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# A National Biodiversity Offset Scheme: A Road Map for Liberia's Mining Sector

Joseph Onoja

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## Figures



## Maps

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**Photographs on front cover:** Jadwiga Figula (top and bottom left), Stephen Hird for ArcelorMittal Liberia (top right), Jessica Junker (center photograph on middle row), Joseph Onoja (bottom row right), and Will Millard (all other photographs).

**Pictures on back cover:** Amelia Davy.

# Executive Summary: A Road Map for Liberia

## Introduction

Liberia had an estimated 4.3 million hectares of forests in 2011, comprising approximately 50 percent of Liberia's landmass. These forests support very high levels of biodiversity, provide a wide range of ecosystem services (for example, bushmeat, medicines, construction materials, and charcoal), and generate employment and revenue from commercial and chainsaw logging. Pervasive poverty and competition for commercial land contracts for palm oil, mining, and forestry are threatening these last extensive forest areas in West Africa. Encouraging inward investment while striking a sound balance between different interests, respecting the legal and customary rights of local people, and conserving biodiversity represents a major challenge.

This project focuses on the mining sector, which has the potential to become a significant engine for growth and broader-based development. It explores the feasibility of implementing a national biodiversity offset scheme in Liberia to help minimize adverse impacts on biodiversity and ecosystem services resulting from mining. This scheme could overcome some of the limitations of project-specific biodiversity offsets and at the same time provide an opportunity for the private sector to contribute to an underfunded protected areas network. The project was funded by the World Bank's Extractives for Development Initiative (E4D) and Program for Forests (PROFOR).

Liberia is taking the progressive step of legally requiring mining companies to implement biodiversity offsets[1] to address the residual impacts of their activities on biodiversity after the application of the mitigation hierarchy.[2] This step includes current provisions contained in some Mineral Development Agreements and the draft Mining Act (2014),[3] which requires compliance with the International Finance Corporation's (IFC's) Performance Standards. However, this approach could result in a number of small ad hoc offsets that do not necessarily respond to conservation priorities in Liberia and lack the necessary protection to ensure their long-term sustainability. In addition, the capacity of resource developers to effectively implement offsets is limited and constrained by numerous external factors.

A Liberian national offset scheme would entail the application of a common methodology to ensure that conservation benefits are at least equivalent to biodiversity losses due to mining investments. Mining company contributions would help secure biodiversity assets in a nationally coherent manner, rather than on an investment-by-investment basis. Responsibility for design, implementation, monitoring, and long-term management of biodiversity offsets would be transferred from multiple developers to key government agencies, with support from national and international conservation and development partners.

The report is presented in seven chapters. Following the introductory chapter, chapter 2 discusses the conservation imperatives for Liberia and conveys a sense of the quality and extent of biodiversity within Liberia. Chapter 3 describes the challenge of securing conservation outcomes in Liberia as well as the prevalence of threats to biodiversity. Chapter 4 discusses the potential for biodiversity offsets to help secure conservation outcomes. Chapter 5 covers the legal, policy, and institutional framework in support of

biodiversity offsets. Chapter 6 discusses the methodological aspects of implementing a national biodiversity offset scheme, together with the challenges of securing and effectively managing sources of funding. Chapter 7 summarizes the report's suggested next steps to implement a road map for biodiversity offsets in Liberia. Details of additional information sources and reference materials are in the appendices.

## The Conservation Imperative for Liberia: Remarkable Biodiversity at Risk

Liberia has a number of international and national designations relating to biodiversity. It is located within the Upper Guinean part of the Guinean Forest biodiversity hotspot, one of the most-threatened and least-protected forest ecosystems in the world. The Guinean Forest originally covered an estimated 1,265,000 square kilometers, but only one-tenth of the original vegetation remains (40 percent of this remaining forest is within Liberia). The Liberian forests are mainly within two large blocks, with evergreen lowland forests in the southeast, grading to semi-deciduous forests in the northwest. These forests contain exceptionally diverse ecological communities and distinctive flora and fauna.

Liberia also lies within the Guinean moist forests global ecoregion. This is one of the Global 200 ecoregions that harbor exceptional biodiversity and have been identified as global priority areas for conservation by the World Wide Fund for Nature. The whole of Liberia is included within the Upper Guinean forests Endemic Bird Area; Endemic Bird Areas are regions that harbor two or more bird species that have very restricted ranges and are identified as global priority regions for conservation by BirdLife International. Liberia also forms a key part of the Upper Guinean rivers and streams Global 200 freshwater ecoregion.

Within Liberia, 25 Key Biodiversity Areas have been identified. These are places of international importance for conservation. The percentage of Key Biodiversity Areas in Liberia that are afforded protection is currently very low (8 percent), compared with neighboring countries in West Africa. Nine Important Bird Areas have been identified together with five Ramsar Sites, which are sites designated as Wetlands of International Importance. Two areas (the Nimba Mountains and the Cavalla Forest) have been designated as Alliance for Zero Extinction sites. The Nimba Mountains support the one remaining population of the endangered Liberian Nimba toad, and the Cavalla Forest has been designated because it is the only known site where the critically endangered Liberian greenbul has been found. However, it is not yet certain (pending DNA analysis) whether the Liberian greenbul is indeed a separate species.

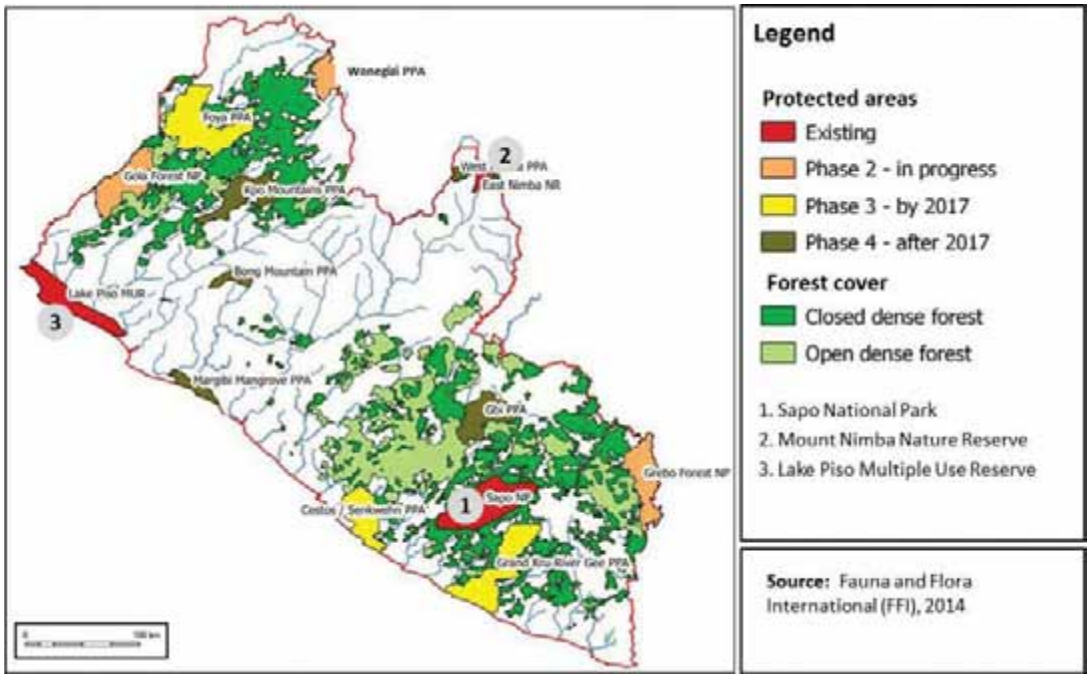
The importance of Liberia to the conservation of West African moist forest was highlighted as far back as 1975, and many surveys and workshops have been undertaken in the intervening years to identify a network of priority sites for conservation. In 1983 the first protected area, Sapo National Park, was designated. This was followed by the East Nimba Nature Reserve in 2003 and Lake Piso Multiple Sustainable Use Reserve in 2011. Collectively, these account for 3 percent of the landmass of Liberia.

The Act for the Establishment of a Protected Forest Areas Network of 2003 committed the government to establishing a protected areas network covering at least 30 percent

of the existing forest area (about 1.5 million hectares). A Forest Management Suitability Study conducted in 2007 identified 15 areas (including the existing protected areas) to be included within the protected forest area network to ensure adequate representation across species and ecosystems. The World Bank provided financial support for the establishment of the network. The Consolidation of Liberia's Protected Area Network Project (COPAN), and the subsequent Biodiversity Conservation through Expanding the Protected Area Network Project (EXPAN), aimed to assist in creating additional parks as well as strengthening the capacity of the Forestry Development Authority (FDA), the agency responsible for conservation.

Although progress has been made by increasing the presence of rangers and forest guards in six areas, the gazettement of protected areas has been very slow as a result of inadequate budget allocation, lack of alternatives for communities that depend on the forests for their livelihoods, and other competing land uses. The FDA's strategic plan anticipates having six additional protected areas fully gazetted by 2017, and by 2020 the plan envisages about 30 percent of forest land to be in protected area management. The next park to be gazetted is Gola National Forest. The preparation of the gazettement package for submission to the national legislature to enact a law establishing the new park is in process as of 2014.

**MAP 0.1** Existing and Proposed Protected Areas in Liberia




*Note:* NP = National Park; NR = Nature Reserve; PPA = proposed protected area; MUR = multiple use reserve.

Although no systematic surveys (with the exception of chimpanzees) have been undertaken throughout the country, data from recent and historic surveys suggest that many of the proposed protected areas (PPAs) that have been identified are still important areas for conservation, particularly given that a number of them (Gola National Forest, the Wonegizi Mountains, and Grebo National Forest) are transboundary habitats allowing migration of species such as the forest elephant. There is, however, a lack of rigorous and quantitative biological data sets for Liberia, outside of the protected and proposed protected areas (particularly with respect to flora), which are needed to inform conservation priorities. A national survey on chimpanzee abundance and large mammal diversity undertaken between 2010 and 2012 (Tweh et al. 2014), provides some insight into areas of importance for biodiversity outside of protected areas. An unpublished study (Junker et al., forthcoming) identified priority sites for conservation using data on chimp density, mammal diversity, and tree diversity. Some of these sites coincide with or overlap the PPAs but not all of them do, indicating that there are high biodiversity areas outside the PPA network.

Extensive analysis of historical Landsat data at 20 meter resolution (Hansen et al. 2013) shows that deforestation of approximately 4 percent has occurred during the past decade. However, these data do not distinguish tree plantations from natural forest, so acquiring an up-to-date assessment of forest resources is important. Such an assessment is being undertaken using the new European Space Agency remote sensing data. With high-resolution imagery, the main types of forest (mono-dominant evergreen, swamp forest, semi-deciduous) should be easily distinguishable in a way that has not been achieved nationally in the past. This information could be supplemented by field surveys because existing sources of botanical information for Liberia are currently lacking.

**Summary and Recommendations**

***The current proposed protected areas (PPAs) provide an excellent network of sites:*** This network offers the potential for offsets spread around the country and includes a range of vegetation types and species. Such a network does not preclude the implementation of project-specific offsets outside of these areas if deemed more appropriate.

