelihoods. The completion and expansion of the PAN (SO3.1 and SO3.2) will limit the availability of land for livelihoods and could trigger Involuntary Resettlement Safeguards under WB OP4.12. However, the landscape planning process (SO3.4) does

provide opportunities for communities to plan and manage their lands within the larger landscape and so does provide the opportunity to increase land security of customary owners.

Outcome 6: Reduced Conflict over Land. Historically, the establishment and enforcement of PA regulations has led to conflict between the government and communities that claim customary ownership rights to the PA. It is likely that the expansion of the PAN would result in conflict with affected communities (SO3.1) with management efforts facing similar challenges (SO3.1).

Further, it is a matter of debate as to whether or not the PPAs for inclusion in the PAN that are identified in the Forestry Strategy were identified in compliance with FPIC principles.

Finally, with more than 110 CFMA applications currently with the FDA, it is likely that at least some of these will overlap with the proposed PAN and add a new dimension to the potential conflict between communities and the State.

The landscape planning approach (SO3.4) provides an opportunity for more substantive engagement between stakeholders in the identification of proposed protected areas and as such, should provide opportunities to manage and mitigate conflict.

Outcome 7: Existing Land Rights Are Maintained. The expansion of the PAN will infringe on customary rights (SO3.1 and SO3.2) and could trigger OP4.12. There is currently no means by which communities can be compensated for the loss of their customary lands; a provision to provide compensation for a PA taking was removed from the draft Land Rights Bill that otherwise recognizes customary rights. The landscape level planning process (SO3.4) provides opportunities to identify and negotiate land rights and so is likely to have a positive impact.

Community lands that are identified as offset areas and included within the PA under SO3.2 could be considered a "takings" of customary land. Under the current draft of the Land Rights Bill, it is reported that the government would not be required to compensate customary owners for land takings associated with the establishment of a PA. However, if offsets areas cannot be considered part of the legislated PAN, then "takings" of community lands for offsets would likely require compensation to communities by concessionaires or the government.

Governance (Outcomes 8–11)

Outcome 8: Local Leaders Have Skills and Information to Represent Constituents. Stakeholder consultations suggest that many community leaders have limited knowledge and skills to adequately represent their constituents in negotiations and FPIC processes. This could lead to adverse impacts to communities despite consultations that will be required to establish the PAN.

Outcome 9: Equitable, Functioning Benefit-sharing Mechanisms in Place. No direct impacts were identified.

Outcome 10: Law Enforcement Increased. Option 3.1 emphasizes enforcement of existing legislation. Successful implementation of this strategy would strengthen this objective and larger governance objectives. However, the limited capacity of FDA and other agencies to enforce this law suggest the need for significant technical and logistical capacity building. Without this, unenforceable policies and regulations will not only undermine the REDD+ Strategy, but will undermine the rule of law.

Outcome 11: Credible Feedback and Grievance Redress Mechanisms in Place. It is not possible to assess the potential impact of the strategy options against this priority outcome since a FGRM has not been proposed. However, it is important that a system is in place to address conflicts prior to the expansion of PA in order to address conflicts that will inevitably arise.

7.2.2 Biophysical Impacts

Climate Change (Outcomes 12–13)

Outcome 12: Emissions Reduced and Carbon Sequestered. All SOs have the potential to contribute positively to this outcome through increasing the percentage of forest and associated carbon stock that is protected. This will, however, strongly depend on the ability to prevent extraction

of biomass (notably firewood, charcoal, and chainsaw logging) that would otherwise occur in PAs through leakage.

Outcome 13: Resilient Landscapes and Livelihoods. SO3.1, SO3.2, and SO3.4 are likely to contribute to maintenance of climate-resilient landscapes through the retention of forests, although the degree to which this is achieved will depend on the location and specific interventions.

Biodiversity (Outcomes 14–17)

Outcome 14: Conservation of Natural Habitat (WB OP4.04 and OP4.36). All SOs under Priority 3 are likely to promote Outcome 14, as most of the PAN (created, expanded, or managed under SO3.1–SO3.3) and other areas that may be subject to other conservation measures (under SO3.4) are likely to comprise natural habitat, and a significant percentage may also constitute critical natural habitat. The protection or adoption of conservation measures in such areas should ensure that there is no conversion or net loss of such habitat, while expansion beyond the currently proposed network (SO3.2) will promote a net gain. However, the degree of positive impact will be influenced by the extent to which new PAs and areas subject to other conservation management measure are prioritized based on critical natural habitat criteria. It will also be influenced by the degree of leakage of activities that threaten biodiversity from such managed areas to other areas of biodiversity value.

Outcome 15: Conservation through Landscape Approach. While the PAN comprises an element important for achieving Outcome 15 (SO3.1 and SO3.2), in isolation, it may not be sufficient to deliver Outcome 15. Outcome 15 is likely to be better achieved through an approach that considers the various components of Liberian landscape units at local regional and national scales and that focuses on retaining the size, structure, and connectivity of such constituent elements.

SO3.4 achieves this to some extent through promotion of land use plan development at the landscape scale. The term 'landscape' as used here is understood to relate to the LFSP "target landscapes" (as opposed to biodiversity landscapes),[29] and does not take account the latest data on biodiversity or ecosystem functioning at different spatial scales, and is biased toward areas under threat. Therefore, they may not be the most appropriate mechanism through which to achieve Outcome 15.

Furthermore, while SO3.4 refers to integrating "production and conservation," the proposed interventions do not specify how opportunities offered by the package of production conservation measures that will be created from emerging commercial and community land uses (e.g., areas of HCV set asides, offsets sustainably managed in FMCs and CFMAs, supported by Conservation Agreements and P-PAs) could support the achievement of such landscape-level conservation outcomes. This, however, is a key approach being promoted by certain conservation stakeholders (both generally and specifically within Liberia) to harness the potential of evolving land uses to contribute to conservation outcomes (rather than relying entirely on the PAN). Without such measures, the biodiversity performance of SO3.4 is likely to be constrained.

Outcome 16: Reduce Biodiversity Loss from Shifting Cultivation and Other Community Activities. All SOs, assuming they successfully achieve controls over community uses, will result in positive impacts on both Outcomes 16 and 17. They do not, however, address the potential negative impacts on these outcomes outside the PAs and other areas managed for conservation (under SO3.4) that may arise from leakage of shifting agriculture and other forest uses from within them to other areas of biodiversity importance.

Outcome 17: Reduce Biodiversity Loss from Commercial Activities. None of the interventions under Priority 3 relate to, or have potential to affect, commercial activities and therefore will have a neutral influence on Outcome 1.

[29] The LFSP target landscapes are defined as those with HCS and/or are within the proposed PAN, and that are subject to land uses that are drivers of degradation and deforestation (primarily areas subject to commercial concessions and shifting agriculture). They do not therefore necessarily represent biodiversity landscapes.

Water and Soils (Outcomes 18–19)

Outcome 18: Water Quality Maintained and **Outcome 19: Soil Quality Maintained.** Expansion of the PAN and application of conservation measures in other locations should protect riparian areas and catchments as well as wetlands that would otherwise be subject to threat and will therefore promote achievement of Outcomes 18 and 19. It is assumed that land use planning efforts under SO3.4 will integrate water resources and land resource management for an overall positive impact for soils and waters.

7.2.3 Macroeconomic Impacts

Revenues (Outcome 20)

Outcome 20: Increased Sustainable Revenue from Forests. Expansion of the PAN (SO3.1 and SO3.2) could result in the inclusion of areas currently identified as FMCs, TSCs, or even CFMAs. These areas all have the potential to generate revenues sustainably particularly if Priority 2 (see above) is effectively implemented. Conservation of HCS forests could also result in revenues from the sale of carbon credits. However, before Liberia is in a position to sell carbon credits, there are a significant legal and policy reforms that must be undertaken, research and data collection, monitoring and evaluation, documentation, and other actions. Even if all of the criteria are met, the price of carbon remains low and without mandated cap and trade legislation, the demand for carbon credits is likely to remain low. As a result, at this point, sustainable revenues from carbon are merely speculative.

In contrast, landscape level planning (SO3.4) provides opportunities to integrate commercial activities into management of the forest resources along with conservation outcomes. This planning could help planners to determine and balance revenue generation potential and conservation outcomes.

Forest Goods and Services – Domestic Markets (Outcomes 21–23)

Outcome 21: Adequate Supply of Sustainable and Affordable Energy Sources for Urban Population. Effective expansion and management of the PAN could limit the availability of charcoal but there is not enough known about the sector to determine how great this impact could be.

Outcome 22: Sustainable Supply of Domestic Timber. Effective expansion and management of the PAN could limit the availability of timber for domestic consumption but there is not enough known about the sector to determine how great this impact could be.

Outcome 23: Land is Available for Commercial Development. The proposed expansion (SO3.1 and SO3.2) of the PAN may contain land with potential alternative uses as FMCs, CFMAs, and agricultural development. It is not clear what the current demand for land for these purposes is, but it could be adversely affected by the expansion of the PAN. Landscape-level planning could mitigate these negative impacts (SO3.4).

Employment (Outcome 24)

Outcome 24: Jobs for Unskilled Laborers. SO3.1, SO3.2, and SO3.4 as described do not directly affect this priority outcome. However, please refer to SOs under Priority 1 for impacts.

Table 7.2: Impacts of Priority 3 Strategy Options by Outcomes

REDD+ Strategy Options	SESA Outcomes																								
	1. Dependency on shifting cultivation reduced	2. Livelihoods diversified	3. Forest management improved through community forestry	4. Increased land security	5. Adequate access to land for livelihoods	6. Reduced conflict over land	7. Existing land rights are maintained	8. Local leaders have skills/info to represent constituents	9. Equitable, functioning benefit-sharing mechanisms in place	10. Law enforcement increased	11. Credible grievance redress mechanisms in place	12. Emissions reduced and carbon sequestered	13. Resilient landscapes and livelihoods	14. Conservation of natural habitats	15. Conservation through landscape approach	16. Reduce biodiversity loss from community activities	17. Reduce biodiversity loss from commercial activities	18. Water quality maintained	19. Soil quality maintained	20. Increased sustainable revenue from forests	21. Adequate supply of sustainable/affordable energy for urban pop.	22. Sustainable domestic timber supply	23. Land is available for commercial development	24. Jobs for unskilled workers
	Livelihoods			**Land**				**Governance**				**Climate Change**		**Biodiversity**				**Water & Soils**		**Rev.**	**Forest Goods & Services**			**Jobs**
3.1 Complete the Protected Areas Network and strengthen management to prevent forest degradation.	7, 10, 17	1, 7, 10, 17	17	17	17	9, 11	7	13, 14		12, 15	11	1	2	3	4	1		6	6		8, 16, 18	8, 16, 18	19	
3.2 Expand the Protected Areas Network to conserve 30 percent of forest land.	7, 10, 17	1, 7, 10, 17	17	17	17	9, 11	7	13, 14		12, 15	11	1	2	3	4	1		6	6		8, 16, 18	8, 16, 18	19	
3.3 Reduce pressure on PAs from surrounding communities (using priority 1 measures).	**See results in Table 6.1. above for SO 1.1-1.5**																							
3.4 Develop and implement land use plans at landscape scale, to integrate production and conservation.												1	2	3	4	1		6	6					

Key

- Positive performance against the SESA outcome. In some cases performance can be enhanced through adoption of specified **Mitigation Measure(s)** at project implementation stage.
- Negative performance may occur but can generally be addressed through adoption of specified **Mitigation Measure(s)** at project implementation stage.
- Negative performance may occur without **Legal or Institutional Capacity Strengthening Measures.**
- Negative performance or uncertainty regarding performance due to lack of specificity in SO, which require **Adjustments** to strategy options before they are finalized.
- Neutral performance against SESA outcome

1, 2, etc. Reference to recommended modifications outlined in Table 7.3 required to address potential negative environmental and social impacts and harness positive impact of the REDD+ Strategy.

Notes

1. Where several types of impact and requirement for mitigation (Adjustments, Legal and Intuitional Capacity Strengthening or Mitigation Measures) are identified, the color relates to the highest ranking impact.
2. For ease of reading, cross-cutting Legal and Institutional Strengthening Measures that apply to the management off numerous impacts associated with the strategy options are not all itemized above but included in a separate section in Table 7.3.