***High biodiversity outside of PPAs needs further consideration:*** Areas outside of the PPAs also support very high biodiversity. Given that some of the original PPAs have been altered (Bong Mountain, West Nimba) or have been removed from the list (Wologizi), it would be valuable for the government of Liberia and civil society organizations to hold a workshop to consider what other areas might replace these lost sites.

***Updated assessment of forest resources is required:*** Updated information on forest resources should be obtained using the new European Space Agency remote sensing data. This information should be supplemented by field surveys given that botanical surveys are lacking.

***Role for public-private partnerships in establishing protected areas:*** Because of budget constraints, the establishment of a protected areas network has been very slow, and securing additional funds through a biodiversity offset scheme could speed up the process.

## The Challenge of Securing Lasting Conservation Outcomes in Liberia

Biodiversity conservation in Liberia is threatened by poverty, uncertainties over land tenure, and competing land uses, particularly between commercial and community forestry, mining, and agriculture. The PPAs are afforded very limited protection until they are formally gazetted.

Liberia emerged from the civil war in 2003 as one of the poorest countries in the world, with an annual GDP per capita of US$135 and a level of unemployment estimated to be 86 percent. Although Liberia has made progress, access to basic services continues to be limited and almost two-thirds of Liberians live below the poverty line. The Liberian economy has also been significantly affected by the Ebola epidemic. Poverty poses an underlying threat to biodiversity because the livelihoods pursued by poor people frequently degrade or destroy natural ecosystems. It is often difficult for people to transition to more sustainable and biodiversity-friendly livelihoods. Bushmeat is an integral part of many people's diets, and one study estimates that the annual wildlife harvest in Liberia is one of the highest per capita rates in Africa (Anstey and Dunn 1991).

Security of land tenure in Liberia is weak for many Liberians, and the civil war exacerbated an already complex land situation. The administration of land in Liberia is hindered by the absence of a national land registry and by unclear and outdated land laws. In addition, what constitutes public land continues to be unclear. Historically all unregistered and untitled land was considered "public land." The Land Commission has been reviewing land rights and laws, and in 2013 the Land Rights Policy was published. Implementation of the policy could change the quantity and location of land owned by the government and therefore available for allocation as concessions and possibly PPAs.

Accurate estimates of the amount of land currently deeded to communities do not exist. Research by the Land Commission indicates that up to 30 percent of land is deeded community land, although copies of original deeds are still being validated. Some deeds originate with the issuance of aboriginal land grant deeds under the 1905 and 1929 laws. However, 1956 also saw the passage of a Public Lands Law, reenacted in a revised form in 1973, which allowed the government to sell "government" land for US$0.50 per acre. In exchange the purchaser acquired a public land sale deed. As with aboriginal land grant deeds, public land sale deeds were not originally intended for communities to obtain fee simple ownership of their lands. Nevertheless, some communities took advantage of this law to obtain public land sale deeds for community lands.

Pilot work undertaken by the Land Commission suggests that at least one PPA is partially covered by community deeded land (Cestos-Senkwehn). The Land Rights Policy suggests that such areas could be called "Customary Protected Areas," which are owned by the community and must be conserved and managed by the community for the benefit of the community and all Liberians. This may have implications for the current approach to the establishment of the protected areas network. In 2013, the FDA requested all parties holding forest land deeds to submit their documentation for legal consideration. Land claims, some overlapping, for nearly 3.4 million hectares arrived at the FDA for consideration. This represents almost 80 percent of the forested areas of Liberia.

This situation far outreaches the FDA's mandate and capacity to address and is under consideration by the Governance Reform Committee.

By 2012 more than 50 percent of Liberia's total land area had been awarded for commercial land use contracts, largely dominated by transnational corporations. However, some of these concessions are not mutually exclusive and many mineral exploration licenses will never progress on to Mineral Development Agreements and result in the construction of mines. Nevertheless, concessions cover vast areas of land. The main concession-awarding entities are the Ministry of Lands, Mines and Energy (MLME), the Ministry of Agriculture, and the FDA. An interministerial concessions committee, which includes the National Investment Commission and the National Bureau of Concessions, has an oversight and coordination role. However, there is an absence of effective land use planning at the national or regional level and poor coordination between sectors, with the forestry, agricultural, and mining sectors largely operating independently of each other.

Consequently, there are significant overlaps in the allocation of concessions. Numerous mineral exploration licenses, commercial agricultural concessions, Private Use Permits, and Community Forest Management Agreements (CFMAs) overlap the PPAs, and some commercial agricultural concessions appear to overlap each other. Procedural irregularities have also occurred relating to the allocation of CFMAs and Private Use Permits, which is addressed in other reports. The National Forestry Reform Law states that a Class A mineral right cannot be granted in a PPA unless there has been agreement with the FDA and FDA staff have written guidelines for maximum protection of the environment and sustainable management of the forest during exercise of the grant. It is unclear whether there has been any communication between the FDA and the MLME about these exploration licenses. There is no specific law that prescribes the procedures to be followed in the case of conflict between (or overlap of) concessions in different sectors of the economy. A conflict between concessions in the same sector is likely resolved by application of the common law rule of first in time, first in priority. The PPAs receive no recognition until they are formally gazetted.

## A Role for Biodiversity Offsets in Securing Conservation Outcomes

Biodiversity offsets are defined as "measurable conservation outcomes resulting from actions designed to compensate for significant residual adverse biodiversity impacts arising from project development after appropriate prevention and mitigation measures have been taken" (BBOP 2009, 4). The stated goal of biodiversity offsets is to "achieve no net loss and preferably a net gain of biodiversity on the ground with respect to species composition, habitat structure, ecosystem function and people's use and cultural values associated with biodiversity" (BBOP 2009, 4).

Biodiversity offsets are conceptually attractive, appearing to balance the needs of economic development with those of conservation. Despite theoretical and practical issues associated with offsets, they are becoming more widespread and in the context of Liberia offer an opportunity for the private sector to contribute to the PPA network, which is desperately underfunded.

Various drivers have resulted in a number of mining companies in Liberia implementing or working toward the creation of project-specific offsets. These drivers include the

**Summary and Recommendations**

***Greater clarity is required on potential overlaps between community deeded land and proposed protected areas (PPAs):*** The implications of community deeded land being designated Customary Protected Areas under the Land Rights Policy should be clarified with regard to related rights and responsibilities.

***Implement a geographic information system (GIS) for allocating concessions:*** A centralized GIS is urgently needed to support the accurate allocation and extension of forest, palm oil, mining, and other concessions. It is understood that the USAID Governance and Economic Management Support Program is supporting the management of concessions. The implementation of a GIS should be an urgent priority. Greater coordination between ministries is required until the GIS is implemented.

***Avoid further allocation of concessions in PPAs:*** An immediate moratorium should be declared on the allocation of concessions within the PPAs until a land use plan has been developed.

***Avoid allocations of Community Forestry Management Agreements (CFMAs) in PPAs:*** CFMAs in PPAs should be halted at least until the issue of land rights is clarified and a clear strategy with respect to community forests and protected areas has been developed and procedural irregularities are ironed out.

***Clarify the status of concessions affecting PPAs:*** Although the Ministry of Lands, Mines and Energy has granted mineral rights that affect a number of PPAs, it is important to clarify whether the Forestry Development Authority (FDA) approved the granting of these mineral rights and issued appropriate guidelines. The National Forestry Reform Law states that a Class A mineral right cannot be granted in a PPA unless the FDA agrees and has written guidelines for maximum protection of the environment and sustainable management of the forest during exercise of the grant.

***Undertake integrated land use planning:*** The lack of a comprehensive, integrated land use plan complicates the rational management of natural resources, while encouraging haphazard economic development.

***Undertake more work on alternative livelihoods and food security,*** particularly around new protected areas.

IFC Performance Standards, conditions attached to the Liberian government's Mineral Development Agreements, and internal corporate policies.

## A National Biodiversity Offset Scheme versus Other Mechanisms

The Ecosystem Marketplace released two reports outlining the range of biodiversity market practices designed to reduce the adverse impacts of development on biodiversity, which collectively can be referred to as compensatory mitigation measures (Madsen, Carroll, and Moore Brands 2010; Madsen et al. 2011). Three broad categories of compensatory mitigation programs were addressed: compensation funds, mitigation banking, and one-off offsets. This section also considers aggregated offsets.

Compensation funds are a mechanism whereby a third party (a government entity or potentially a not-for-profit) collects and administers fees from developers of projects that have detrimental impacts on biodiversity. The funds either go directly toward compensation for biodiversity losses or support more indirect biodiversity-related projects such as funding protected areas management or research. Compensation funds are fairly straightforward to implement. However, they are a blunt instrument: fees are often based on the amount of capital invested and take no account of the biodiversity value of the land affected. Given that most of the private sector investment in Liberia is foreign rather than domestic, this type of offset could be regarded as an additional tax and could have a chilling effect on inward investment.

Mitigation banking and conservation banking emerged as a result of regulatory-drivers in the United States to mitigate and compensate for the adverse impacts of development. Under the Clean Water Act and the Endangered Species Act, anyone who destroys regulated wetlands, streams, or endangered species habitat in the United States must compensate for that destruction. They must either develop their own offset, pay in-lieu fees to a conservation organization to offset impacts, or buy credits from third parties that have already restored sites in the same region (for example, from a mitigation bank in the case of wetlands, or a conservation bank in the case of species). In general, they are complicated to implement (entailing significant costs), require a well-developed market infrastructure, and are dependent on a high level of capacity within regulatory and enforcement agencies. They have not been applied outside of a few developed countries and are not currently suitable for Liberia.

One-off offsets (also known as project-specific offsets tend to involve developers (or their nongovernmental organization partners) setting aside and managing an area of land to compensate for loss of habitats or species to ensure "no net loss or a net gain in biodiversity." Such offsets are becoming increasingly widespread worldwide, particularly in the mining industry. Although one-off offsets are an important tool for addressing significant residual adverse impacts of a project, they are not a panacea; nor are they necessarily the best tool for achieving conservation outcomes in Liberia. Because of the uncertainty around land tenure, competing land uses, and a rural population that is heavily dependent on forest resources, selecting offset sites that are politically, socially, and technically feasible to implement can be complex, costly, and time consuming. There are also high transaction costs that must be borne by each mining project developer.

Aggregated offsets are offsets whereby a number of developers combine resources to compensate for the combined biodiversity impacts arising from more than one development project in a specific geographical area. Theoretically this could be excellent way to set aside larger areas. In practice however, individual projects are usually on different time scales making this problematic.

### Proposed Approach in Liberia

For Liberia, a national scheme combining elements of conservation banking and aggregated offsetting is proposed. The advantage of this plan is that although Liberia is home to exceptional biodiversity, the range of ecosystems represented is relatively narrow. In practice, these two factors offer the potential to establish some form of biodiversity or conservation credits in advance of mining developments taking place, which resource

developers could then acquire to offset their activities if required to do so. The greatest potential for establishing such areas lies within the PPAs that have already been through a site-selection process based on their importance for biodiversity and other factors important to their establishment. Many PPAs greatly exceed the potential area that could be protected through a project-specific offset. Retaining large landscapes is of major importance for certain key landscape species in Liberia, particularly forest elephants.

Having a national scheme provides an opportunity for the private sector to support the protected areas network, reduce risks, and overcome the limitations faced by many current, project-specific offset schemes, including the following:

- *Suboptimal selection of conservation offset areas* is caused by uncoordinated, ad hoc approaches that are often dictated by proximity to or location within a mining concession.
- *Insufficient participation or ownership by governmental authorities occurs,* especially where arrangements are negotiated primarily between large private firms and conservation nongovernmental organizations, but which may undermine the long-term viability of an offset area.
- *Costs of and delays in identifying offset locations:* By linking to the PPAs network, these limitations can be overcome because the biodiversity and socioeconomic data will have already been collected.
- *Inability to address cumulative impacts:* Linking to the PPAs network can potentially address the cumulative impact of multiple (including smaller-scale) projects.
- *Sustainability and longevity:* Unlike potential project-specific offset locations, protected areas can only be converted to private land, customary land, or public land in accordance with a law passed by the legislature. In contrast, any other land that might be used for an offset has no certainty of long-term protection.
- *High transaction costs:* Transaction costs can potentially be reduced, and outcomes improved, by using priority sites that are unprotected.

## Addressing the Rights and Interests of Landowners and Local Communities

Much of Liberia's rural population is heavily dependent on forests for their livelihoods and ecosystem services. The establishment of protected areas could have adverse impacts on local communities unless those communities who live in and around and are dependent upon protected forests develop increased local capacity for sustainable livelihoods. The gazetting process requires social impact assessments to be undertaken by the government before an area becomes legally protected; such assessments have already been or are being undertaken for the Gola, Grebo, and Wonegizi PPAs.

In general, the success of biodiversity conservation in protected areas is dependent on and affected by a range of factors including location, how protected areas are created and

**Summary and Recommendations**

***A national offset scheme that combines different elements is proposed:*** Limiting the use of aggregated offsets to situations in which all biodiversity impacts must be established for a number of defined projects at the same time is impractical. For this reason, it will be combined with biodiversity or conservation credits.

***A national scheme offers certain advantages over alternatives:*** Although project-specific offsets and compensation funds have merit, aggregated offsets combined with a simple form of biodiversity or conservation credit linked to the proposed protected areas network offers the greatest prospect for sustainable offsets that deliver conservation outcomes in the long term and help achieve conservation gains, presenting the potential for true additionality.

***In establishing a national scheme, careful attention needs to be paid to the human dimensions of biodiversity:*** The emerging lessons of experience with establishing protected areas in Africa highlight the importance of the human dimension of biodiversity, and point to critical success factors that should feature in the choice and establishment of aggregated offsets and biodiversity and conservation credit areas.

managed, the degree of local community involvement, the national policy governing the protected area, and the financial resource base of the protected area. An analysis of more than 100 case studies about conservation of biodiversity in national parks in Africa identified some of the key factors that underpin the success (or failure) of protected areas, including the following:

- Effective consultation with and taking into account the needs of local people who depend on resources
- Clear communication channels between park staff and local leaders, coupled with conflict- or grievance-resolution mechanisms and participatory monitoring
- Density of guards (there is a strong correlation between conservation of biodiversity and density of, but not the capacity of, guards)
- Security of land tenure and uncontested ownership of land in parks.

## Legal, Policy, and Institutional Framework in Support of a National Biodiversity Offset Scheme

As the sole agency with responsibility for managing the forest resources of Liberia, and given its mandate for establishing and maintaining a protected areas network, the key institution that would need to be involved in the creation of a biodiversity offset scheme in Liberia is the FDA. Following the signing of the Comprehensive Peace Agreement in 2003, attention turned to reform of the forestry sector. The aim of the reforms was to strengthen governance, accountability, and transparency, and to improve the sharing of benefits

from the forestry sector. Several development partners provided technical and financial assistance to support the reform efforts; their assistance was coordinated through the Liberia Forest Initiative.

The 2003 Act for the Establishment of a Protected Forest Areas Network required a biologically representative network of protected areas to be established covering at least 30 percent of the existing forest area, comprising about 1.5 million hectares. The National Forestry Reform Law (2006) followed, providing the foundation for a revised process for concession allocation and management, and the restructuring of the FDA. The National Forestry Reform Law was supported by the National Forestry Policy, strategy, and regulations. These supported a "3 Cs" approach, giving equal weight to the community, commercial, and conservation aspects of forestry.

The Community Rights Law with Respect to Forest Lands (2009) aimed to empower communities to engage fully in the sustainable management of forests in Liberia. The more recent draft National Wildlife Conservation and Protected Areas Management Act (2014) includes a number of important provisions relating to biodiversity and protected areas.

Concern had arisen that the FDA's progress on each "C" had been unequal, with significant focus on commercial forestry. The alleged exploitation of both Private Use Permits and CFMAs by commercial interests has fueled concerns that the FDA has a potential conflict of interest in forest protection, given its role in facilitating commercial forestry and revenue generation from forest resources. A commitment to change this focus appears to be surfacing, with greater emphasis on community forestry and conservation, which will be fundamental if the establishment of the protected areas network is to be realized and a national biodiversity offset scheme is to work.

The Environmental Protection Agency (EPA) is responsible for coordinating, integrating, and harmonizing the implementation of the Environmental Policy under the guidance of the National Environmental Policy Council. The EPA would almost certainly have a significant role in oversight of the scheme. In addition, the MLME would likely have a role in demarcating and mapping any future offset areas that form part of the protected areas network.

No Liberian legislation specifically mentions biodiversity offsets; however, a range of legal provisions help to underscore the conservation of biodiversity. For example, the Environment Protection and Management Law (2002) requires the application of the mitigation hierarchy as part of the Environmental and Social Impact Assessment (ESIA) process. The draft Mining Act states that all mining feasibility studies must comply with the IFC Performance Standards. In addition, clauses relating to the IFC Performance Standards are already being integrated into Mineral Development Agreements, which could provide a legally enforceable anchor for mining companies to implement offsets. There is also an opportunity to further clarify requirements for offsets under the regulations to be developed by the FDA under the National Wildlife Conservation and Protected Areas Management Act (2014) (National Wildlife Law) for activities, including mining, that are either permitted or prohibited in the various protected area designations. The legal framework and policy environment support the establishment and sound management of a conservation trust in Liberia.

Despite having many committed staff, both the FDA and EPA are significantly constrained by the resources available to them, given that their respective mandates and legal provisions require them to fulfill a broad range of activities across the entire country. In addition, as a result of the emphasis on encouraging inward investment and avoiding barriers to development, agencies are sometimes hesitant to enforce existing laws.

**Summary and Recommendations**

***Address capacity constraints within the Forestry Development Authority (FDA) and the Environmental Protection Agency (EPA):*** Numerous studies and reviews have highlighted the capacity constraints within the FDA, as well as the tension between different elements of the "3 Cs" mandate. If a biodiversity offset scheme is to be successfully implemented in Liberia, this issue needs to be addressed.

***Specific capacity building around offsets:*** Given that biodiversity offsets are a new concept in the context of Liberia and the approach under development is also new, capacity development will be required among the key line ministries and agencies, including the FDA, EPA, and to a lesser extent the Ministry of Lands, Mines and Energy.

***Review the status of community deeds and the establishment of protected areas:*** If some of the PPAs are subject to community deeds and are not in fact "public land," it is unclear whether the FDA can gazette them. If they were to be designated as Customary Protected Areas, it is unclear whether existing legislation would apply to them. These uncertainties need to be resolved.

***New legislation would be required if offsets were to be extended to other sectors:*** Mineral Development Agreements and the draft Mining Act only cover the mining sector; the Environment Protection and Management Law would need to be amended for it to cover other sectors.

***The legal framework and policy environment support the establishment and sound management of a conservation trust fund in Liberia:*** Liberian laws recognize trust as a contractual relationship enforceable when validly established; the country also has a dedicated statute on the creation and management of private foundations. There is a dedicated chapter of the Tax Code of Liberia on taxation of trusts. No Liberian law or policy precludes the government of Liberia or any of its agencies from establishing or contributing to a trust fund.

***Need to further clarify the implications of the proposed Conservation and Wildlife Fund:*** The commitment in the draft National Wildlife Law (2014) to establish a "Conservation and Wildlife Fund for the administration of protected areas, wildlife conservation and management activities, and enforcement of this Law" is consistent with the proposed model for future funding of a biodiversity offsets scheme in Liberia. Because details of how the fund would operate are yet to be developed, it is unclear whether the proposed Conservation and Wildlife Fund could serve as the vehicle for funding the scheme.

***Need for honest reflection on the question of political will:*** Given the past history of the establishment of a protected areas network in Liberia, the issue of political will is an important consideration that will require a level of introspection and honesty on the part of various line ministries and agencies.

## Methodological Challenges and Approach to Implementing a National Offset Scheme

The mining industry has spearheaded the development of project-specific biodiversity offsets to reduce reputational risks or comply with international lenders such as the IFC, the European Bank for Reconstruction and Development (EBRD), and the African Development Bank (AfDB), all of which have incorporated "no-net-loss" principles for biodiversity into their investment safeguard policies. Measuring ecosystems and species with a high degree of accuracy is extremely complex, especially within the given time frame or budget of an ESIA. The methodology proposed here tries to balance pragmatism against reluctance to create a one-dimensional metric that might not be supported by stakeholders.

It is important that the ESIAs being prepared in Liberia include sufficient information on biodiversity not only to assess risks and impacts, but also to determine the need for an offset. IFC Performance Standard 6 (Biodiversity Conservation and Sustainable Management of Living Natural Resources) requires companies to determine whether their projects require offsets to address significant residual impacts on "natural habitats" and "critical habitats." It also requires companies to address ecosystem services as part of the ESIA process. Ecosystem services cannot realistically be compensated for within a national biodiversity offset scheme, particularly if the PPA is not within easy access of communities whose access to ecosystem services has been adversely affected by projects. Instead, the issue of loss of ecosystem services must be assessed as part of the project ESIA and mitigated or compensated for locally.

The following offset methodology is proposed and will be developed further with stakeholders in a workshop planned for 2015 in Liberia. (See figure 0.1.)