7.3 RECOMMENDED ADJUSTMENTS

The impacts described above have the potential to positively or negatively affect the performance of REDD+ in Liberia against the 24 identified SESA outcomes. The degree of impact may in large part be determined by:

- How and where the interventions are undertaken;
- The phasing or timing of activities;
- Whether issues of capacity are addressed adequately;
- The development of regulations or standards to support implementation; and
- The allocation of sufficient budget to implement all aspects of the interventions.

Where the REDD+ Strategy options may result in negative performance against the SESA outcomes, recommendations have been made to improve such performance. Table 7.3 presents a summary of the recommended modifications applicable to SOs under REDD+ Priority 3. These recommended adjustments fall into one of three categories as follows:

1. **Strategy Adjustments.** These are highlighted in red in Table 7.3 and relate to areas where, without modification, the SOs could promote interventions that give rise to significant adverse environmental, or social impacts. These may be challenging to subsequently address at the intervention, planning and implementation stages without revisions to the SOs themselves. For this reason, it is recommended that these adjustments be fully considered prior to finalization of the REDD+ Strategy to strengthen or clarify SOs moving forward. These adjustments typically modify the strategy wording and in some cases may propose additional strategy options. For example, mangroves are important carbon sinks, and provide critical natural habitat for biodiversity and yet are not addressed directly in the strategy as it stands. The inclusion of mangroves could enhance performance against several of the SESA outcomes.
2. **Mitigation Measures.** These relate to areas where, without specific measures, interventions implemented under the strategy could either give rise to:
    a. Negative impacts, which can be addressed through established mitigation measures, (siting considerations, etc.) at project implementation These are highlighted in yellow in Table 7.3; or
    b. Positive impacts, which can be enhanced through established measures at project implementation. These are highlighted in green in Table 7.3.

    These measures can be developed as each intervention is planned and implemented. While they do not therefore require any modification to the SOs, they have been identified in the SESA to ensures that they are included within the ESMF and are thus considered as appropriate through its application and implementing mechanisms (screening, ESIA, etc.) to enable potential impacts to be both identified and managed at the project level.
3. **Institutional and legal measures.** These measures focus on building **institutional capacity** for implementation, or address **legal gaps** that exist in the current framework but are required to ensure the SESA outcome are achieved. Capacity interventions focus on developing the technical, logistical expertise to implement the strategy and may also take into account realistic time frames for their implementation in light of current capacity constraints, including budgetary constraints or limitations. Legal interventions include the development of legal mechanisms that are needed to implement the strategy. These may include regulations, national standards, or even coordinating committees that may be necessary to realize REDD+ SESA outcomes. The REDD+ Strategy currently does not address these issues, but these will be critical for the effective implementation of REDD+. Accordingly, these should be incorporated directly into the strategy, or plans to consider these issues incorporated into the transformation stage. These are highlighted in orange in Table 7.3.

Table 7.3: Priority 3 Proposed Strategy Adjustments, Legal and Institutional Measures, and Mitigation Measures

	Recommended Modifications	Strategy Options	Where This Should Be Addressed		
			Strategy Adjustment (Transformation Phase)	Institutional & Legal Strengthening Measures	Mitigation Measures (ESMF)
1	Ensure measures are implemented to address the potential for leakage of community activities, from within protected areas or other areas managed for conservation that are subject to strategy interventions (e.g., due to restriction on activities) to areas of HCS and HCV outside of them.	3.1, 3.2, 3.4			x
2	Promote interventions in locations that play a role in supporting climate change resilience.	3.1, 3.2, 3.4			x
3	Promote interventions that divert pressures away from, or conserve, areas of forest that may comprise critical natural habitat or play an important role in the biodiversity landscape. Ensure no conversion of critical natural habitat.	3.1, 3.2, 3.4			x
4	Adopt biodiversity landscape approaches to conservation, noting that • Biodiversity landscapes are distinct from the LFSP target landscapes, understood to be the focus of SO3.4 as it currently stands. • This approach should harness and support conservation opportunities offered by set asides, offsets, CFMAs, or sustainably managed areas associated with commercial development, together with PAs, and develop these as an integrated suite of biodiversity management measures within such landscapes, which may offer a more effective means of achieving conservation outcome than strict protection through PAs. SO3.1–3.3 may thus better focus on such biodiversity landscapes and the range of management measures within them rather than being confined to PAs. SO3.4 should make more explicit reference to such biodiversity landscape areas, the range of management measures available within them and promotion of their integration to achieve conservation outcomes.	3.1, 3.2, 3.4	X		
5	SO3.3 should be extended to address pressures on all areas of recognize high biodiversity value, e.g., set asides and offsets that perform recognized function in the biodiversity landscapes.	3.3	x		
6	Promote interventions at locations where they can contribute to soil and water conservation.	3.1, 3.2, 3.4			x
7	Conduct EA in compliance with WB OP4.12 where implementation of strategy results in relocation of customary owners of forestland, or involuntarily limits access to resources.	3.1, 3.2			x
8	SO3.1 should specify how potential impacts on meeting domestic demand for construction and other wood materials and urban demand for energy sources (e.g., through alternatives to charcoal) will be addressed as a result on restriction of such	3.1, 3.2	x		

	Recommended Modifications	Strategy Options	Where This Should Be Addressed		
			Strategy Adjustment (Transformation Phase)	Institutional & Legal Strengthening Measures	Mitigation Measures (ESMF)
	activities in the PAN. This could consider how the biodiversity landscape approach to conservation might achieve multiple outcomes that include not only conservation, but delivery of commercial and community goods and services from the forest, and could potentially limit competition between various forest users.				
9	Measures should include specific reference should be made to interventions that are needed to support stakeholder engagement in the planning and implementation for PAs (and other conservation management regimes), which should include adherence to FPIC principles.	3.1, 3.2			x
10	Include measures to support communities to sustainably manage areas such as CFMAs and those subject to Conservation Agreements or other management mechanisms.	3.1, 3.2			x
11	Include measures to support communities to sustainably manage areas such as CFMAs and those subject to Conservation Agreements or other management mechanisms.	3.1, 3.2		x	
12	Include provisions to build capacity and resources to deliver and manage the PAN (and landscape level planning and implementation) taking account of the fact that to date this has been lacking and without significant support will become further stretched if the PAN is to be expanded. Accordingly, capacity building for implementation and enforcement of relevant regulations and laws should be an important component within these strategy options. Realistic timelines must also be considered for the requisite capacity to be developed to support implementation.	3.1, 3.2		x	
13	Map out the capacity building support for community organizations to support implementation of activities to ensure meaningful participation of affected communities.			x	
14	Provisions for FPIC are required where new forest areas are being considered to ensure consideration of customary land owners and users (cross-cutting).				x
15	Map out capacity building and restructuring of the FDA to support implementation of activities with particular focus on the nature, components, processes and delivery mechanisms to demonstrate how these will address the specific gaps.			x	
16	Type of research that will be undertaken under SO1.2 and what it will inform should be clearly articulated in the strategy.				x
Cross-cutting Legal and Institutional Strengthening Measures					
17	Identify legal provisions and associated guidance that would be required and steps to producing them if CFMAs or areas such as HCV set asides are proposed for inclusion within the 30 percent target for forest protection.			x	

	Recommended Modifications	Strategy Options	Where This Should Be Addressed		
			Strategy Adjustment (Transformation Phase)	Institutional & Legal Strengthening Measures	Mitigation Measures (ESMF)
18	Promote, within EIA legislation and guidelines, consideration of indirect effects which are particularly relevant to forest management activities but can often be overlooked. Such impacts typically result from displacement of community land uses resulting in leakage effects.			x	
19	Develop a systematic landscape classification to inform definition of biodiversity landscape units where forest and non-forest areas within and outside of the PAN may perform an ecological function or have potential to do so (e.g., through forest regeneration) and warrant promotion and safeguarding including through REDD+.			x	

8.0 PRESENTATION AND ASSESSMENT OF PRIORITY 4

8.1 PRIORITY 4 STRATEGY OPTIONS

Priority 4 focuses the drivers of deforestation arising from commercial concessions through offsets and set asides, along with the development of standards that promote conservation objectives. The four SOs to support this priority are as follows:

4.1. Conserve HCV-HCS forest within agricultural concession areas, including developing and implementing a policy for the sustainable management of these conserved areas (using Priority 1 measures);

4.2. Apply policy of conserving HCS-HCV forest to all agricultural concessions, including private and community-owned farms larger than 1,000 ha;

4.3. Ensure that mining results in zero-net deforestation through mechanisms such as biodiversity offsets; and

4.4. Locate future large-scale agriculture and mining concessions in less dense and non-forest areas.

A brief description of the interventions associated with these SOs and the geographic focus for implementation thereof is summarized in the Intervention Plan from the REDD+ Strategy and presented in Table 8.1. Comments and assumptions regarding these interventions are described in the narrative below.

Table 8.1: Priority 4 Strategy Options

	REDD+ Strategic Priority 4: Prevent or offset clearance of high carbon stock and high conservation value forest in agricultural and mining concessions.			
Strategy Options	4.1 Conserve HCV-HCS forest within agricultural concession areas, including developing & implementing a policy for the sustainable management of these conserved areas (using Priority 1 measures)	4.2 Apply policy of conserving HCS-HCV forest to all agricultural concessions, including private and community-owned farms larger than 1,000 ha	4.3 Ensure that mining result in zero-net deforestation, through mechanisms such as biodiversity offsets	4.4 Locate future large-scale agriculture and mining concessions in less dense and non-forest areas
Interventions	IDH Sustainable Landscapes Program, a public-private initiative to finance community oil palm or other agricultural improvements within concessions in exchange for P-As to conserve set-aside forest. Includes mapping of HCV/HCS forest in concessions. National interpretation and application of RSPO standards.		Completed study and proposed policy for an aggregated offsets initiative for the mining sector (WB)	
Targeting	The IDH landscapes are centered on the palm oil concessions of Golden Veroleum Liberia and Sime Darby Plantations Liberia, and the mining concession of Arcelor Mittal. The palm oil landscapes lay within the LFSP-targeted landscapes.			

8.1.1 Strategy Option 4.1: Conserve HCV-HCS Forest within Agricultural Concession Areas, Including Developing and Implementing a Policy for the Sustainable Management of These Conserved Areas (Using Priority 1 Measures)

General Comments

SO4.1 focuses on the introduction of reforms in policy and practice within the commercial agriculture sector that will support the development of conserved areas. Issues related to implementation of this include the following:

International Standards. The RSPO standards advocated for formal adoption in SO4.1 are voluntary and not enforceable by law.

Applicability to Rubber and Other Agricultural Concessions. It is not clear if, or how the RSPO standards, would apply to agricultural concessions that are not palm oil. Specifically, the strategy should provide clarity on whether these standards would apply to rubber and other agricultural concessions that are not signed up to RSPO and if so what mechanisms will be applied to ensure these standards are applied.

Scale of Concessions. Many agricultural concessions cover tens to hundreds of thousands of hectares which communities have customarily used and managed.

Challenges with Creating Set Asides. As discussed under Priority 3 options in relation to PAs, the restriction on land uses within areas set aside for conservation can have significant social costs, may displace activities such as shifting cultivation to other areas in the vicinity of the concessions, exacerbate conflict, and may not be implementable with the current level of capacity at the FDA.

Evidentiary Basis for Livelihood Initiatives. Communities located in and around concession areas undergo significant economic and social change that is further exacerbated by restrictions on access to land and in-migration. There is limited evidentiary basis to suggest that interventions proposed under Priority 1 will effectively mitigate deforestation in concession areas (see SO1.1, SO1.3, and SO1.5 for further discussion). Further, the strategy suggests that outgrowing schemes and P-PAs will be a primary mechanism to manage these conserved areas. This does not address food security issues in many of these remotely located areas.

Biodiversity versus Carbon Offsets. The ability to offset biodiversity (compared to offsetting carbon stock alone) can be challenging, time consuming and costly, and ultimately may not result in a "no net loss" of biodiversity.

Changes to Existing Contracts. Concession agreements cover vast areas of the country already, and many include provisions that do not require compliance with new legislation enacted after the concession agreement is approved by the legislature (approval by the legislature provides concession agreements the force of law). In these cases, compliance with standards that may be legislated could be strictly voluntary if they impinge on existing contract rights. In that case, these standards may not be complied with, particularly if they erode profits.