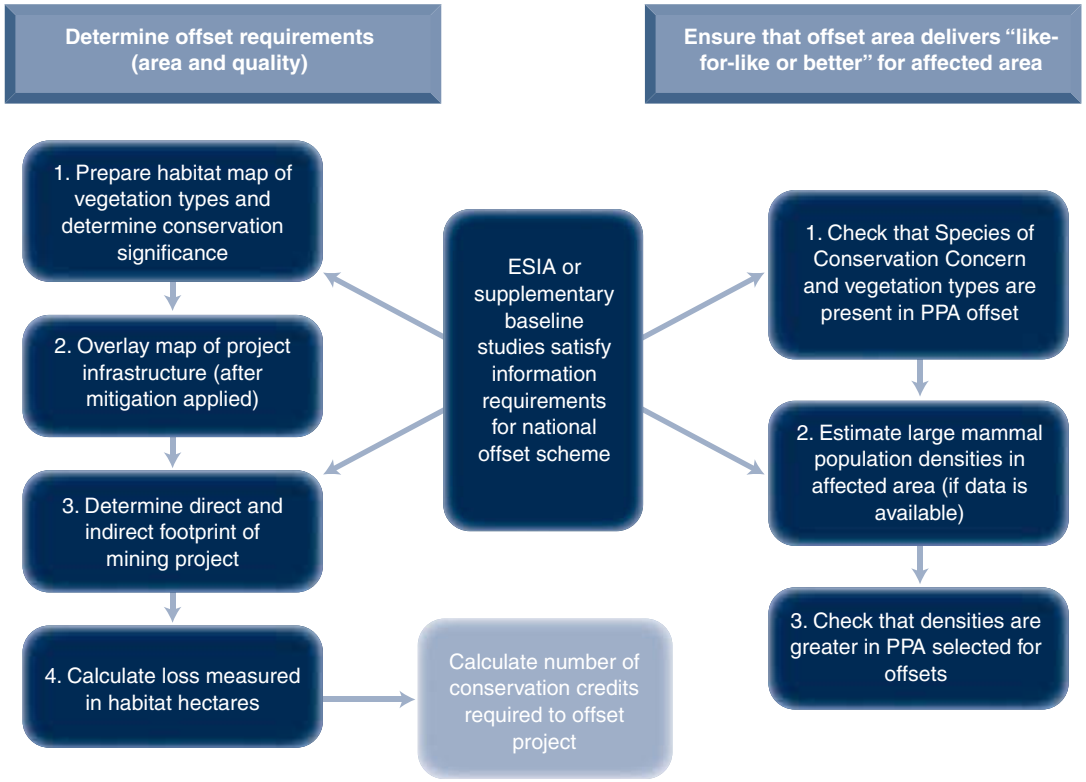
1. Prepare a habitat map of the project area identifying different vegetation types.

2. Determine the conservation significance of the site using the number of species of concern. The species could include those that are threatened (endangered and critically endangered and possibly vulnerable) and locally (and regionally) endemic. The conservation status of the ecosystem or habitat could also be included. For example, much of the unmodified habitat in Liberia might be considered critical habitat under IFC Performance Standard 6 criteria iv (highly threatened and/or unique ecosystems). Other criteria can be added but doing so inevitably adds to the complexity of the methodology.

3. Overlay a project infrastructure map to indicate the areas lost from direct impacts related to the mine footprint. The direct mine footprint represents the residual impact after incorporation of mitigation measures that influence direct impacts.

4. Determine the induced or indirect footprint of the project. A pragmatic approach would be to adopt a standard distance, which could be based on estimated "avoidance distances" for species of conservation concern. The determination of this distance should be scientifically based, taking into account stakeholder input.

**FIGURE 0.1** Possible Process for Determining Biodiversity or Conservative Credits




*Source:* Author.

*Note:* ESIA = Environmental and Social Impact Assessment; PPA = Proposed Protected Area.

5. Calculate loss of habitat hectares based on the direct and induced footprint and conservation significance of the habitat affected. The conservation significance could be a multiplier depending on the value of habitat. These habitat hectares, or "multiplier hectares," determine the number of conservation credits that a project developer must offset.

6. To accommodate the "like-for-like or better" principle, a qualitative factor is designed to ensure that the types of habitats or species affected will also be represented at the offset sites. There would be a register of potential offset sites within the expanded protected areas network that describes all available information on the nature and extent of habitats and species represented. In addition to the list of species present, the register would also include information on population density estimates for charismatic species (if known). Ensuring that offset sites support the same types of habitats and species as those being lost is important, but some flexibility could be allowed.

As stated above, this methodology and possible costs of conservation credits should be refined at an upcoming stakeholder workshop, planned for 2015. In general, the conservation credit cost would be based upon the investment and recurrent costs of properly protecting and managing an offset area.

## Institutional Roles and Responsibilities for Implementation of a National Offset Scheme

As stated earlier, the FDA would play a central role in the creation and the day-to-day management of an offset scheme in Liberia, with additional oversight from the EPA and possibly the MLME.

The process of expanding the protected areas network will require in-depth engagement with a wide range of interested stakeholders, including local communities. To overcome the challenges relating to capacity constraints within the FDA and the inherent tension between the agency's twin roles of conservation and commercial exploitation of forests, a project implementation unit could be established in the FDA with a mandate to work solely on establishing an offset scheme or the scheme could be covered by the existing REDD Implementation unit. In addition, an advisory committee could be established to support such a scheme. It is extremely important that the arrangements for expanding and managing the protected areas network embody the principles of good governance for protected areas (Borrini-Feyerabend et al. 2013), which is detailed further in chapter 6, Legal and Governance Aspects of Establishing a Biodiversity Offset Scheme.

## Conservation Trust Funds

During the past two decades, conservation trust funds (CTFs) have been established in more than 50 developing countries and transition economies. In most cases, CTFs are nongovernmental, legally independent grant-making institutions whose primary aim is to raise investment funds that enable them to grant financial resources for biodiversity conservation. The type of expenditure supported by CTFs varies and includes covering part of the recurring operational costs or capital investments to meet the objectives of individual protected areas or the protected areas network as a whole.

CTFs can receive capital from multiple sources such as multilateral and bilateral donors, governments, foundations, nongovernmental organizations, and individuals, as well as from revenue-generating activities. Some CTFs have also benefited from the capital raised through debt-for-nature swaps, in which a creditor country forgives part of the public bilateral debt of a debtor nation in exchange for environmental commitments from that country. The resources managed by CTFs are allocated through different types of financial mechanisms.

One key advantage of establishing a CTF is that payments by mining companies in return for biodiversity credits would go to an investment vehicle dedicated to the expansion and support of the protected areas network, rather than to unconsolidated government revenue. Another key advantage is that the revenue created from biodiversity credits in isolation will likely be insufficient to support the expansion and maintenance of the protected areas network. Although CTFs offer a number of potential advantages, they can be administratively costly. As a first step, an initial review of other CTFs in Africa has been undertaken (table 6.4). This review included a preliminary analysis of 12 CTFs established in Africa listed in the 2012 Conservation Trust Fund Investment Survey, and the BIOFUND in Mozambique, which is currently being established. The review showed that the principle of establishing a CTF in support of an expanded protected areas network has a number of

**Summary and Recommendations**

***Determining the need for a biodiversity offset:*** It is important that the Environmental and Social Impact Assessments being prepared in Liberia include sufficient information on biodiversity not only to assess risks and impacts, but also to determine the need for an offset.

***A pragmatic methodology for calculating conservation credits is required:*** A number of suboptions have also been presented (see chapter 6) that could be discussed at the next workshop.

***A project implementation unit could be established within the Forestry Development Authority (FDA)*** with a mandate to establish a biodiversity offsets scheme and related activities (such as gazetting of proposed protected areas). This could be separate from or included within the existing Reducing Emissions from Deforestation and Forest Degradation unit.

***Establish advisory committee in support of aggregated offsets:*** Although the FDA and Environmental Protection Agency must play central roles, there is merit in establishing an advisory committee representing organizations involved in conservation activities in Liberia.

***A Liberian conservation trust fund should be established:*** This will enable revenues from mining companies and other sources to go to an investment vehicle dedicated to the expansion and support of the protected areas network, rather than to unconsolidated government revenue.

***Further work to understand costs to establish the national offset scheme and the scale of the fees that might be raised through the sale of biodiversity or conservation credits:*** Further work is also needed to estimate the likely funds that could be obtained through the sale of biodiversity or conservation credits to resource developers in Liberia.

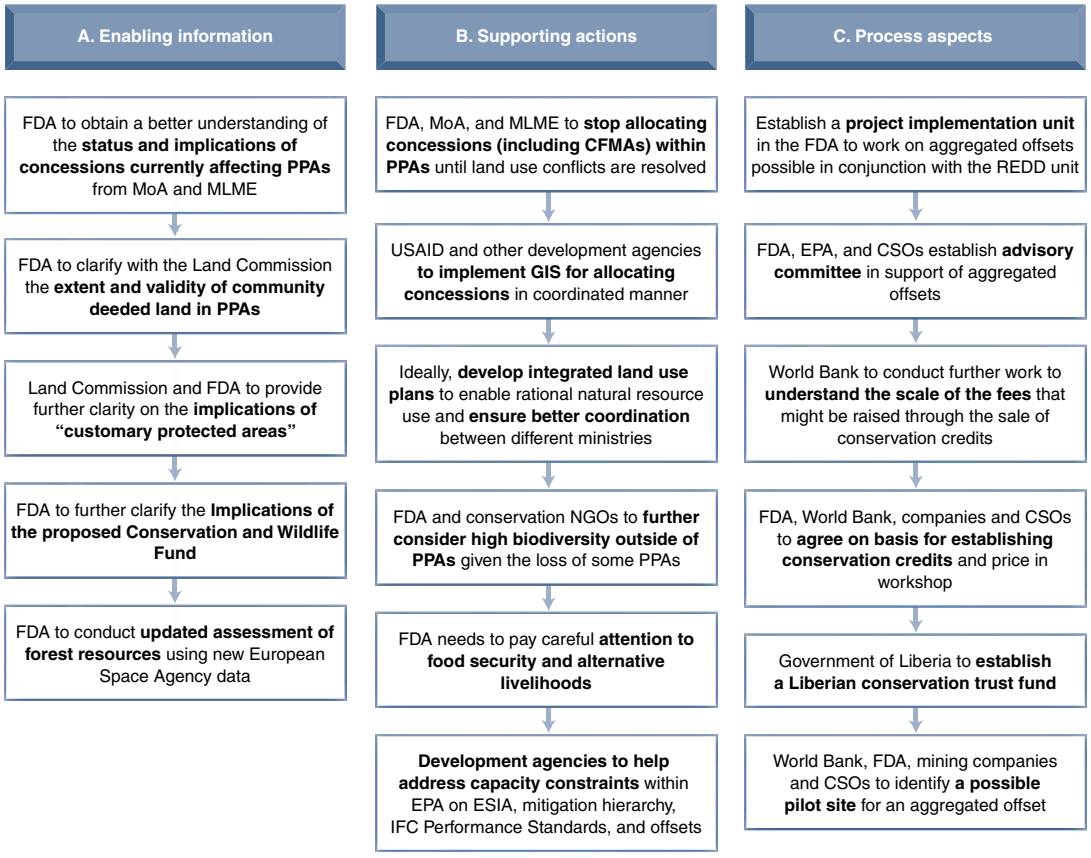
***The expansion of the protected areas network must embody the principles of good governance*** such as legitimacy and voice, accountability, fairness, and rights (Borrini-Feyerabend et al. 2013).

precedents in Africa, which have attracted varying degrees of support. Further interviews with, and analysis of, the African CTFs with a significant focus on protected areas was also undertaken to supplement the limited public disclosure by many of these funds. The capitalization of the African CTFs ranges from US$4.4 million to US$57 million.

## Conclusion and Summary Road Map

Implementing a national biodiversity offset scheme in Liberia will be challenging, and a number of different elements need to come together. However, some of those elements are already present. Liberia supports extraordinary biodiversity and has identified a representative network of PPAs over a period of many years. The challenges associated with establishing an offsets scheme would be greatly simplified by explicitly linking the offsets to expanding the protected areas network. Liberia also has a legislative framework that supports this process. The more significant challenges relate to the capacity of the FDA

**FIGURE 0.2** Elements of a Road Map for a National Biodiversity Offset Scheme in Liberia




*Source:* Author.

*Note:* CFMA = Community Forestry Management Agreement; CSO = civil society organization; EPA = Environmental Protection Agency; ESIA = Environmental and Social Impact Assessment; FDA = Forestry Development Authority; GIS = geographic information system; IFC = International Finance Corporation; MLME = Ministry of Lands, Mines and Energy; MoA = Ministry of Agriculture; NGO = nongovernmental organization; PPA = proposed protected area; REDD = Reducing Emissions from Deforestation and Forest Degradation; USAID = United States Agency for International Development.

and EPA to support such a scheme, the issue of land tenure, and the fact that alternative livelihoods and food security issues are not easily solved and need to be addressed as part of the process of gazetting new protected areas. The World Bank (or other development partners) and civil society organizations can play a key supporting role in this process. The next phase of this work will look into establishing a CTF and identifying potential pilot sites. Figure 0.2 outlines the road map for a biodiversity offset scheme in Liberia. It groups the various actions required to implement the road map into three interrelated categories: (1) actions that generate information to enable the development of an offset scheme, (2) actions that support the scheme through, for example, prohibiting certain activities or enhancing rational allocation of concessions, and (3) actions that are central to establishing the offset scheme.

## Notes

1. "Biodiversity offsets are measurable conservation outcomes resulting from actions designed to compensate for significant residual adverse biodiversity impacts arising from project development after appropriate prevention and mitigation measures have been taken. The goal of biodiversity offsets is to achieve no net loss and preferably a net gain of biodiversity on the ground with respect to species composition, habitat structure, ecosystem functions, and people's use and cultural values associated with biodiversity" (BBOP 2009, 4).
2. Mitigation hierarchy is defined as follows: First avoid, then minimize, then restore, and finally as a last resort offset any significant residual negative environmental impacts.
3. This information was accurate as of 2014, subsequent drafts of the Act may differ.

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# 1. Introduction

## Project Background

The mining sector in Liberia has the potential to become a significant engine for growth and broader-based development during the postconflict era. In recent years, the World Bank and other development assistance agencies have invested considerable effort to support the responsible management of the revenues that mining developments in Liberia generate. However, recognition is growing that governance and institutional weaknesses relating to the management of renewable natural resources may result in ineffective control over potential adverse impacts of the mining industry on natural capital and ecosystem services, and therefore on the livelihoods of dependent communities. Under these circumstances, significant biodiversity loss is likely as a result of the cumulative impacts of mining developments, even if the individual companies have the best intentions.

### Project-Specific Offsets in Liberia

Liberia has taken the progressive step of establishing a regulatory requirement that developers of mining projects implement biodiversity offsets[1] to address their activities' residual impacts on biodiversity after the application of the mitigation hierarchy.[2] However, individual developers negotiate offsets on an ad hoc basis, often without government input or oversight, and the capacity of both resource developers and government agencies to implement offsets effectively is often limited. This situation is exacerbated by the reality that the quality of the biodiversity components of many Environmental and Social Impact Assessments are poor, thus providing a weak starting point for designing offsets.

Over time, this approach is likely to result in a patchwork of uncoordinated offset areas and practices across the country, and a lack of certainty for investors as well as for other affected stakeholders, because the offset areas may lack the necessary protections to ensure their long-term sustainability. As extractives and other projects are developed in a manner that fails to compensate for irretrievable losses, biodiversity in Liberia will be progressively lost. Given the extensive nature of the mineral, forestry, and agribusiness opportunities within Liberia, the adverse consequences for nature conservation and communities with a high dependence on biodiversity are likely to be significant.

Even where protection can be assured, the long-term benefits to biodiversity conservation from a patchwork of efforts may be limited. This tactic also creates a recurring cost burden for the government conservation agencies that will often be expected to manage offsets that may not always align with national conservation strategies (for example, the National Biodiversity Strategy and Action Plan) over the long term.

Natural ecosystems in Liberia are under severe pressure from a variety of causes, including shifting agriculture, bushmeat hunting, artisanal and commercial mining, commercial agriculture, and forestry. Pervasive poverty in Liberia, along with the globalized demand for commodities, are key underlying factors. The main challenge is to reconcile the different visions for development, with community needs and conservation imperatives.

## A National Biodiversity Offset Scheme

This project was designed to explore the potential to implement a national biodiversity offsets scheme in Liberia to overcome some of the limitations described above and was funded by the World Bank's Extractives for Development Initiative (E4D) and Program for Forests (PROFOR). A biodiversity offset scheme involves coordinated actions designed to compensate for the combined significant residual adverse biodiversity impacts arising from more than one development project in a country, after appropriate prevention and mitigation measures have been taken. The goal of such a scheme is to achieve no net loss (or a net gain) in biodiversity. Although this scheme focuses on mineral developments, it could provide a transparent mechanism for all private and public sector developments to offset adverse impacts on biodiversity in the context of an agreed upon, national, prioritized conservation and development plan.

The biodiversity offset scheme would entail the application of a common, minimum, and transparent methodology for ensuring that conservation benefits secured are at least equivalent to biodiversity losses arising from a number of extractive investments. It would ensure that proceeds are applied to securing biodiversity assets in a nationally coherent manner, rather than on an ad hoc, investment-by-investment basis. It could transfer liability for design, implementation, monitoring, and long-term management of biodiversity offset assets from multiple developers to key government agencies (such as the Environmental Protection Agency [EPA], Forestry Development Authority [FDA], and Ministry of Lands, Mines and Energy [MLME]), with support from national or international conservation and development partners as appropriate. This approach would lead to improved transparency and economies of scale, while removing the developer's obligation to engage in noncore activities. The availability of the scheme would also directly benefit private sector companies because the transaction costs for developing a well-designed offset capable of delivering biodiversity gains over the long term can be very high. The competitiveness of Liberia's extractives sector would be enhanced, transaction costs for the public and private sectors would be reduced, and biodiversity offsets could be leveraged as an engine of inclusive green growth that supports explicit national strategies.

## Scope of the Report

This report outlines a road map for the potential development of a national-level biodiversity offsets scheme in Liberia. It was prepared in close consultation with the relevant stakeholders, in particular the FDA, EPA, MLME, and other government agencies; mining companies; as well as local civil society. It was also informed by a multistakeholder workshop held in Monrovia in 2014, details of which are contained in appendix 2. The report explores the challenges of implementing an offset scheme in Liberia and provides a set of operational recommendations to address these challenges. The road map provides the analytical underpinnings and practical information that would facilitate the future development of such a scheme. The main focus is on mining because ore bodies are fixed in location and consequently mining projects have less flexibility when it comes to mitigating impacts on biodiversity, and an increasing number of mining companies are adopting "no-net-loss" biodiversity policies. However, the establishment of an offsets scheme would ideally be extended to large-scale commercial agriculture such as oil palm, as well as to public investments in dams, roads, and other infrastructure with major

impacts on natural habitats and biodiversity. The oil and gas sector is in its infancy, although several companies are drilling offshore in a number of concessionary blocks. The road map provides a set of operational recommendations to regularize the practice of biodiversity offsets in the extractive industries sector in Liberia, but these recommendations are not prescriptive in nature. Ultimately, the government of Liberia must exercise leadership and decide how best to address some of the choices available, in concert with interested and affected stakeholders and development partners.

## Report Structure

Following this introductory chapter, chapter 2 discusses the conservation imperatives for Liberia and conveys a sense of the quality and extent of biodiversity within Liberia. Chapter 3 describes the challenge of securing conservation outcomes in Liberia and the prevalence of threats to biodiversity. Chapter 4 discusses the potential for biodiversity offsets to help secure conservation outcomes. Chapter 5 covers the legal, policy, and institutional framework in support of biodiversity offsets. Chapter 6 discusses the methodological aspects of implementing the scheme, together with the challenges of securing and effectively managing sources of funding. Chapter 7 summarizes the report's main conclusions and suggested next steps to implement the road map for aggregated biodiversity offsets in Liberia. Details of additional information sources and reference materials are appended.

## Notes

1. Biodiversity offsets are measurable conservation outcomes resulting from actions designed to compensate for significant residual adverse biodiversity impacts arising from project development after appropriate prevention and mitigation measures have been taken. The goal of biodiversity offsets is to achieve no net loss and preferably a net gain of biodiversity on the ground with respect to species composition, habitat structure, ecosystem functions, and people's "use and cultural values associated with biodiversity" (BBOP 2009, 4).
2. The mitigation hierarchy is defined as first avoid, then minimize, then restore, and finally as a last resort offset any significant residual negative environmental impacts.

## Reference

1. BBOP (Business and Biodiversity Offsets Programme). 2009. *Business, Biodiversity Offsets and BBOP: An Overview.* Washington, DC: Business and Biodiversity Offsets Programme. http://www.forest-trends.org/documents/files/doc_3125.pdf.

# 2. The Conservation Imperative for Liberia: Remarkable Biodiversity at Risk

## Introduction

Liberia is situated on the southwestern corner of the west coast of Africa, with a surface area of about 96,320 square kilometers (9,632,000 hectares) and a population of 4.294 million in 2013 (World Bank 2014). The country is bordered to the north by Guinea, on the south by the Atlantic Ocean, to the east by Côte d'Ivoire and to the west by Sierra Leone. It has four topographical regions at different altitudes, each with distinct physical features. Along the seacoast is the coastal plain, some 560 kilometers long. Inland from the coastal plain is a belt of inundated plateau followed by a belt of high land and rolling hills in the north and northwest, respectively. Most mountains are located in the northern part of Liberia and include the Bong, Nimba, Mano, Putu, Boni, and Wologizi ranges. Mount Wutivi (1,380 meters) in the northwest of Liberia is the highest peak.

Liberia has an estimated 4.269 million hectares of forests,[1] comprising approximately 50 percent of Liberia's landmass.[2] These forests provide a wide range of benefits including ecosystem services (bushmeat, medicines, construction materials, charcoal), biodiversity conservation, and employment and revenue from commercial logging (some of which could be made sustainable).

## Overview of International Designations within Liberia

A number of international designations that relate to biodiversity apply to all or parts of Liberia. These are summarized below.

### Biodiversity Hotspots

Biodiversity hotspots are biogeographic regions with high levels of plant endemism (1,500 or more species as endemics) but that have lost much of their natural habitat (70 percent or more of natural habitat lost) (Myers et al. 2000). These areas have been identified by Conservation International as global priorities for biodiversity conservation.