Assumptions

SO 4.1 suggests that application of RSPO standards would enable conservation of both HCS and HCV forest. However, unless the voluntary RSPO Next addendum[30] is adopted, this may not be the case for HCS. Therefore, it is assumed that the strategy involves a mechanism to implement compliance with RSPO NEXT.

In assessing the impacts of SO4.1, it is assumed that the requirement for conservation set asides will only apply to new concession agreements. Further, it is assumed that the impact of P-PAs for agricultural concessions under the IDH Program will provide some protection from community uses, but in the short-term, will have limited impact, particularly on food security.

[30] See Footnote 17.

8.1.2 Strategy Option 4.2: Apply policy of conserving HCS-HCV forest to all agricultural concessions, ~~including~~ [and] [31] private and community-owned farms larger than 1,000 hectares.

General Comments

SO4.2 expands the HCS-HCV policy in SO4.1 to apply to all concessions, private and community-owned farms. In addition to the issues discussed under SO4.1 above, the issues related to implementation include the following:

Scale of Farms to Which Policy Applies. It is not clear why farms of 1,000 ha are subject to conservation standards, but less than 1,000 are not. It is recommended that reference to the threshold of 1000 ha should be removed and replaced by a requirements for all concessions and private farms greater than 50 ha should be subject to EIA screening.

Implementation on Private Lands. The strategy does not describe what mechanisms will be used to enforce standards on privately held or community-owned lands.

Appropriateness of RSPO Standard. As stated in the assumptions below and outlined in the Proposed Adjustments section below, the assumed use of the RSPO standard may be too onerous a standard to apply to mineral concessions, and would not be consistent with the zero net deforestation approach proposed under SO4.3 (see below). While in principle RPSO could potentially apply to TSC, it may be difficult to implement and would be dependent on how HCS areas, notably patch size and deforestation are defined. It should also be noted that these may have very limited impact given the small areas covered by TSC. In any case, it may be more appropriate to apply standards such as FSC, which is designed for the forest sector and address TSC management under Priority 2.

Artisanal Mining. It is implied that SO4.2 applies to artisanal mining since reference is made to this activity in the REDD+ theory of change analysis provided by the REDD+ Strategy team. However, it is not clear how offsetting could be addressed.

Assumptions

The assumptions under SO4.1 apply to SO4.2 as well (see above). In addition, it is assumed that the phrase "apply the same conservation standards" is understood to relate to those described in SO4.1 (i.e., "RSPO or equivalent"). In addition, because SO4.3 relates specifically to mining concessions and has a policy of zero net deforestation which is inconsistent with the SO4.2 policy of conserving HCV-HCS forest, it is assumed that SO4.2 applies only to agriculture concessions, private and community-owned and farms. Finally, SO4.2 is phrased as "concessions, including private and community-owned farms" but it is assumed that the word "including" should be replaced with "and," since concessions by definition are only on government lands.

8.1.3 Strategy Option 4.3: Ensure that Mining Results in Zero-net Deforestation, through Mechanisms Such as Biodiversity Offsets

General Comments

Challenges to the creation of offsets. As discussed under Priority 3 options in relation to PAs, the restriction on land uses through offsets for conservation which are a key element of SO4.3, can have significant social costs and can displace activities such as shifting cultivation to other areas in the vicinity of the concessions and may exacerbate conflict.

Assumptions

It is assumed that SO4.3 applies to mining concessions and not to artisanal mining.

[31] SO4.2 is phrased in the Draft REDD+ Strategy as "concessions, including private and community-owned farms." However, we have assumed that the word "including" should be replaced with "and" since concessions by definition are only on government lands.

8.1.4 Strategy Option 4.4: Locate Future Large-scale agriculture and Mining Concessions in Less Dense and Non-forest Areas

General Comments

Restriction of Mining to Low Carbon Areas. It is unclear how future mining allocations can be restricted to low carbon areas since high grade ore may be found in high carbon areas.

Applicability to Existing Concessions. It is not clear whether the SO applies to existing or future concessions. In the former case, how that would be done without violating contract rights.

High Conservation Value Forests. It is not clear why this SO does not also include avoidance of HCV/HCS areas.

8.2 Priority 4 Strategic Option Impacts

Below, each of the Priority 4 SOs is assessed against the SESA outcomes identified as part of the SESA process and presented above in Section 3.0. For each SO, the impact is discussed and summarized in Table 8.2. The assessment informed the formulation of recommendations (comprises strategy adjustments, legal and institutional measures, and intervention design measures) to improve the environmental and social performance of the REDD+ Strategy. These are listed in Table 8.2.

Priority 4 options will have a number of both positive and negative impacts, which are summarized in Table 8.3 below. Some of these impacts will depend on how the SO is implemented (i.e., whether the outcomes are considered in program or policy design) and/or whether it may realistically be implemented. For example, SOs that are heavily dependent on developing capacity or enforcing regulations may not be realized unless these issues are addressed.

8.2.1 Microeconomic Impacts

Livelihoods (Outcomes 1–3)

Outcome 1: Dependency on Shifting Cultivation Reduced. Depending on how this strategy is implemented, all of the SOs have the potential to increase shifting cultivation around concessions, particularly to address food security since set asides (SO4.1, SO4.2, and SO4.4) and offsets (SO4.3) could further limit access to forest areas for livelihood activities and other community uses (including community forestry). This could be offset by compliance with RSPO (Principle 6), but there is nothing to compel concessionaires legally to apply this standard.

Outcome 2: Livelihoods Diversified. Because of the potential to increase shifting cultivation, these SOs may have a negative indirect impact on the diversification of livelihoods.

Outcome 3: Forest Management Improved through Community Forestry. Offsets and new concessions in less dense forests (Options 4.3. and 4.4) could further limit the availability of land for community forestry and other community uses and triggering OP4.12.

Land (Outcomes 4–7)

Outcome 4: Increased Land Security. Although the Wildlife and National Parks Act (1987) requires consultations with communities (§6) the expansion of set aside areas (SO4.1, SO4.2, and SO4.4) could significantly limit community and individual customary rights to land which in concert with the expansion of the PAN (Priority 2) will limit the availability of land for livelihoods including community forestry and triggering OP4.12.

Outcome 5: Adequate Access to Land for Livelihoods. Although the Wildlife and National Parks Act (1987) requires consultations with communities (§6), the expansion of set aside areas (SO4.1, SO4.2, and SO4.4) could significantly limit community and individual customary rights to land which in concert with the expansion of the PAN (Priority 3), and creation of offsets (SO4.3) will limit the availability of land for livelihoods including community forestry and could trigger OP4.12.

Outcome 6: Reduced Conflict over Land. Historically, the allocation of concessions has been met with conflicts between concessionaires, communities and government. Allocating additional land for

management as offsets (SO4.3) could trigger additional conflict with communities and other customary users, as would imposing additional restrictions on customary users (SO4.1 and SO4.2)

The expansion of set aside areas (SO4.1, SO4.2) could also limit the availability of land, which has the potential to spark conflict between concessionaires, communities, and government, particularly if land allocated for set asides is customarily owned and managed as may be the case in less dense forest areas (SO4.3).

Outcome 7: Existing Land Rights Are Maintained. Even with adherence to requirements for public consultations in the Public Procurement and Concessions Act,[32] the expansion of set aside areas (SO4.1, SO4.2) could infringe on community and individual customary rights to land which in concert with the expansion of the PAN (Priority 2) will limit the availability of land for livelihoods including community forestry, which could trigger OP4.12.

Similarly, expansion of offsets areas (SO4.3) could infringe on community and individual customary rights to land and could result in less land security for customary land users, limit the availability of land for livelihood activities, and could trigger additional conflict between concessionaires and/or government and communities. Finally, limiting future concessions (SO4.3) to less dense areas could negatively affect communities with customary land rights in these areas if those rights are not recognized.

Governance (Outcomes 8–11)

Outcome 8: Local Leaders Have Skills and Information to Represent Constituents. Although the RSPO standards would require consultations with affected communities, community leaders may require additional support to adequately represent their community and their concerns.

Outcome 9: Equitable, Functioning Benefit-sharing Mechanisms in Place. The outcome will depend on whether benefit-sharing mechanisms are considered as part of the standard or policy (SO4.1 and SO4.2).

Outcome 10: Law Enforcement Increased. The impact of these strategies on enforcement of existing laws or standards is dependent on whether resources are committed to capacity building and implementation.

Outcome 11: Credible Feedback and Grievance Redress Mechanisms in Place. It is not possible to assess the potential impact of the strategy options against this priority outcome since a FGRM has not been proposed.

8.2.2 Biophysical Impacts

Climate Change (Outcomes 12–13)

Outcome 12: Emissions Reduced and Carbon Sequestered. SO4.1–SO4.4 should generally support positive performance under Outcome 12. The degree of the positive outcome, or indeed whether it becomes negative, will depend on whether HCS set asides or offsets become vulnerable to other pressures such as unsustainable use by communities (e.g., resulting from expansion due to influx of people attracted to commercial areas), and thus highly dependent on the P-PAs being progressed by IDH and included as interventions under SO4.1. The achievement of the outcome will also be influenced by the extent to which leakage of activities that reduce carbon stock can be addressed.

Under SO4.2, there would be no mechanism to prevent loss of carbon stock from farms with less than 1,000 ha, which could result in negative performance against Outcome 12, depending on their number and size. This could be addressed through inclusion of carbon stock considerations in the EIA process (required for farms over 50 ha) and strengthening that process as a regulatory tool for managing such areas.

[32] While there are requirements for public consultations and FPIC prior to finalizing concession areas, this process has not been consistently followed in Liberia (LEITI, 2012).

Outcome 13: Resilient Landscapes and Livelihoods. SO4.1–4.4 may contribute in some instances to maintaining climate-resilient landscapes through conservation or offsetting of areas of HCS and HCV forests. However, the degree to which this is achieved is uncertain as it will depend on the specific measures adopted (e.g., percentage and location of forest retained or created).

Biodiversity (Outcomes 14–17)

Outcome 14. Conservation of Natural Habitats (WB OP4.04 and WB4.36). SO4.1 and SO4.2 (through consideration of HCV 1) should ensure that all natural and specifically critical natural habitats in agricultural concessions and farms greater than 1,000 ha are included in set asides and will therefore promote positive performance against Outcome 14. The degree of positive performance achieved in practice, however, will be influenced by the vulnerability of such set asides to other pressures and viability of applying such measures to farmers. It will also be influenced by the extent to which interventions are selected in areas that qualify as critical natural habitats or that are otherwise important for biodiversity (and adopt a landscape approach that considers critical habitat management units) and can thus contribute to the conservation of such high priority habitats.

Where farms larger than 1,000 ha are located in critical natural habitats, application of SO4.2 may not be sufficient to prevent non-compliance with WB OP4.04 and OP4.36 (which do not support any conversion of such habitat), resulting in negative performance against this outcome.

SO4.3, which involves offsetting (rather than setting aside) HCV 1–4 forest loss from clearance, would result in negative performance against Outcome 14 wherever areas that are proposed for such clearance comprise critical natural habitats. This arises from the requirement for no conversion of critical forest habitat under WB OP4.04 and OP4.36. Adoption of SO4.3 in areas of critical natural habitat therefore presents a significant risk of negative performance against Outcome 14.

Similarly SO4.4, which only places restriction on mining activities in dense forests, could also result in negative performance against Outcome 14 wherever proposed areas for mining or agriculture are in critical natural habitats outside of dense forest and where there is a presumption against such development under WB OP4.04.

Outcome 15: Conservation through Landscape Approach. SO4.1 is likely to promote retention of forest biodiversity (under HCV 2) through set asides and P-PAs where these concessions comprise oil palm concessions and generally result in positive performance against Outcome 15. This results from the fact that several oil palm concessions have adopted such RSPO standards that the SOs would support. Owing to the lack of specification standards for other sectors, the ability of rubber concessions (SO4.1), farms larger than 1,000 ha (SO4.2), and commercial mining (SO4.3) to achieve this outcome is uncertain.

Further, the proposed threshold of 1,000 ha to apply to private farms (SO4.2) may result in negative performance against Outcome 15, particularly if a significant number of farms fall below this threshold.

The extent to which SO4.3 could deliver positive performance against Outcome 15 is highly uncertain. This arises from the difficulties (including high costs) in achieving no net loss of biodiversity. This is significantly more challenging to achieve through offsetting than replacement of carbon stock, particularly if the Business and Biodiversity Offset Program (BBOP) standards that have onerous conditions and processes are applied. No such offsets have as yet been established in Liberia.

SO4.4 is likely to result generally in positive performance, although this could be enhanced if the SO stated that the concessions should be located in " non-HCV" rather than in "less dense and non-forest areas," as currently worded.

Factors that will influence performance against this outcome and therefore warrant consideration in refining the strategy and how it is implemented include:

- The extent to which the standards promoted by the strategy, and the locations at which they are applied, can play a role in conservation within biodiversity landscapes (as discussed under

SO3.4). Notably, Priority 4 does not elaborate on the potential for set asides or offsets to play a part in the conservation mosaic within biodiversity landscape areas. However, biodiversity landscape-level management is a key approach being promoted for consideration by certain conservation stakeholders (both generally and specifically within Liberia) in order to harness the potential offered by the evolving land uses to contribute to conservation outcomes (rather than relying entirely on the PAN). It thus warrants specific attention under Priority 4 to enable Outcome 15 to be delivered.

- Whether set aside and offsets become vulnerable to other pressures (notably, unsustainable use by communities or increased pressure from in-migrants attracted by commercial activities). The proposals for P-PAs for agricultural concessions under the IDH Program (SO4.1) may address this to some extent. However, no measures are identified to protect set asides within private farms (SO4.2) or mining offsets (SO4.3) from such community uses.
- How the initiatives relating to aggregated offsets referred to under SO4.3 will be implemented across sectors, and in specific geographies. This initiative could, for example, be enhanced though extending aggregation across sectors (e.g., through combination with agricultural set asides addressed under Priority 2).
- Whether or not the design of interventions truly addresses and mitigates threats to forests or merely displaces it to other areas (leakage).

Outcome 16: Reduce Biodiversity Loss from Shifting Cultivation and Other Community Activities. Although not targeted at shifting agriculture or other community uses of forest, Priority 4 SOs could result in some positive impact with respect to these outcomes, if they result in stronger regulation and controls than may otherwise occur within HCV set aside and offsets. This will however be dependent on:

- The potential for the SO to result in leakage of activities that threaten landscape ecosystems in other areas; and
- Whether set asides and offsets become vulnerable to other pressures, notably unsustainable use by communities. The proposals for PPAs for agricultural concessions under the IDH Program (SO4.1) may address this to some extent. No measures, however, are identified to protect set asides within private farms (SO4.2) or mining offsets (SO 4.3) from such community uses.

Outcome 17: Reduce Biodiversity Loss from Commercial Activities. All SOs are targeted at the commercial sector and the performance against this outcome therefore will be as reported above under Outcomes 14 and 15.

Water and Soils (Outcomes 18–19)

Outcome 18: Water Quality Maintained and **Outcome 19: Soil Quality Maintained.** The conservation of areas of HCV under SO4.1 and SO4.2 should (through protection of HCV 4) protect riparian areas and catchments as well as wetlands that could otherwise be affected through water diversion, pollution, and vegetation clearance with consequences for downstream uses.

8.2.3 Macroeconomic Impacts

Revenues (Outcome 20)

Outcome 20: Increased Sustainable Revenue from Forests. Requirements that concessionaires invest in set asides (SO4.1 and SO4.2) and offsets (SO4.3) could limit revenues available to both concessions and government and could infringe on concessionaire contract rights to commercially develop land for commercial purposes. This is particularly true for existing concessions that have no offset requirements included in their contracts with the government. This could be offset by carbon receipts but at present, this cannot be determined.

Mineral resources may be located in HCV/HCS forests. Limiting development of these areas could result in loss of potential revenues and investments by concessionaires and a significant loss in foreign

direct investment (SO4.4). This could be offset by carbon receipts but at present, this cannot be determined.

Forest Goods and Services - Domestic Markets (Outcomes 21–23)

Outcome 21: Adequate Supply of Sustainable and Affordable Energy for Urban Population. Effective expansion and management of set asides and offsets could result in additional charcoaling on forestlands outside of these areas and potentially offset any gains from their creation (SO4.1, SO4.2, and SO4.3) while having no impact on charcoal supply.

Outcome 22: Sustainable Domestic Timber Supply. Currently, chainsaw logging provides the primary supply to the domestic wood market. Expansion and enforcement of set asides and offsets could result in additional chainsaw logging outside of these areas which could threaten less dense forests (SO4.1, SO4.2, and SO4.3) while having no impact on domestic timber supply.

Outcome 23: Land is Available for Commercial Development. Set aside requirements could infringe on concessionaires rights to commercially develop their land for commercial purposes (SO4.1 and SO4.2).

Employment (Outcome 24)

Outcome 24: Adequate Jobs for Unskilled Laborers. The proposed SOs as currently described do not directly affect this priority outcome. However, limitations on concessions could result in the loss of jobs.

Table 8.2: Impacts of Priority 4 Strategy Options by Outcomes

REDD+ Strategy Options	SESA Outcomes																								
	1. Dependency on shifting cultivation reduced	2. Livelihoods diversified	3. Forest management improved through community forestry	4. Increased land security	5. Adequate access to land for livelihoods	6. Reduced conflict over land	7. Existing land rights are maintained	8. Local leaders have skills/info to represent constituents	9. Equitable, functioning benefit-sharing mechanisms in place	10. Law enforcement increased	11. Credible grievance redress mechanisms in place	12. Emissions reduced and carbon sequestered	13. Resilient landscapes and livelihoods	14. Conservation of natural habitats	15. Conservation through landscape approach	16. Reduce biodiversity loss from community activities	17. Reduce biodiversity loss from commercial activities	18. Water quality maintained	19. Soil quality maintained	20. Increased sustainable revenue from forests	21. Adequate supply of sustainable/affordable energy for urban pop.	22. Sustainable domestic timber supply	23. Land is available for commercial development	24. Jobs for unskilled workers
	Livelihoods			Land				Governance				Climate Change		Biodiversity				Water and Soils		Rev.	Goods and Services			Jobs
4.1 Conserve HCV-HCS forest within ag. concession areas, including developing & implementing a policy for the sustainable management of these conserved areas (using Priority 1 measures)	16	16	10	10	10	11	10	12, 13	?	14, 15	11	3,4	6	7	2	3,4	2,3, 4,7	8	8	9	?	?	9	
4.2 Apply policy of conserving HCS-HCV forest to all agricultural concessions, including private and community-owned farms larger than 1,000 ha.	16	16	10	10	10	11	10	12, 13	?	14, 15	11	1,3,4	6	1,7	2	3,4	1,2, 3,4,7	8	8	9	?	?	9	
4.3 Ensure that mining result in zero-net deforestation, through mechanisms such as biodiversity offsets.	16	16	10	10	10	11	10	12, 13		14, 15	11	3,4		5	2,5	3,4	1,3, 4,5	8	8	9	?	?		
4.4 Locate future large-scale agriculture and mining concessions in less dense and non-forest areas.	16	16	10	10	10	11	10	12, 13		14, 15	11		6	5	5	3	3,5	8	8	9				

Key

- Positive performance against the SESA outcome. In some cases performance can be enhanced through adoption of specified **Mitigation Measure(s)** at project implementation stage.
- Negative performance may occur but can generally be addressed through adoption of specified **Mitigation Measure(s)** at project implementation stage.
- Negative performance may occur without **Legal or Institutional Capacity Strengthening Measures.**
- Negative performance or uncertainty regarding performance due to lack of specificity in SO, which require **Adjustments** to strategy options before they are finalized.
- Neutral performance against SESA outcome.

1, 2, etc. Reference to recommended Modifications outlined in Table 8.3 required to address potential negative environmental and social impacts and harness positive impact of the REDD+ Strategy.

? Unknown impact

Notes

1. Where several types of impact and requirement for mitigation (Adjustments, Legal and Intuitional Capacity Strengthening or Mitigation Measures) are identified, the color relates to the highest ranking impact.
2. For ease of reading, cross-cutting Legal and Institutional Strengthening Measures that apply to the management off numerous impacts associated with the strategy options are not all itemized above but included in a separate section in Table 8.3.

8.3 RECOMMENDED ADJUSTMENTS

The impacts described above have the potential to positively or negatively affect the performance of REDD+ in Liberia against the 24 identified SESA outcomes. The degree of impact may in large part be determined by:

- How and where the interventions are undertaken;
- The phasing or timing of activities;
- Whether issues of capacity are addressed adequately;
- The development of regulations or standards to support implementation; and
- The allocation of sufficient budget to implement all aspects of the interventions.

Where the REDD+ Strategy options may result in negative performance against the SESA outcomes, recommendations have been made to improve such performance. Table 8.3 presents a summary of the recommended modifications applicable to SOs under REDD+ Priority 4. These recommended adjustments fall into one of three categories as follows:

1. **Strategy Adjustments.** These are highlighted in red in Table 8.3 and relate to areas where, without modification, the SO could promote interventions that give rise to significant adverse environmental or social impacts. These may be challenging to subsequently address at the intervention, planning, and implementation stages without revisions to the SOs themselves. For this reason, it is recommended that these adjustments be fully considered prior to finalization of the REDD+ Strategy to strengthen or clarify SOs moving forward. These adjustments typically modify the strategy wording and in some cases may propose additional strategy options. For example, mangroves are important carbon sinks, and provide critical habitat for biodiversity, and yet they are not addressed directly in the strategy as it stands. The inclusion of mangroves could enhance performance against several of the SESA outcomes.
2. **Mitigation Measures.** These relate to areas where, without specific measures, interventions implemented under the strategy could either give rise to:
    a. Negative impacts, which can be addressed through established mitigation measures, (siting considerations, etc.) at project implementation. These are highlighted in yellow in Table 8.3; or
    b. Positive impacts, which can be enhanced through established measures at project implementation. These are highlighted in green in Table 8.3.

    These measures can be developed as each intervention is planned and implemented. While they do not therefore require any modification to the SOs, they have been identified in the SESA to ensure that they are included within the ESMF and are thus considered as appropriate through its application and implementing mechanisms (screening, ESIA, etc.) to enable potential impacts to be both identified and managed at the project level.
3. **Institutional and Legal Measures.** These measures focus on building **institutional capacity** for implementation, or address **legal gaps** that exist in the current framework but are required to ensure the SESA outcome are achieved. Capacity interventions focus on developing the technical and logistical expertise to implement the strategy and may also take into account realistic time frames for their implementation in light of current capacity constraints, including budgetary constraints or technical limitations. Legal interventions include the development of legal mechanisms that are needed to implement the strategy. These may include regulations, national standards, or even coordinating committees that may be necessary to realize REDD+ SESA outcomes. The REDD+ Strategy currently does not address these issues, but these will be critical for the effective implementation of REDD+. Accordingly, these should be incorporated directly into the strategy, or plans to consider these issues incorporated into the transformation stage. These are highlighted in orange in Table 8.3.