Liberia is located within the Guinean Forest of West Africa hotspot, which represents the West African (west of Benin) portion of the Guineo-Congolian forests and contains two main blocks that incorporate several major Pleistocene refugia. The Upper Guinea Forest Ecosystem extends from Guinea into eastern Sierra Leone, through Liberia, Côte d'Ivoire, and Ghana into western Togo. The Lower Guinea Forest Ecosystem extends from western Nigeria to the Sanaga River in southwestern Cameroon. The two major ecosystems are separated by the Dahomey Gap, a mixture of savanna and dry forest, in Togo and Benin.

The Guinean Forest hotspot was originally covered in large part by tropical rainforest and extended an estimated 1,265,000 square kilometers. However, it has been dramatically reduced to a series of forest fragments. Overall, the region retains approximately 126,500 square kilometers of closed canopy forest cover, approximately 10 percent of its

original vegetation (Myers et al. 2000), and only a little more than 20,000 square kilometers of the land area is found in protected areas (Critical Ecosystem Partnership Fund 2000).

The Liberian forests constitute approximately 40 percent of the total, approximately 141,000 square kilometers, of what remains of the Guinean Forest hotspot. The remaining Liberian forests are mostly clumped within two large blocks, with evergreen lowland forests in the southeast, grading to semi-deciduous forests in the northwest. These remaining forest blocks contain exceptionally diverse ecological communities and distinctive flora and fauna. Liberia is home to more than 2,000 flowering plants including about 240 timber species, approximately 125 mammal species, 590 bird species, 850 butterfly species, 74 known reptiles and amphibians, and more than 1,000 described insects (World Bank 2010). The Guinean Forest hotspot is one of the most severely threatened forest ecosystems in the world (and one of the least protected), with high levels of fragmentation and degradation throughout most of the region. It falls within the globally richest 5 percent of land area for threatened amphibians, birds, and mammals (Jenkins, Pimm, and Joppa 2013).

### Global 200 WWF Ecoregion

Liberia also lies within the Guinean Moist Forests Global Ecoregion, which is one of the Global 200 ecoregions that harbor exceptional biodiversity and have been identified as global priority areas for conservation by the World Wide Fund for Nature (Olson et al. 2001). This ecoregion comprises tropical moist broadleaf forests in a broad strip in West Africa along the Atlantic coast from Guinea to Togo. It supports many threatened and endemic species and is considered one of the world's top priority regions for conservation because of its high endemism of flora and fauna (Bakarr et al. 2004). Liberia is also a key part of the Upper Guinea Rivers and Streams Global 200 Freshwater Ecoregion.

### Key Biodiversity Areas

Key Biodiversity Areas (KBAs) are places of international importance for conservation. They are identified nationally using standard criteria based on their importance in maintaining species populations. They are also large enough or sufficiently interconnected to support populations of the species for which they are important. Liberia is home to 25 KBAs, as illustrated in map 2.1 (Kouame et al. 2012). KBA identification in Liberia was built upon the Important Bird and Biodiversity Areas (IBAs) that had been previously identified, but was supplemented using information on the presence of globally threatened species; restricted-range species, using a threshold population of 5 percent or more of the population of species with range sizes of 50,000 square kilometers or less; congregations of species that concentrate at particular sites during some stage in their life cycles; and biome-restricted species assemblages.

Even though these KBAs are of international importance for biodiversity, the number and percentage of KBAs in Liberia that are afforded protection as part of Liberia's system of protected areas is currently very low (8 percent) compared with neighboring and other countries in West Africa, which range between 22 percent and 88 percent protection (table 2.1). However, the percentage of the land area of Liberia included within KBAs, at 54 percent, is high relative to other countries in the region.

**MAP 2.1** Key Biodiversity Areas and Alliance for Zero Extinction Sites

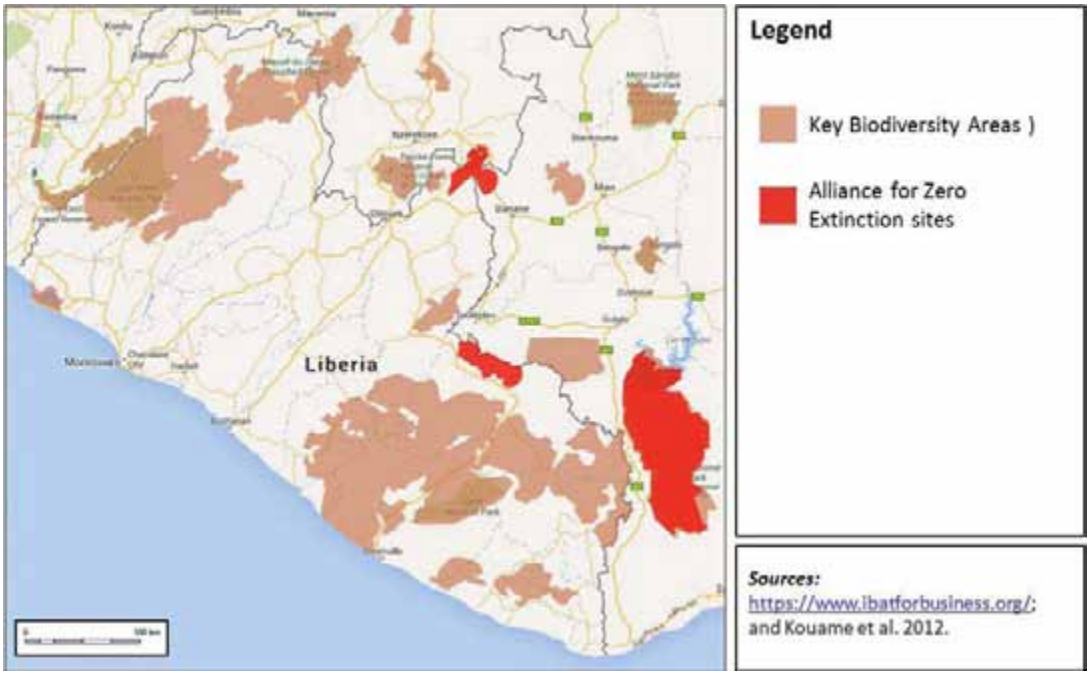



**TABLE 2.1** Summary Information for KBAs in Selected West African Countries

| Country | Number of KBAs | Percent of land area included in KBAs | Number of KBAs legally protected | Percent of KBAs legally protected |
|---|---|---|---|---|
| Côte D'Ivoire | 34 | 9 | 30 | 88 |
| Ghana | 54 | 8 | 51 | 94 |
| Guinea | 27 | 5 | 6 | 22 |
| Liberia | 25 | 54 | 2 | 8 |
| Sierra Leone | 15 | 16 | 9 | 60 |

*Source:* Kouame et al. 2012.

*Note:* KBA = Key Biodiversity Area.

## Alliance for Zero Extinction Sites

Two areas in Liberia have been designated as Alliance for Zero Extinction sites (map 2.1). The Nimba Mountains in the far north of Liberia at the boundary with Guinea and Côte D'Ivoire have been designated an Alliance for Zero Extinction site because it includes one remaining population of the International Union for Conservation of Nature (IUCN) red-

listed critically endangered Liberian Nimba toad (*Nimbaphrynoides liberiensis*). The other site, Cavalla Forest near Zwedru on the northern border between Liberia and Côte D'Ivoire, has been designated because it is the only known site where the critically endangered Liberian greenbul (*Phyllastrephus leucolepis*) has been found. However, it is not yet certain (pending DNA analysis) whether the Liberian greenbul is indeed a separate species (Phalan et al. 2013).

### Centers of Plant Diversity (WWF and IUCN)

Centers of Plant Diversity (CPD) are sites selected by WWF and IUCN as global priorities for plant conservation (WWF and IUCN 1994). They support high numbers of irreplaceable or vulnerable plant species. Sapo National Park in Liberia is designated a Center of Plant Diversity.

### Endemic Bird Areas and Important Bird and Biodiversity Areas (IBA)

Endemic Bird Areas are regions that harbor two or more bird species that have very restricted ranges (less than 50,000 square kilometers). These areas have been identified as global priority regions for conservation by BirdLife International (Birdlife International 2004). The whole of Liberia is included within the Upper Guinea Forest Endemic Bird Area, which covers 340,000 square kilometers of mainly lowland rainforest in Sierra Leone, southeast Guinea, Liberia, southern Côte d'Ivoire, and southwest Ghana. This Endemic Bird Area includes 16 restricted-range bird species (BirdLife International 2015).

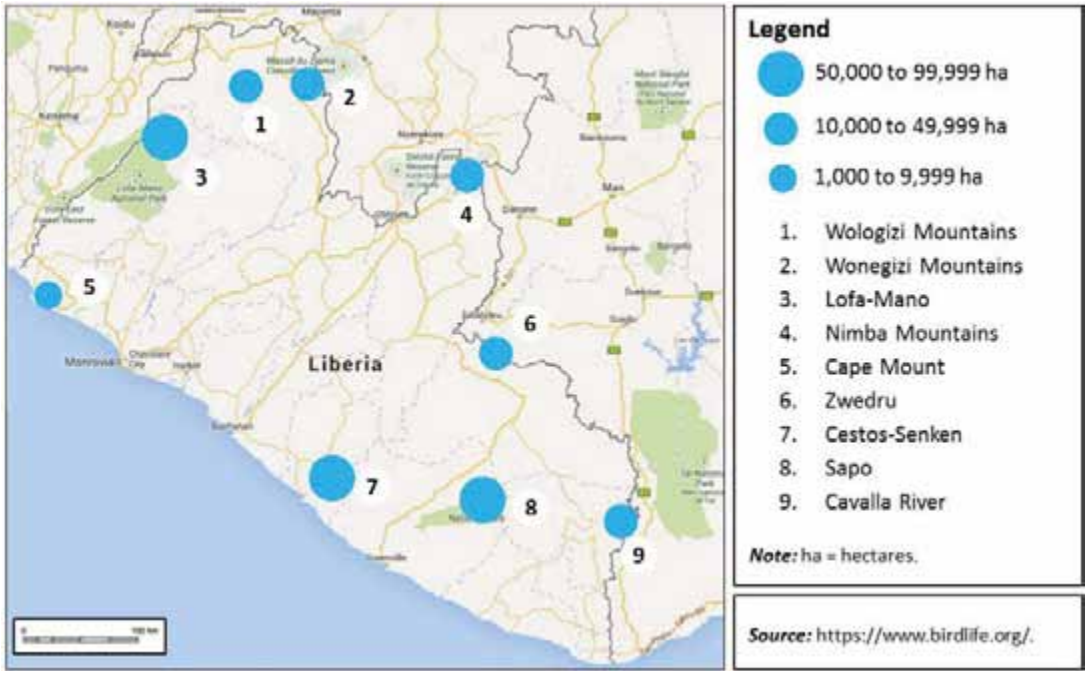
IBAs are identified on the basis of one or more of the following criteria: (1) holding significant numbers of one or more globally threatened bird species; (2) being one of a set of sites that together hold a range of restricted-range species or biome-restricted bird species; and (3) having exceptionally large numbers of migratory or congregating bird species (Birdlife International 2013). Nine IBAs have been designated in Liberia, as outlined in map 2.2.