Table 8.3: Priority 4 Proposed Strategy Adjustments, Legal and Institutional Measures, and Mitigation Measures

	Recommended Modifications	Strategy Options	Where This Should Be Addressed		
			Strategy Adjustment (Transformation Phase)	Institutional & Legal Strengthening Measures	Mitigation Measures (ESMF)
1	While it is assumed that "HCV-HCS" relates to application of RPSO, this should be specified, including whether conservation of HCS relates to the mandatory RSPO commitment or voluntary NEXT RSPO measures.	4.1, 4.2	x		
2	Clarify that SO 4.1 and 4.2 apply both to palm oil and to rubber and other agricultural concessions and large farms that are not signed up to RSPO. Specify what mechanisms will be applied to ensure the HCV-HCS standards are applied to all such activities.	4.1, 4.2	x		
3	Replace reference to the threshold of 1,000 ha from SO4.2 with a requirement for all concessions and private farms >50 ha to be subject to EIA screening and, depending on the outcome of that exercise, subject to the relevant EIA process and any resulting management regime.	4.2	x		
4	Promote biodiversity landscape approaches (proposed under Priority 3), e.g., through prioritizing offsets and set asides that play a role within such landscapes and adopting aggregated offsets/set asides (both within mining sector and in combination with other sectors).	4.1, 4.2, 4.3			x
5	Ensure measures are implemented to address both (i) the potential for leakage of community activities from within the concessions subject to strategy interventions (e.g., due to restriction on activities) to areas of HCS and HCV outside of them, and (ii) new pressures on such areas due to population influx (e.g., attracted by new infrastructure and opportunities).	4.1, 4.2, 4.3			x
6	Ensure high conservation areas set aside from agriculture or mining that are supported by the strategy are protected from becoming vulnerable to community or other uses (e.g., through Community Agreements or similar).	4.1, 4.2, 4.3			x
7	Ensure that, in addition to achieving zero net deforestation (SO 4.3) and conservation of dense forest (SO4.4), interventions relating to mining achieve wider conservation of HCV outcomes (as proposed for agriculture under SO4.1 and SO4.2) This should: • Ensure full compensation for biodiversity losses if offsets are adopted (although likely to be extremely challenging to achieve); and • Avoid critical natural habitat. While such measures should, at a minimum, be included within the mitigation measures, it is recommended that SO4.4 and SO4.3 also be adjusted to reflect these requirement in order to avoid abortive development of interventions that could be challenging to deliver.	4.3, 4.4	x		x

	Recommended Modifications	Strategy Options	Where This Should Be Addressed		
			Strategy Adjustment (Transformation Phase)	Institutional & Legal Strengthening Measures	Mitigation Measures (ESMF)
8	Promote interventions in locations that play a role in supporting climate change resilience.	4.1, 4.2			x
9	Promote interventions that divert pressures away from, or conserve, areas of forests that may comprise critical natural habitat or play an important role in the biodiversity landscape. Ensure no conversion of critical natural habitat.	4.1, 4.2			x
10	Promote interventions at locations where they can contribute to soil and water conservation.	4.1, 4.2			x
11	Research is necessary before instituting policies that would potentially limit revenues in order to understand fully the potential costs and benefits in social, environmental and economic terms.	ALL			x
12	Conduct EAs in compliance with WB OP4.12 where implementation of strategy results in relocation of customary owners of forestland, or involuntarily limits access to resources.	ALL			x
13	Include measures to support communities to sustainably manage areas such as CFMAs and those subject to Conservation Agreements or other management mechanisms.	ALL			x
14	Map out the capacity building support for community organizations to support implementation of activities to ensure meaningful participation of affected communities.	ALL		x	
15	Provisions for FPIC are required where new forest areas are being considered to ensure consideration of customary land owners and users (cross-cutting).	ALL			x
16	Map out capacity building and restructuring of the FDA to support implementation of activities with particular focus on the nature, components, processes, and delivery mechanisms to demonstrate how these will address the specific gaps.	ALL		x	
17	Capacity building for implementation and enforcement of relevant regulations and laws should be an important component within these strategy options. Realistic timelines must also be considered for the requisite capacity to be developed to support implementation.	ALL		x	
Cross-cutting Legal and Institutional Strengthening Measures					
18	Promote the finalization and adoption of Liberian national interpretation of HCV.			x	
19	Identify mechanisms to implement such HCV standards, through inclusion in agricultural or other relevant legislation relating to management of palm oil rubber and other agricultural activities and mining, which should give due consideration to existing contract rights and how to apply such requirements both to future concessions and those that have already been awarded.			x	
20	Support creation of addenda to the EIA legislation to include regulations and associated guidance for the agriculture and mining sector consistent with			x	

	Recommended Modifications	Strategy Options	Where This Should Be Addressed		
			Strategy Adjustment (Transformation Phase)	Institutional & Legal Strengthening Measures	Mitigation Measures (ESMF)
	adopted standards (e.g., requirement for consideration of HCV and HCS in the EIA process). Such guidance should cover both large commercial concessions and private farms.				
21	Support creation of legal and institutional measure for enforcement Community Agreements or similar.			x	

9.0 PRESENTATION AND ASSESSMENT OF PRIORITY 5

9.1 PRIORITY 5 STRATEGY OPTIONS

Priority 5 focuses on the development of fair and sustainable benefits from REDD+ through the development of policy, equitable benefit-sharing mechanisms, and monitoring progress toward REDD+ objectives. The three SOs to support this priority are:

5.1. Define carbon rights and develop policies and regulations for upholding these;

5.2. Establish benefit-sharing mechanisms for REDD+, in harmony with those operating in the forestry, mining, agriculture, and other relevant sectors;

5.3. Operate a robust monitoring, reporting, and verification system for demonstrating reductions in emissions achieved through REDD+ policies.

A brief description of the interventions associated with these SOs and the geographic focus for implementation thereof is summarized in the Intervention Plan from the REDD+ Strategy and presented in Table 9.1 below. Comments and assumptions regarding these interventions are described in the narrative below.

Table 9.1: Priority 5 Strategy Options

	REDD+ Strategic Priority 5: Fair and sustainable benefits from REDD+		
Strategy Options	5.1 Define carbon rights and develop policies and regulations for upholding these.	5.2 Establish benefit-sharing mechanisms for REDD+, in harmony with those operating in the forestry, mining, agriculture, and other relevant sectors.	5.3 Operate a robust monitoring, reporting, and verification system for demonstrating reductions in emissions achieved through REDD+ policies.
Interventions		LFSP subcomponent 2.3 a) Support to develop a Functioning and Effective NBSTB and establishment and/or strengthening of existing benefit-sharing arrangements at local level.	*LFSP Subcomponent 3.1. MRV and Reference-Level Development (US$2.0 million).* This subcomponent will support TA, goods, workshops, and operational costs for a functional and successfully tested national MRV system building on the road map developed with support from the University of Wageningen (included in annex 8), with the results achieved by the national REDD+ Readiness Program, supported by the FCPF readiness grant, and in coordination with ongoing VPA support to the FDA in the context of legality verification. *LFSP Subcomponent 3.2. Development of an Information System for Safeguards (US$0.3 million).*
Cross-cutting interventions	REDD+ preparation and implementation (NGO Working Together Document. Activity 9)		
Targeting	The definition of carbon rights, the structuring of benefit-sharing mechanisms, and MRV need to be done at national level, as well as at a sub-national landscape or project level.		

9.1.1 Strategy Option 5.1: Define Carbon Rights and Develop Policies and Regulations for Upholding These

General Comments

- **Lack of Specificity.** The description provided for SO5.1 does not specify any interventions related to its implementation.
- **Carbon Ownership.** There is no legal system in place to address carbon credits or the distribution of benefits therefrom.

Assumptions

Carbon rights and policies will be developed as part of the transformation phase of the REDD+ strategy implementation.

9.1.2 Strategy Option 5.2: Establish Benefit-sharing Mechanisms for REDD+, in Harmony with Those Operating in the Forestry, Mining, Agriculture, and Other Relevant Sectors

General Comments

- **Existing benefit-sharing mechanism challenges.** The existing benefit-sharing mechanisms have varying degrees of success in terms of actually collecting and distributing money. Community and regional stakeholders identified inequities and inefficiencies in benefit-sharing mechanisms as a source of conflict and discontent within communities.

Assumptions

Regardless of carbon ownership, carbon credits generated from Liberia's forests will be managed through benefit-sharing mechanisms.

9.1.3 Strategy Option 5.3: Operate a Robust Monitoring, Reporting, and Verification System for Demonstrating Reductions in Emissions Achieved through REDD+ Policies

General Comments

- **Capacity.** Given the limited capacity at FDA, it will be difficult to develop and sustain the expertise in country to manage the monitoring, researching, and verification (MRV) systems required for REDD+ systems.

Assumptions

Development and implementation of the MRV will rely heavily on consultants' expertise, and will require significant inputs to train Liberians to manage these systems.

9.2 Priority 5 Strategic Option Impacts

Below, each of the Priority 5 SOs is assessed against the SESA outcomes identified as part of the SESA process and presented above in Section 3.0. For each SO, the impact is discussed and summarized in Table 9.2. The assessment informed the formulation of recommendations (comprises strategy adjustments, legal and institutional measures, and intervention design measures) to improve the environmental and social performance of the REDD+ Strategy and are listed in Table 9.2.

Priority 5 options will have a number of both positive and negative impacts, which are summarized in Table 9.3 below. Some of these impacts will depend on how the SO is implemented (i.e., whether the outcomes are considered in program or policy design) and/or whether it may realistically be implemented. For example, SOs that are heavily dependent on developing capacity or enforcing regulations may not be realized unless these issues are addressed.

9.2.1 Microeconomic Impacts

Livelihoods (Outcomes 1–3)

Outcome 1: Dependency on Shifting Cultivation Reduced. Defining carbon rights and developing benefit-sharing mechanisms (SO5.1 and SO5.2) have the potential to impact communities positively and reduce their dependency on shifting cultivation. However, this will require their active engagement in the development and implementation of the benefit-sharing mechanisms.

Outcome 2: Livelihoods Diversified. Socially and environmentally responsible use of REDD+ benefits could assist communities to diversify their livelihood options (SO5.1 and SO5.2).

Outcome 3: Forest Management Improved through Community Forestry. Carbon rights and benefit-sharing mechanisms that reward community involvement in sustainable forest management could enhance forest productivity under CFMAs (SO5.1 and SO5.2). However, if communities fail to receive benefits for forest management efforts, particularly in CFMAs, this could provide disincentives to communities to manage their forests sustainably. This will be particularly true if communities' access to lands is limited by other REDD+ activities (e.g., PAN expansion [SO2.1, SO2.2], offsets [Option 4.3], and enforcement of current legislation on chainsaw logging [Option 1.1]).

Land (Outcomes 4–7)

Outcome 4: Increased Land Security. As currently written, it is unclear what impacts these options would have on land security. For example, the forest of Liberia, with few exceptions, is considered the property of the government. However, under the NFRL, planted trees belong to the planter (NFRL, 2.1b(ii)), and under the Community Rights Law, forest resources within a community forest are owned by the community (CRL, §2.2a). This raises questions regarding the potential recipients of benefits derived from the forest under REDD+ activities.

If significant rights (SO5.1) and benefits (SO5.2) are realized and those benefits are linked to ownership of land, these benefits could provide significant incentives to formalize land title. This could provide secure land title for individuals and communities, but could also disproportionately favor local elites.

Outcome 5: Adequate Access to Land for Livelihoods. It is possible that rights and benefits accruing to individuals or communities could encourage in-migrants to REDD+ project areas. This could contribute to land insecurity and create additional pressure on the land base.

Outcome 6: Reduced Conflict over Land. Many communities that have received benefits from concessionaires, for example, have had to deal with internal and external conflicts. Benefit-sharing must be perceived as transparent and equitable or there is potential for conflict.

Outcome 7: Existing Land Rights Are Maintained. Carbon is considered a forest resource so communities currently do have rights to carbon and associated benefits under a community forest management agreement. Similarly, if the Land Rights Bill is enacted, customary owners would have some claim to carbon ownership. However, carbon rights and related legislation will need to be developed and could either further legitimize and strengthen those rights, or could reduce them. For example, if carbon ownership is allocated exclusively to the state, land rights could actually be limited. The passage of the Land Rights Bill would bolster communities' customary claims to carbon rights (LTS, 2016d), but ultimately, the scope of rights will have to be determined through legislation.

Governance (Outcomes 8–11)

Outcome 8: Local Leaders Have Skills and Information to Represent Constituents. Community leaders often have skills or information to adequately represent their constituents. If transparent benefit-sharing mechanisms are not put in place, and capacity building and information provided to leaders, community leaders will fail to equitably represent their constituents (SO5.2).

Outcome 9: Equitable, Functioning Benefit-sharing Mechanisms in Place. The proposed options strive to complement existing benefit-sharing mechanisms (5.2). However, the NBST and County Development Funds received from concessionaires have been riddled with complications in their

implementation. For example, the NBST has received funds from concessionaires, but it took several years and the intervention of the FDA before these funds were transferred to the NBST. Further, communities have limited skills to develop proposals to access funds and as a result, little of the money has been actually distributed. Unless those issues are addressed, utilizing existing mechanisms could result in delays and misappropriation of funds.

Outcome 10: Law Enforcement Increased. As noted (Option 5.1), rights must be defined, and policies and regulations developed. Given the limited capacity to enforce and implement many of the existing regulatory frameworks, it is likely that policies will not be implemented unless considerable capacity building is given to responsible agencies.

Outcome 11: Credible Feedback and Grievance Redress Mechanisms in Place. The FDA has contracted a Liberian organization to develop a feedback and grievance redress mechanism which is currently under development. Because the FGRM is under development, it is not possible to assess the potential impact of the strategy options against this priority outcome at this time. However, failure to put in place a credible grievance redress mechanism could result in conflict that could undermine forest management efforts.

9.2.2 Biophysical Impacts

No relevant biophysical impacts were identified for these SOs.

9.2.3 Macroeconomic Impacts

No relevant macroeconomic impacts were identified for these SOs; however, we note that implementation of the SOs above will adversely affect unskilled workers currently employed in hunting, charcoaling, chainsaw logging, and shifting cultivation. These are often the most vulnerable people and are not well represented in the political discourse. If their employment options are further limited by the REDD+ Strategy, they are most likely to engage in activities that will undermine REDD+ activities.

Table 9.2: Impacts of Priority 5 Strategy Options by Outcomes

REDD+ Strategy Options	SESA Outcomes															
	1. Dependency on shifting cultivation reduced	2. Livelihoods diversified	3. Forest management improved through community forestry	4. Increased land security	5. Adequate access to land for livelihoods	6. Reduced conflict over land	7. Existing land rights are maintained	8. Local leaders have skills/info to represent constituents	9. Equitable, functioning benefit-sharing mechanisms in place	10. Law enforcement increased	11. Credible grievance redress mechanisms in place	20. Increased sustainable revenue from forests	21. Adequate supply of sustainable/affordable energy for urban pop.	22. Sustainable domestic timber supply	23. Land is available for commercial development	24. Jobs for unskilled workers
	Livelihoods			**Land**				**Governance**				**Rev.**	**Goods and Services**			**Jobs**
5.1 Define carbon rights and develop policies and regulations for upholding these.	1		3	?	?	2	?		1		2		?			3, 4
5.2 Establish benefit sharing mechanisms for REDD+, in harmony with those operating in the forestry, mining, agriculture and other relevant sectors.	1		3	?	?	2	?		1		2		?			3, 4
5.3 Operate a robust monitoring, reporting and verification system for demonstrating reductions in emissions achieved through REDD+ policies.											2					

Key

- Positive performance against the SESA outcome. In some cases performance can be enhanced through adoption of specified **Mitigation Measure(s)** at project implementation stage.
- Negative performance may occur but can generally be addressed through adoption of specified **Mitigation Measure(s)** at project implementation stage.
- Negative performance may occur without **Legal or Institutional Capacity Strengthening Measures.**
- Negative performance or uncertainty regarding performance due to lack of specificity in SO, which require **Adjustments** to strategy options before they are finalized.
- Neutral performance against SESA outcome

1, 2, etc. Reference to recommended modifications outlined in Table 9.3 required to address potential negative environmental and social impacts and harness positive impact of the REDD+ Strategy

? Unknown impact

Notes

1. Where several types of impact and requirement for mitigation (Adjustments, Legal and Intuitional Capacity Strengthening or Mitigation Measures) are identified, the color relates to the highest ranking impact.
2. For ease of reading, cross-cutting Legal and Institutional Strengthening Measures that apply to the management off numerous impacts associated with the strategy options are not all itemized above but included in a separate section in Table 9.3.

9.3 RECOMMENDED ADJUSTMENTS

The impacts described above have the potential to positively or negatively affect the performance of REDD+ in Liberia against the 24 identified SESA outcomes. The degree of impact may in large part be determined by:

- How and where the interventions are undertaken;
- The phasing or timing of activities;
- Whether issues of capacity are addressed adequately;
- The development of regulations or standards to support implementation; and
- The allocation of sufficient budget to implement all aspects of the interventions.

Where the REDD+ SOs may result in negative performance against the SESA outcomes, recommendations have been made to improve such performance. Table 9.3 presents a summary of the recommended modifications applicable to SOs under REDD+ Priority 5. These recommended adjustments fall into one of three categories as follows:

1. **Strategy Adjustments.** These are highlighted in red in Table 9.3 and relate to areas where, without modification, the SOs could promote interventions that give rise to significant adverse environmental or social impacts. These may be challenging to address at the intervention, planning, and implementation stages without revisions to the SOs themselves. For this reason, it is recommended that these adjustments be fully considered prior to finalization of the REDD+ Strategy to strengthen or clarify SOs moving forward. These adjustments typically modify the strategy wording and in some cases may propose additional strategy options. For example, mangroves are important carbon sinks, and provide critical habitat for biodiversity, and yet they are not addressed directly in the strategy as it stands. The inclusion of mangroves could enhance performance against several of the SESA outcomes.
2. **Mitigation Measures.** These relate to areas where, without specific measures, interventions implemented under the strategy could either give rise to:
    a. Negative impacts, which can be addressed through established mitigation measures, (siting considerations etc.) at project implementation. These are highlighted in yellow in Table 9.3; or
    b. Positive impacts, which can be enhanced through established measures at project implementation. These are highlighted in green in Table 9.3.

    These measures can be developed as each intervention is planned and implemented. While they do not therefore require any modification to the SOs, they have been identified in the SESA to ensures that they are included within the ESMF and are thus considered as appropriate through its application and implementing mechanisms (screening, ESIA, etc.) to enable potential impacts to be both identified and managed at the project level.
3. **Institutional and legal measures.** These measures focus on building **institutional capacity** for implementation, or address **legal gaps** that exist in the current framework but are required to ensure the SESA outcome are achieved. Capacity interventions focus on developing the technical and logistical expertise to implement the strategy and may also take into account realistic time frames for their implementation in light of current capacity constraints including budgetary constraints or limitations. Legal interventions include the development of legal mechanisms that are needed to implement the strategy. These may include regulations, national standards, or even coordinating committees that may be necessary to realize REDD+ SESA outcomes. The REDD+ Strategy currently does not address these issues, but these will be critical for the effective implementation of REDD+. Accordingly, these should be incorporated directly into the strategy, or plans to consider these issues incorporated into the transformation stage. These are highlighted in orange in Table 9.3.

Table 9.3: Priority 5 Proposed Strategy Adjustments, Legal and Institutional Measures, and Mitigation Measures

	Recommended Modifications	Strategy Options	Where This Should Be Addressed		
			Strategy Adjustment (Transformation Phase)	Institutional & Legal Strengthening Measures	Mitigation Measures (ESMF)
1	Performance-based standards for benefit-sharing mechanism should be considered and included.			x	
2	Given the potential for conflict, a credible FGRM needs to be in place and operational as a first step in the implementation of these SOs.				x
3	Benefit-sharing mechanisms should explicitly consider ways to provide benefits to those that are displaced economically from their livelihoods.		x		
4	Specify how alternative skills and jobs to low-skilled laborers that are currently engaged in activities that will be affected by implementation of the REDD+ Strategy will be provided.				x

10.0 CONCLUSIONS

The final assessment of strategies is based on information provided by the REDD+ Strategy Team in June 2016 regarding the priorities, SOs, geographic scope, and interventions along with the draft REDD+ Strategy for consultation (GoL, 2016).

In undertaking this process, several general observations were made that apply across all or several of the SOs. These observations are presented here to aid policy makers and planners to design appropriate interventions to implement the strategy.

Uncertain Evidentiary Basis to Determine Links between Strategy Options and Outcomes. Many of the SOs proposed lack an evidentiary basis to demonstrate a causal effect between a given Priority and desired outcomes. For example, while permanent agriculture is often cited as a means to address rural farmers' dependency on shifting cultivation systems, numerous studies point to the lack of information available and the limited research into the viability of permanent agriculture. The FED program commissioned a study of the rice sector, a staple crop in Liberia and reported that "the lack of research on rice breeding and variety adaptation, agronomy, fertility, pest management, irrigation management, socio-economic analysis, harvest, and post-harvest management has serious consequences for the likelihood that Liberia can achieve the goal of rice self-sufficiency" (USAID FED, 2012b). The unsuitability of the majority of Liberia's soils for permanent agriculture (without agriculture inputs such as fertilizer and pesticides, which have potential negative impacts) and technical expertise to support sustainable soil management and integrated pest management, along with the extremely limited availability of animal or mechanized traction, also presents formidable obstacles to permanent agriculture development.

Need for Research. To address the immediately preceding issues (soil suitability, inputs, limited expertise, and tools), it is highly recommended that the strategy prioritizes research activities and programs, rather than attempting to implement large-scale projects or activities without proper understanding of related issues.

Sustainable Practices. Several of the SOs refer to sustainable practices (e.g., SO1.5) or assume that these are known (SO2.5 and SO4.1), yet the basis on which to determine sustainable offtake of biomass is not currently known, and the capacity to generate this information is extremely limited.

Institutional Capacity. Many of the strategies will require a level of technical expertise, planning and coordination, and logistical capacity that is currently limited within the FDA, EPA, Ministry of Agriculture, CSOs, etc. Implementation of these strategies will be constrained by these limitations and must take into account the reality of working with institutions with such limited capacity. This will require policy makers and planners to develop realistic timeframes for development and implementation of programming, and commit significant resources to capacity building. This cannot be done solely through training the existing staff in these institutions, but must also take a longer-term view and commit significant resources to education and training. The commitment to research and training is weakly presented in the strategy, but planners and policy makers have an opportunity to focus attention on this issue.

Regulatory Environment. Liberia has a progressive forestry law and framework, and much of the framework is in place for sustainable forest management. However, the ability of government to execute the law is extremely limited. Accordingly, regulatory reform, where necessary, should not be regarded as a panacea, but rather a complementary measure. Further, policy makers should be cautioned to avoid developing additional regulations without committing the resources to their implementation. This will only serve to undermine the rule of law in a country where the legal system is already fragile.

Regulatory Development Process. The process to establish regulations for the forestry sector is presented in the FDA's core regulations. This process requires rigorous regional and national consultations, and requires the development of multiple drafts for public disclosure in multiple languages and in newspaper and radio. This process is expensive and time-consuming, but it is also a good practice model for public participation and consultation and a way to ensure that regulations are

developed with the input and consideration of those that will be most affected. However, the REDD+ Strategy will require significant regulatory development and reform in many areas including benefit-sharing, carbon rights, hunting, chainsaw logging, mining, standards for agriculture, and ESIA. As a result, it will be extremely important to prioritize those pieces of regulation that are necessary for effective implementation in order to ensure that their development and subsequent implementation can be budgeted for accordingly. The strategy may also want to consider prioritizing and reducing the number of regulatory requirements in order to ensure that the strategy can actually be implemented.

In closing, the REDD+ Strategy has potential to transform the Liberian forest economy. Consideration of the environmental and social considerations outlined in this report will be critical for successful implementation.

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ATTACHMENT 1: SESA ADJUSTMENTS TO THE REDD+ STRATEGY

The SESA process is organized to coincide with the development of the REDD+ Strategy and to provide valuable feedback to its development. An important part of this feedback loop is the identification of potential environmental and social impacts (both positive and negative). This impact analysis can then lead to adjustments to mitigate negative impacts and strengthen positive impacts. Impact analyses can also identify institutional and legal gaps that may need to be addressed to strengthen the overall REDD+ Strategy.

In the Draft ESMF, the Priorities and Strategy Options as presented in the Liberia REDD+ Strategy Options Draft Report (April, 2016) were evaluated in depth. In addition, Attachment 1 of the draft ESMF presented proposed adjustments to the Strategy based on the impacts identified in the impact assessment sections of the ESMF. Some of these adjustments have been incorporated into revised strategy options in May 2016.

This document updates Attachment 1 by providing two tables for each of the Strategy Priorities and related Strategy Options: the first table presents the Strategy Priorities and Strategy Options from the April 2016 version of the REDD+ Strategy, and revisions made in May 2016; the second table presents the original adjustments as provided by the SESA team in May 2016, and an indication of whether adjustments have been made as a result of the SESA feedback. For new Strategy Options, adjustments are suggested.