## Protected Areas and Proposed Protected Areas

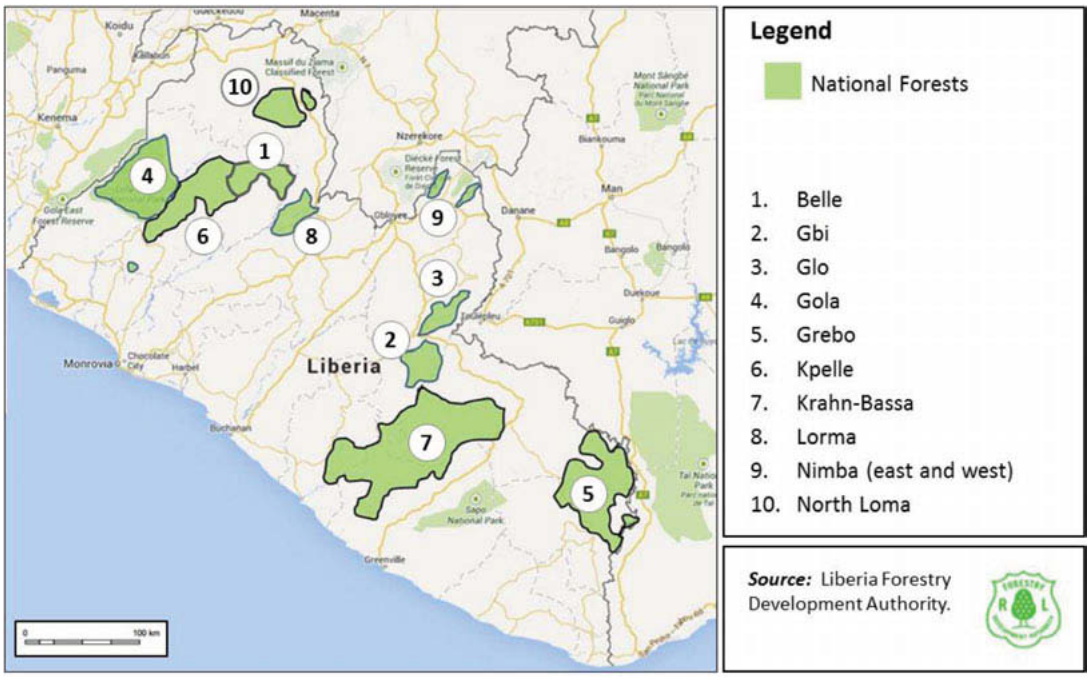
### History of Protected Areas in Liberia

The importance of Liberia to the conservation of the West African moist forest was highlighted during a survey on the status of conservation of the biotic communities of West and Central Africa, 1975–76, sponsored by the United Nations Environment Programme and IUCN (Verschuren 1983). This was followed by more detailed surveys of the whole country, between 1978 and 1979, by Jacques Verschuren (Verschuren 1983). At that stage there were no formal protected areas in Liberia, although the National Forests were the closest equivalent, despite being intended primarily for timber exploitation. Liberia's National Forests were established from 1953 onward by the Bureau of Forest Conservation with technical assistance from the U.S. Agency for International Development. Ownership and administration of National Forests lies with the government. They were designated for permanent forest management and were largely uninhabited. Within National Forests, agriculture is prohibited (especially shifting cultivation). The National Forest system currently occupies an area of 15,107 square kilometers (map 2.3)

**MAP 2.2** Location and Size of Important Bird Areas in Liberia



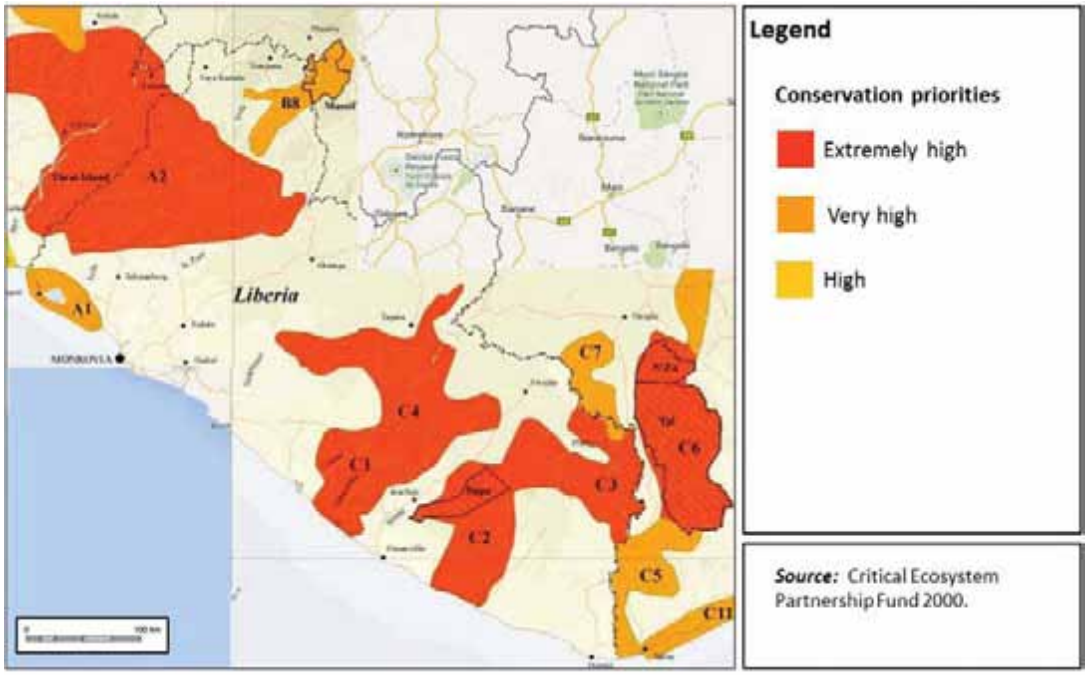

**MAP 2.3** National Forests of Liberia



In 1976, the Liberian Forestry Development Authority (FDA) was created to manage and preserve the country's forest resources. A year later, in 1977, the Division of Wildlife and National Parks was formed. Based on the survey work from the mid to late 1970s, a series of measures were recommended including, among others, upgrading areas of some National Forests and some unclassified forests to National Park and Nature Reserve status. An attempt was made to include as many different biomes as possible so as to ensure adequate representation. By 1982, seven protected areas were proposed comprising three National Parks (Sapo, Lofa-Mano, and Cestos-Senkwen) and four reserves, although these were not intended to preclude future options for additional National Parks and reserves. Of these, only Sapo National Park was formally designated, in 1983. It covered an area of 1,308 square kilometers east of the Sinoe River and south of the Putu Mountains.

A conservation priority-setting workshop convened by the Global Environment Facility (GEF) and Conservation International in December 1999 brought together more than 140 expert conservationists, biologists, government officials, planners, and social scientists from nearly 30 countries in a five-day workshop to reach consensus regarding the Upper Guinea Forest Ecosystem. Liberia emerged as having five extremely high regional priority sites, including prospective core areas such as Sapo National Park, Krahn-Bassa National Forest, and the Grebo National Forest (map 2.4, shaded areas C1–C4). The Krahn-Bassa/Sapo/Grebo/Taï complex was recognized as the largest tract of contiguous forest left in the entire Upper Guinea Forest Ecosystem and represents the greatest opportunity to establish and maintain protected areas containing large intact stands of forest. In addition, the Gola/Lofa/Mano complex (map 2.4, A2) was also identified as extremely high priority for regional

**MAP 2.4** Priority Conservation Areas Identified at a Conservation Priority-Setting Workshop in Ghana (1999)



conservation. This complex represents a mix of lowland forests on the Sierra Leone and Liberia border and the westernmost extent of many plant and animal communities within the Upper Guinea Forest Ecosystem.

A memorandum of understanding (MOU) was signed between the government of Liberia and Conservation International in January 2002. The MOU proposed seven conservation areas to form the basis of a Liberian protected areas network. In parallel, the Liberia Forest Re-assessment project began to assess forest cover and the protection, status, and management of key forest areas to develop recommendations to update Liberia's legally protected forest areas.

A number of field surveys were undertaken in 2002–03 (Waitkuwait, Sambola, and Samorgar 2003), targeting the creation of four of the seven conservation areas proposed in the MOU. Much of that work was fauna related; however, two proxies for floral integrity were also chosen: intact forest cover across all major forest types (assessed from satellite images), and the existence of intact or virtually intact populations of faunal indicator species. These species were chosen to represent the complete range of undisturbed habitat types covering all major forest formations in the targeted areas (swamp forest, dry forest, forests at different altitudes, riparian zones, and gallery forest clearings).

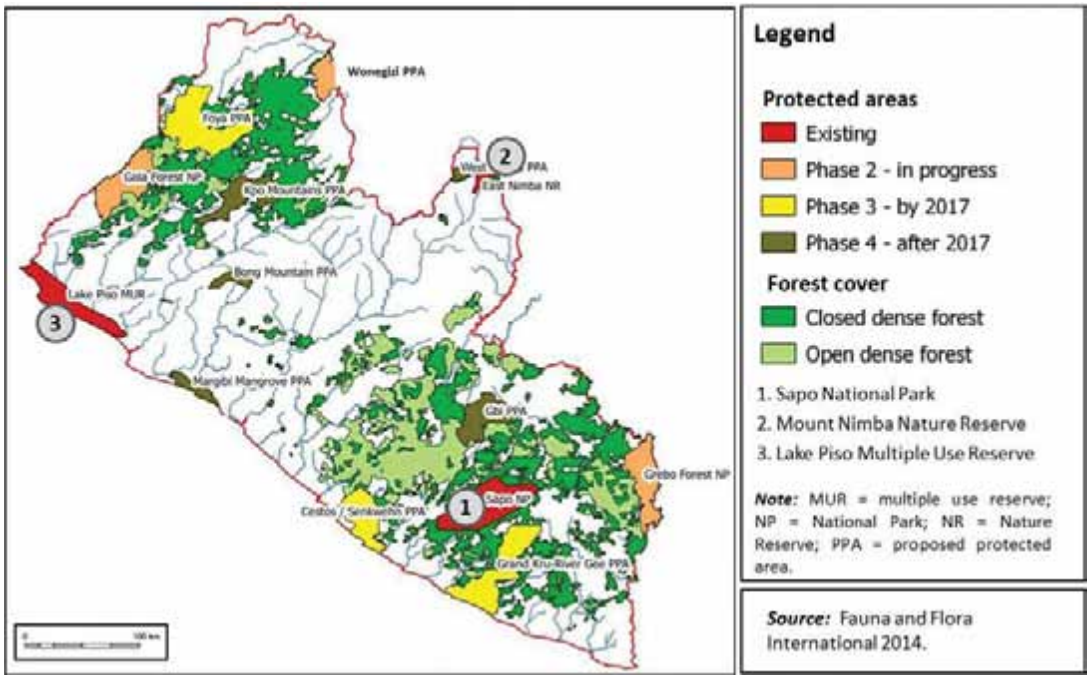
Further surveys were undertaken of seven areas of high conservation value between February and June 2005 (Sambolah 2005). This was a collaborative effort of Fauna and Flora International, the FDA, the Environmental Protection Agency of Liberia, and the Ministry of Planning and Economic Affairs. These areas included the forests between the Cestos River across to Sapo National Park, the West Nimba National Forest, the Northwest Zwedru (Cavalla) forest area, forests in Grand Kru County, the Lofa and Kpelle National Forests, the Wologizi forest block, and the Wonegizi forest block. The survey team concluded that as a result of the information obtained, the Gola/Lofa/Mano forest complex and Wonegizi and Wologizi forests should become National Parks. West Nimba Forest should be established as a Nature Reserve, and wildlife and protected areas corridors should be established for the Cestos-to-Sapo forests and the northwest Grand Kru forest. The Zwedru forest block should be established as a multiple sustainable use area. A rapid biological assessment was also undertaken of North Lorma, Gola, and Grebo National Forests in December 2005 (Hoke, Demey, and Peal 2007).