Table A1.1: Priority 1 and Options

Priority 1. Support the sustainable use of forests by communities; to prevent expansion of shifting agriculture and other small-scale activities degrading and clearing areas of highest value forest.								
Original Strategy Options	1.1 Locate services and new infrastructure development in low carbon/less-dense forest areas.	1.2 Restrict road-building in densely forested areas, particularly >80% forest cover areas	1.3 Increase the area and productivity of non-forest land under permanent food and cash crops, to reduce the expansion of shifting agriculture.	1.4 Manage small-scale logging (chainsaw logging) to minimize impact on highest conservation value forest.	1.5 Manage charcoal production to reduce impact on high carbon stock forest and establish sustainable sources and levels of production.	1.6 Enforce existing hunting laws and support the development of livestock rearing.	1.7 Manage artisanal and small-scale mining to avoid areas of highest conservation value forest and to minimize impact on other forest areas.	1.8 Develop pilot reforestation and afforestation projects in degraded or deforested areas surrounding settlements and roads, to provide forest resources for communities and to relieve pressure on dense forest and Protected Areas.
Priority 1 REVISED: ***Reduce forest loss from chainsaw logging, charcoal production and shifting agriculture.***								
Revised Strategy Options	1.1 *(formerly 1.4)* Reduce impact of chain saw logging on forest through better regulation, improved efficiency and developing alternatives		1.2 *(formerly 1.5)* Reduce impact of charcoal industry on forest through better regulation, improved efficiency and the development of alternatives energy sources.		1.3 Reduce expansion of shifting agriculture in forest areas by promoting permanent food and cash crops in non-forest areas and through conservation agriculture.		1.4 *(formerly 1.1&1.2)* Locate services and new infrastructure development beyond a 3km buffer from areas of dense forest and Protected Areas (including proposed PAs).	1.5 *(formerly 1.6, 1.7, 1.8)* Integrate hunting, artisanal mining and forest restoration into community-led livelihood and sustainable forest management practices.

Table A1.2: Strategy Option 1 Proposed adjustments to the REDD+ Strategy

Proposed Adjustments (April)	Included in Revisions		
	Yes	No	Partly
Strategy Option Adjustments			
1. Concentrated Infrastructure and service development should be coupled with complementary livelihood measures to mitigate potential issues associated with in-migration. Will require multi-sectoral planning mechanisms (1.1&1.2)	X		
2. Recognize the carbon value of mangroves by specifying that new services, infrastructure and roads should avoid such areas (1.1&1.2) And Include additional interventions specifically to manage the exploitation of mangroves (new option)		X	
3. Adjust options to ensure that communities that may be located close to forest areas and are not willing (or able) to relocate have the necessary access to infrastructure and services to enable them to adopt alternative, sustainable livelihood options to those that are forest based. (1.1&1.2)		X	
4. Focus interventions initially on research that can determine and/or demonstrate viability of alternative, sustainable livelihood strategies and under what conditions (crosscutting)			x
5. Make specific reference to the role of these options as an essential complementary measure when implementing other options notably to provide livelihood opportunities for those that are displaced from commercial concessions or their associated set aside and offsets (Options 2.1, 2.2 and 4.1 - 4.3), or from Protected Areas (Options 3.1-3.2), or where population influx is anticipated e.g., due to perceived employment opportunities. (crosscutting)		x	
6. Given limited agricultural and other inputs, limited technical capacity to implement, and limited suitability of soils for permanent agriculture, it is strongly advised that these options be implemented concurrently within a given geography since no single action is likely to have a large impact on shifting cultivation patterns (1.3). Initially narrow the geographic scope to determine how effective these options are at attaining REDD+ outcomes is also advised (crosscutting).		x	
7. Options should include means measures to increase efficiency of chainsaw logging rather than focusing only on diverting such activities from HCV forest (1.4).			X
8. Option 1.4 could include promotion of sustainable practices, as currently included under Option 1.5. Both these options could link such measures to Option 1.8.			X
9. Options must include strategy options that address domestic demand for timber for construction and other purposes (1.4).		X	
10. Options related to charcoaling should take into account the existing market and relationships, and include this research to inform the design of interventions (1.5).			X
11. Strategy Option 1.5 should consider options for reducing demand through, for example, promoting charcoal efficient stoves in urban areas, and the use of other energy sources.			X
12. The intention behind the proposal to “reduce impact” on high carbon stock forest should be further explained. For example clarification should be provided as to whether this relates to a presumption against charcoal production or chainsaw logging from such areas, which would increase the area of lower value carbon which would need to be exploited to generate the same amount of energy, or whether sustainable exploitation of such high carbon value areas is proposed (crosscutting).			X
13. Options must address urban demand for charcoal since urban dwellers drive demand for this product. (1.5)			X
14. In view of firewood’s level of national contribution to GHG compared to charcoal, Priority 1 may benefit from more specific consideration of management of firewood through a strategy of its own, and/or integration with other Options (e.g., 1.3 and 1.8).		x	
15. Recognize the contribution to GHG of livestock rearing and nitrogen based fertilizers, and where possible, promote those species and products/practices that have low contributions (1.6).			X
16. Given the limited information regarding the viability of community-based afforestation programming, proposed activities should initially be implemented at a small-scale until their efficacy can be determined (1.8).	X		

Proposed Adjustments (April)	Included in Revisions		
	Yes	No	Partly
17. Proposed afforestation activities should include FPIC processes and mechanisms to ensure that customary rights of individuals and communities are protected with regard to afforestation activities (1.8).		X	
18. In recognition of the potential for creating carbon value through regeneration of forests (Option 1.8) in areas that currently have low carbon value, it may be appropriate to specifically include such areas (in addition to low carbon/less dense forests) that are to be avoided when siting new services, infrastructure and roads (Strategy Options 1.1 and 1.2).		X	
19. Strategy Option 1.8 should identify the need for, and specify the nature of complementary measures to promote sustainable management of areas that are subject to forestation or reforestation to safeguard them from community uses which could threaten the achievement of maximizing carbon stock and conservation outcomes.		X	
20. The proposed strategy should take into consideration how to provide alternative skills and jobs to low-skilled laborers that are currently engaged in activities that will be affected by implementation of the REDD+ Strategy Options (Option 1.4, 1.5, 1.6, and 1.7).		X	
21. The role of community forests within this Priority should be considered and included if it will enhance the viability of the strategy. For example, the chainsaw logging regulation only permits chainsaw logging in community forests or private lands (FDA Reg. 115-11§2). Failure to support community forestry could undermine this strategy option. Similarly, the large numbers of CFMA applications for commercial management of community forests suggests that communities are very interested in logging their customarily owned forests. Providing alternatives through community forestry may be necessary to ensure community use of forests that is compatible with REDD+ objectives.			X
Legal and Institutional Adjustments			
22. Implementation and enforcement of current regulations related to chainsaw logging (1.4), charcoaling (1.5), hunting (1.6) and mining (1.7) will require a strong capacity building component within the FDA, both technically and logistically since implementation will require active FDA engagement in planning and operations (1.4) and monitoring (1-4 - 1.7). The inclusion of realistic timelines for the development of requisite skills sets/capacity and ability to implement those skills needs to be factored into strategy options since currently, there is limited capacity to implement any of the strategy options (cross cutting).		X	
23. Include a description of the institutional arrangements that are either currently in place, or need to be developed to ensure the cross-sector budgeting, planning and coordination necessary for implementation of this option. This should include a mechanism for donor coordination (cross cutting).		X	
24. Include provisions for FPIC where new forest areas are being considered to ensure consideration of customary land owners and users (cross cutting).		X	

Table A1.3: Priority 2 and Options

Priority 2. Reduce impact of logging in Forest Management Contract and Community Forest Management Agreement areas.					
Original Strategy Options	2.1 Ensure that all commercial logging is practiced to high conservation standards in keeping with national regulations and international standards such as Forest Stewardship Council, so that impact on carbon stock and biodiversity is minimized.		2.2 Conserve areas of highest conservation value within commercial forestry concessions, such as important wildlife corridors, from all timber operations and road-building.		
Priority 2 REVISED. *Reduce impact of commercial logging in all forestry concessions*					
Revised Strategy Options	2.1 Ensure that all industrial logging is practiced to high conservation standards in keeping with national regulations and international standards.	2.2 Conserve and maintain areas of highest conservation value within commercial forestry concessions, such as important wildlife corridors.	2.3 Review Timber Sales Contracts to ensure compliance with forestry laws and EIA standards and establish a strong presumption against further TSC contracts on dense forest and within 5km of Protected Areas.	2.4 Prevent unregulated chainsaw logging and charcoal production within forestry concessions.	2.5 Manage commercial forestry in community forests larger than 1,000 hectares to achieve sustainable logging standards as apply to FMCs.

Table A1.4: Strategy Option 2 Proposed adjustments to the REDD+ Strategy

Proposed Adjustments (April)	Included in Revisions		
	Yes	No	Partly
Strategy Option Adjustments			
1. More specificity regarding conservation standards and mechanisms (FSC or other) to be applied to FMCs and CFMAs including: specific objectives to be achieved in relation HCS and HCV (1-6) (e.g., whether reduced loss, no loss, net gain etc.); broad approach to sustainable logging (definition of offtakes etc.); whether there should be requirements for set asides, and/or offsets and if so under what circumstances.			X
2. Alter Strategy 2.1 from "conserve" to "manage and maintain" areas of HCV to be consistent with the HCV Draft National Interpretation for Liberia and reflect the fact that all HCV areas may not need to be conserved through strict protection but can in many instances be sustainably used.			X
3. Specify measures to address the indirect effects on areas of conservation importance (HCS and HCV) outside the forest concessions, arising from leakage of community activities from, and population influx to areas near concessions.		X	
4. Include specific measures relating to CFMAs.			X
5. Promote biodiversity conservation at the landscape scale including through aggregated set asides, and where relevant, consideration of critical habitat management units.			X
6. Specification of measure to safeguard any set asides, offsets or areas intended for sustainable logging areas from community use.			X
7. Duplicates Adjustment 3 (see above).			
Legal and Institutional Adjustments			
8. Establish the chosen standards for forest management in Liberia, for example: national interpretation of FSC Indicators (if FSC is adopted), finalization of the HCV national interpretation and national interpretation of HCS.		X	
9. Identify mechanisms to implement such standards, through their inclusion in forestry or other relevant legislation relating to management of FMCs and CFMAs , which should amongst others give due consideration to existing contract rights and how to apply such requirement both to future concessions and those that have already been awarded.		x	
10. Create addenda to the EIA legislation to include regulations and associated guidance for the forest sector consistent with adopted standards (e.g., requirement for consideration of HCV and HCS in the EIA process).		X	
11. Capacity building for implementation and enforcement of relevant regulations and laws should be an important component within these strategy options, along with realistic timeframes to develop the requisite skills and capacity, before implementation is contemplated at scale. This will be significant given the current lack of capacity and resources of national agencies to: regulate environmental performance of the forest sector; undertake HCV and HCS assessment or provide oversight of those that do; plan for and manage (including thought the EIA) process for indirect impacts of forest concessions notably those arising from population displacement and population influx; establish and manage collaborations with for example private sector and CSO for development of amongst others offsets and Conservation Agreements.			X
12. Capacity building of communities must be considered. The requisite skills and knowledge will take considerable time and investment to develop.			X
13. Suggest formal mechanism and policies to promote innovative collaborative approaches with the private sector and CSO to conservation including for example through aggregate offsets and Conservation Agreements.		X	
14. Identify proposed institutional responsibilities, both nationally and locally, for enforcing new standards legislation and processes including clarity over respective roles, and interaction between, the FDA, EPA and community bodies in relation to both FMCs and CFMAs		X	

Proposed Adjustments (April)	Included in Revisions		
	Yes	No	Partly
Additional Comments on New Strategy Options (2.3-2.5); Introduced in May 2016 Version			
15. (New Strategy Option 2.3) It is unclear why the constraint with respect to the location of future concession relates to dense forest and distance from PAs rather than a wider definition of HCV and its role within the biodiversity landscape. It is also unclear why TSC are singled out for review against EIA requirement rather than applying to all forestry concessions	N/a		
16. (New Strategy Option 2.4) The Strategy recognizes that deforestation in dense forest areas is driven in part by chainsaw logging and that access to these areas is facilitated through the development of roads for concession access. However, Strategy 4 does not specify how chainsaw logging will be regulated in forest concession areas, how capacity to regulate will be developed, or the incentives that will be introduced to discourage such activities.			

Table A1.5: Priority 3 and Options

Priority 3. Complete and protect a network of Protected Areas, including existing and Proposed Protected Areas and proposed conservation priority areas.				
Original Strategy Options	3.1 Complete the Protected Areas Network and strengthen management to prevent forest degradation	3.2 Expand the PAN by adding conservation priority areas, to achieve the 30% conservation commitment.	3.3 Reduce pressure on PAs from surrounding communities (using priority 1 measures).	
Priority 3 REVISED: *Complete and manage a network of Protected Areas*				
Revised Strategy Options	3.1 Complete the Protected Areas Network and strengthen management to prevent forest degradation.	3.2 Expand the Protected Areas Network to conserve 30% of forest land.	3.3 Reduce pressure on PAs from surrounding communities (using priority 1 measures).	3.4 *(New)* Develop and implement land use plans at landscape scale, to integrate production and conservation.

Table A1.6: Priority 3 Proposed adjustments to the REDD+ Strategy

Proposed Adjustments (April)	Included in Revisions		
	Yes	No	Partly
Strategy Option Adjustments			
1. Rather than focusing on the currently proposed PAN and it expansion to include the CPAs (as proposed by Junkers *et al.*) the strategies should promote a landscape level ecosystems and mosaic approach to conservation at local regional and national levels. This should capitalize on the package of opportunities offered by both the PAN and conservation measure those that will be created under conditions applicable to emerging commercial and community land uses (notably areas of HCV set asides, offsets sustainably managed FMCs and CFMAs). Such an integrated and complementary approach to landscape level conservation may better achieve the desired outcomes			X
2. The strategy should prioritize locations for interventions that will protect critical habitat or other important biodiversity that may otherwise be threatened			X
3. The Strategy should where possible prioritize locations where interventions will contribute to climate change resilience of the landscape		X	
4. The Strategy should identify the need for and specify the nature of complementary measures (potentially under Strategy Priority 1) to address the indirect effects on areas of conservation importance (HCS and HCV1-4) arising from the diversion of community land uses that would otherwise occur in the PANs or areas subject to other conservation measures. This may require some adjustment to Options 1.1 and 1.2 to ensure that communities located close to PA and other forest areas who are not willing or able to relocate have the necessary access to infrastructure and services to enable them to adopt alternative, sustainable livelihood options to those that are forest based. This is particularly important as the determination of SESA Priority Issues identified (under Outcome 1) that development of alternative, sustainable livelihood options are currently constrained by *"poor infrastructure… and access to markets"*			X
5. The strategy should specify the need to provide sufficient opportunities for communities and the private sector to be more actively engaged in forest management and for identification of appropriate lands for PAN to be undertaken with adherence to FPIC principles.		X	
6. The proposed strategy should specify how potential impact on meeting domestic demand for construction and other wood materials and urban demand for energy sources (e.g., through alternatives to charcoal) will be met as a result on restriction of such activities in the expanded PAN.		X	
Legal and Institutional Adjustments			
7. Include legal provisions and associated guidance that would be required if CFMAs or areas such as HCV set asides are proposed for inclusion within the 30% target for forest protection.		X	
8. Promote, with the EIA legislation and guidelines, consideration of indirect effects which are particularly relevant to forest loss and other environmental impact associated with concessions and protected or otherwise managed areas but can often be overlooked. Such impact typically result from displacement of community land uses to location outside such areas and place addition pressure on them.		X	
9. Include provisions to build capacity and resources to deliver and manage the PAN taking account of the fact that to date this has been lacking and without significant support will become further stretched if the PAN is to be expanded. Accordingly, capacity building for implementation and enforcement of relevant regulations and laws should be an important component within these strategy options. Realistic timelines must also be considered for the requisite capacity to be developed to support implementation.			X
10. Address the potential for conflict, through the development of a credible FGRM to be in place and operational as a first step in the implementation of these strategy options.		X	

Proposed Adjustments (April)	Included in Revisions		
	Yes	No	Partly
11. Develop a systematic landscape classification to inform where forest and non-forest area areas both within and outside of the PAN may perform an ecological function and have potential to do so (e.g., through forest regeneration) within the landscape mosaic and warrant safeguarding including through REDD+.			X
12. Develop a systematic method to determine where forest may play a role in contributing to climate change resilience and to identify such key area within Liberia to inform decision on which areas to safeguards.		X	

Table A1.7: Priority 4 and Options

Priority 4. Prevent or offset clearance of high carbon stock and high conservation value forest in agricultural and mining concession.				
Original Strategy Options	4.1 Conserve HCV/HCS forest within agricultural concession areas (e.g., uphold RSPO and equivalent standards). This includes developing and implementing a policy for the sustainable management of these conserved areas (using priority 1 measures)	4.2 Apply same conservation standards to all concessions involving forest clearance, including Timber Sale Contracts, and mineral development concessions, including outgrowers and private plantations with holdings larger than 10 hectares.	4.3 Ensure that mining and other deforesting land uses result in zero-net deforestation, through mechanisms such as biodiversity offsetting agreements.	4.4 Allocate future TSC, mining and other concessions resulting in forest clearance to low carbon/less dense forest areas.
Revised Strategy Options	4.1 Conserve HCV-HCS forest within agricultural concession areas, including developing and implementing a policy for the sustainable management of these conserved areas (using priority 1 measures)	4.2 Apply policy of conserving HCS-HCV forest to all agricultural concessions, including private and community-owned farms larger than 1,000 hectares.	4.3 Ensure that mining result in zero-net deforestation, through mechanisms such as biodiversity offsets.	4.4 Locate future large-scale agriculture and mining concessions in less dense and non-forest areas.

Table A1.8: Strategy Option 1 Proposed adjustments to the REDD+ Strategy

Proposed Adjustments (April)	Included in Revisions		
	Yes	No	Partly
1. Should differentiate between conservation requirements for HCV and HCS that may apply (e.g., as per current RSPO) or specify whether RSPO NEXT which includes voluntary criteria on amongst others no deforestation and reduction in greenhouse emissions, would apply. This could usefully take account of Liberia's commitment to zero deforestation under the Norway LOI.	X		
2. Strategy Option 4.2, the specification of Mineral Contracts may be better removed as the application of RSPO (or equivalent) may not be appropriate as it could significantly constrain mining (RSPO promotes set asides and may require zero deforestation rather than allowing for offset and zero net deforestation as proposed for mining under Strategy Option 4.3). It would also be inconsistent with the principle of "zero net deforestation" set out in strategy option 4.3.			X
3. Strategy 4.2 should clarify whether mineral development refers to commercial, or also includes artisanal mining activities.	X		
4. Forest standards such as FSC may be more appropriate to TSC than "RSPO and equivalent". If this is the case TSC may be better addressed under Priority 2.	X		
5. Strategy 4.3 should include consideration of aggregated offsets and the role of REDD+ in promoting such an approach.			X
6. Strategy 4.3 could benefit from a definition of "deforestation" as distinct from "forest clearance" in Option 4.2, possibly taking account of the evolving RSPO and Liberia's definitions (e.g., tree cover, carbon, biodiversity or other values). Specification of what "other deforesting land uses" may comprise could also be provided.			X
7. It is not immediately evident how Strategy Option 4.4 can be implemented in practice as mining sites are necessarily constrained by the location of reserves. It is not clear why this strategy does not also include avoidance of HCV areas. While this strategy could be reworded to require offsetting through new planting to result in "no net loss" of high carbons stock (and possibly similar consideration for HCV), it is not clear how this would differ from measures under strategy 4.3, and hence whether Strategy Option 4.4 is required. It is also not clear what the "other concessions" refer to as agriculture, and forestry are covered elsewhere in the strategy and will require different management measures.			X
8. The Strategy should specifically promote biodiversity conservation at the landscape level (e.g., through aggregated set asides and offset) including consideration of critical habitat management units.			X
9. Strategy should prioritize locations where interventions will contribute to climate change resilience of the landscape.		X	
10 The Strategy should identify the need for and specify the nature of measures to safeguard any set asides or offset promoted through its implementation from community use			X
11 Specify measures to address the indirect effects on areas of conservation importance (HCS and HCV) outside the forest concession, arising from leakage of community activities from, and population influx to areas near concessions.		X	
12 The strategy should specify the need to provide sufficient opportunities for communities to be more actively engaged in decisions about concession management.			
13 Identification of appropriate lands for offsets should be undertaken with adherence to FPIC principles			
Legal and Institutional			
14 Include provisions to finalize the HCV national interpretation and produce a national interpretation of HCS.		X	
15 Support development of regulations for conservation of HCS (including as relevant when zero deforestation or no net deforestation apply) and a modifications to sectoral legislation e.g., forestry, agriculture (commercial and small scale) and mining.		X	
16 Create addenda to the EIA legislation to include regulations and associated guidance for the agriculture and mining sector consistent with adopted standards		X	

	Proposed Adjustments (April)	Included in Revisions		
		Yes	No	Partly
	(e.g., requirement for consideration of HCS and HCV and approaches to addressing deforestation in the EIA process).			
17	Promote with the EIA legislation and guidelines, consideration of indirect effects which are particularly relevant to forest loss and other environmental impact associated with concession areas but can often be overlooked. Such impact typically result from displacement of community land uses to location outside such areas and place addition pressure on them.		X	
18	Establish formal mechanism and policies to promote innovative collaborative approaches with the private sector and CSO to conservation including for example through aggregate offsets and Conservation Agreements.			X
19	Establish institutional responsibilities, both nationally and locally, for enforcing such new policies and legislation including clarity over respective roles, and interaction between, the FDA, EPA, MMLE (et al.) and community bodies in relation to managing environmental and social performance of agriculture and mining sector.		X	
20	Include provisions for capacity building to enable implementation and enforcement such regulations and laws, which should also incorporate realistic timeframes to develop and implement these requisite skills and capacity. This will be significant given the current lack of capacity and resources of national agencies to: regulate environmental performance of the agriculture (both commercial and small holders) and to a lesser but significant degree the mining sector, including specifying and enforcing current requirements for their environmental and social safeguarding including enforcement of EMPs; undertake HCV and HCS assessment or provide oversight of those that do; plan for and manage (including through the EIA) process for indirect impacts of mining and agricultural concessions notably those arising from population displacement and population influx; establish and manage collaborations with for example private sector and CSO for development of amongst others offsets and Conservation Agreements.		X	

Table A1.9: Priority 5 and Options

Priority 5. Fair and sustainable benefits from REDD+					
Original Strategy Options	5.1 Define carbon rights and develop policies and regulations for upholding these.	5.2 Establish benefit-sharing mechanisms for REDD+, in harmony with those operating in the forestry, mining, agriculture and other relevant sectors.	5.3 Operate a robust monitoring, reporting and verification system for demonstrating reductions in emissions achieved through REDD+ policies.	5.4 Invest national REDD+ income in activities that are economically sustainable as well as socially and environmentally responsible.	5.5 Research and test longer-term REDD+ solutions, including forest enhancement.
Revised Strategy Options	5.1 Define carbon rights and develop policies and regulations for upholding these.	5.2 Establish benefit-sharing mechanisms for REDD+, in harmony with those operating in the forestry, mining, agriculture and other relevant sectors.	5.3 Operate a robust monitoring, reporting and verification system for demonstrating reductions in emissions achieved through REDD+ policies.		

Table A1.10: Priority 5 Proposed adjustments to the REDD+ Strategy

Proposed Adjustments (April)	Included in Revisions		
	Yes	No	Partly
Strategy Option Adjustments			
1. The strategy should specify who the potential beneficiaries of carbon credits will be, who will manage proceeds, and how mechanisms for distribution of benefits will be developed		X	
2. Strategy description should include descriptions of the role of communities in development of benefit-sharing mechanisms and policies.			X
3. Performance-based standards for benefit-sharing mechanism should be considered and included.		X	
4. Given the potential for conflict, a credible FGRM needs to be in place and operational as a first step in the implementation of these strategy options.		X	
5. Benefit-sharing should consider ways to provide benefits to those that are displaced economically from their livelihoods.		X	