## Existing Protected Areas

As noted above, the first protected area, Sapo National Park, was established in 1983. The approval of the Sapo National Park Act (An Act for the extension of the Sapo National Park) after the cessation of conflict in 2003 expanded the size of the park to 180,400 hectares (map 2.5), constituting an increase of more than 37 percent. The legislation recognized the park as being "at the core of an immense forests block of the Upper Guinea Forest Ecosystem that is important to the conservation of the biodiversity of Liberia and of West Africa as a whole" (Ministry of Foreign Affairs 2003, 1). The East Nimba Nature Reserve, covering 13,500 hectares, was created at the same time (also by an act of parliament) to become Liberia's second protected area (map 2.5).

The Lake Piso Multiple Sustainable Use Reserve was established in 2011, covering an area of 97,100 hectares. Lake Piso is an IBA and a Wetland of International Importance (Ramsar

**MAP 2.5** Existing and Proposed Protected Areas in Liberia




Site). Collectively, the three protected areas account for 3 percent of the total land mass of Liberia and 6 percent of the remaining forest area (map 2.5).

## Proposed Protected Areas

A Forest Management Suitability Study conducted in 2007 identified 15 areas to be included within the protected forest area network (table 2.2) to ensure adequate representation across biological scales (species and ecosystems) and biological realms (terrestrial and freshwater ecosystems). The total proposed network covered about 12,263 square kilometers of the current forested area.

A prioritization process was undertaken at a Protected Areas Strategy Workshop convened by the FDA in 2007. The numerous stakeholders present agreed on 12 criteria to select and prioritize the different sites:

- *Species diversity,* including normal biodiversity indices as well as economic and ethical values.
- *Threat level,* including the main pressures, usually anthropogenic, that affect the area and number of threatened species and ecosystems.
- *Data availability,* including biological and socioeconomic data.

**TABLE 2.2** Proposed Protected Areas Network

| No. | Name of protected area | Area ($km^2$) |
|---|---|---|
| 1 | Kpo Mountain | 837 |
| 2 | Gola Forest | 889 |
| 3 | Lake Piso Multiple Sustainable Use Reserve (designated in 2011) | 971 |
| 4 | Bong Mountain (now affected by mining) | 248 |
| 5 | Margibi Mangrove National Park | 238 |
| 6 | Senkwehn | 803 |
| 7 | Grebo Forest | 971 |
| 8 | Gbi Forest | 884 |
| 9 | Sapo National Park (designated in 1983, 2003) | 1,804 |
| 10 | East Nimba Nature Reserve (designated in 2003) | 135 |
| 11 | Wologizi Mountain (now removed from the PPA network) | 995 |
| 12 | Wonegizi Range | 380 |
| 13 | Grand Kru-River Gee Forest | 1,351 |
| 14 | West Nimba National Forest (now affected by mining, and is partially a Community Forest) | 105 |
| 15 | Foya Forest | 1,646 |

*Source:* GIS Division, Forestry Development Authority 2013.

- *Stakeholders' involvement:* Stakeholders' participation and buy-in is crucial for the success of the protected areas network; level of support for the protected area from local authorities and communities.
- *Species vulnerability:* Presence of threatened, endemic, or congregating species; of species with restricted ranges; of important species assemblages; of keystone and flagship species. Importance of the site for particular species.
- *Funding availability,* will substantially increase the likelihood of achieving the objective of the protected areas network.
- *Connectivity potential:* The effectiveness of the network in maintaining long-term viable populations of key species depends on maintaining natural processes such as migration, species movements, and genetic exchanges.
- *Population density:* This criterion is directly linked to the level of threat to which the area is subjected.
- *Uniqueness[3] or irreplaceability[4]:* The protection of areas with unique or irreplaceable characteristics and values (biological, socioeconomic, and cultural) must be prioritized.

- *Land use potential:* Because the protected areas network aims to reduce poverty and enhance people's quality of life, areas with high potential to improve local livelihoods through the provision of goods and services should receive higher priority.

- *Security level:* Liberia is emerging from many years of civil conflict, thus, security in and around the protected areas is an important criterion for prioritization. Security is an enabling condition for success.

- *Management capacity* refers to the existing or potential capacity for implementing the protected area through active management.

In 2007 the government of Liberia requested the GEF through the World Bank to provide financial support for the establishment of the protected areas network. The World Bank/GEF's Consolidation of Liberia's Protected Area Network Project (COPAN), and the subsequent Expanding the Protected Area Network in Liberia Project (EXPAN), aimed to assist in creating additional parks as well as strengthening the capacity of the FDA, specifically of the Conservation Department, and the development of a Community Livelihood Program around protected areas. Progress had been made on increasing the presence of rangers and forest guards of the FDA in six areas as of November 2012, and the legal establishment of the Lake Piso Multiple Sustainable Use Reserve in 2011 was a success.

However, the gazettement process has been very protracted owing to inadequate budget allocation, lack of alternatives for communities who depend on the forests for their livelihoods, and inadequate personnel. The next park scheduled to be gazetted is Gola Forest, which extends into both Liberia and Sierra Leone. An MOU was signed with Sierra Leone's Ministry of Agriculture, Forestry and Food Security in 2011 to collaborate in the joint management, research, and protection of the binational Gola Forest. The overall objective of the MOU is to ensure the establishment of a Transboundary Peace Park within the corridor of the Gola Forest in both countries to be managed by protected area authorities and local communities. As part of the gazettement process to designate the Gola Forest as a National Park in Liberia, stakeholder consultations were held in 2013 and the preparation of the gazettement package for submission to the national legislature to enact law establishing the new park is in process as of 2014. EXPAN has been extended for another year, so it is hoped that the Wonegizi Range and Grebo Forest will also be gazetted in 2015.

The EXPAN has experienced some challenges and constraints:

- *Encroachment on PPAs* by other land use activities including alluvial mining and shifting agriculture has occurred. In addition, several mining licenses and concessions have been issued to individuals and concessionaires to prospect for or mine minerals and for commercial agriculture within PPAs (see chapter 3). West Nimba PPA has now been slightly affected by mining and has also been designated a Community Forest; Bong has been affected by a mining operation; and Wologizi appears to have been removed from the PPA network because it is important for iron ore. Taking into account the revised PPA network, the total area is in the region of 1,091,164 hectares (now 25.2 percent, not 30 percent, of the total forested area in Liberia).

- *Inadequate budget allocation* for forest conservation has hindered the completion of the establishment of the protected forest areas network. As a result of low budgetary allocation to the FDA, the recruitment and deployment of rangers and forest guards to protected areas has been delayed. Even in areas where the FDA's presence is felt, personnel numbers, equipment, and budget for operating costs are inadequate to sustain operations.

- *Lack of economic alternatives for communities* that depend on forest resources for livelihoods is an issue. Many communities around protected areas fear that they will be denied their existing livelihoods when the protected areas are established.

- *Inadequate personnel for forest conservation* at the FDA undermines the establishment of PPAs.

Appendix 1 provides a summary of the characteristics of each of the PPAs and the threats they face.

## Areas of High Biodiversity outside of Protected Areas

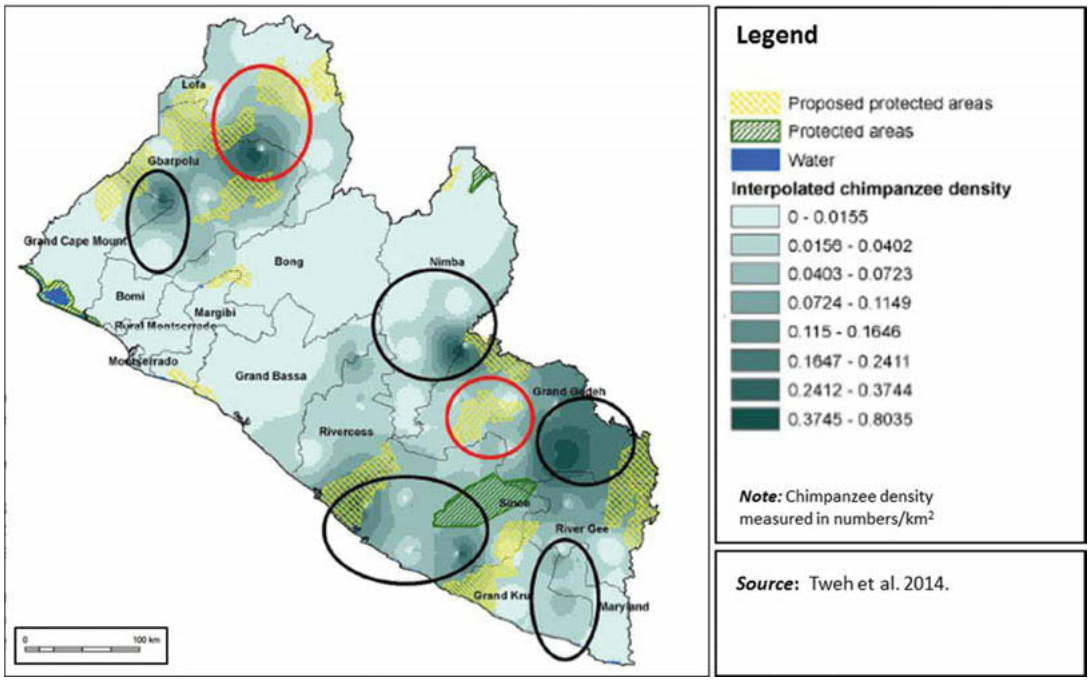
Aside from a number of recent Environmental and Social Impact Assessments that have generated data on a piecemeal basis, there is a lack of rigorous and quantitative biological data sets for Liberia, outside of the protected and proposed protected areas, which are needed to inform conservation priorities. However, some survey work has been undertaken (for example, on iconic species) that provides some insight into areas of importance for biodiversity outside of protected areas.

Between 2010 and 2012, the first nationwide survey across Liberia was undertaken to estimate chimpanzee abundance and large mammal diversity (Tweh et al. 2014). A team from the Max Planck Institute for Evolutionary Anthropology in Leipzig, Germany, systematically surveyed some 320 kilometers of transect lines. Their study demonstrated that Liberia harbors the second-largest population of West African chimpanzees (*Pan troglodytes verus*), and potentially one of the most viable. The study also showed that the many chimpanzees and some of the most species-diverse mammal communities in Liberia exist outside of protected areas and some of the proposed protected areas (map 2.6).

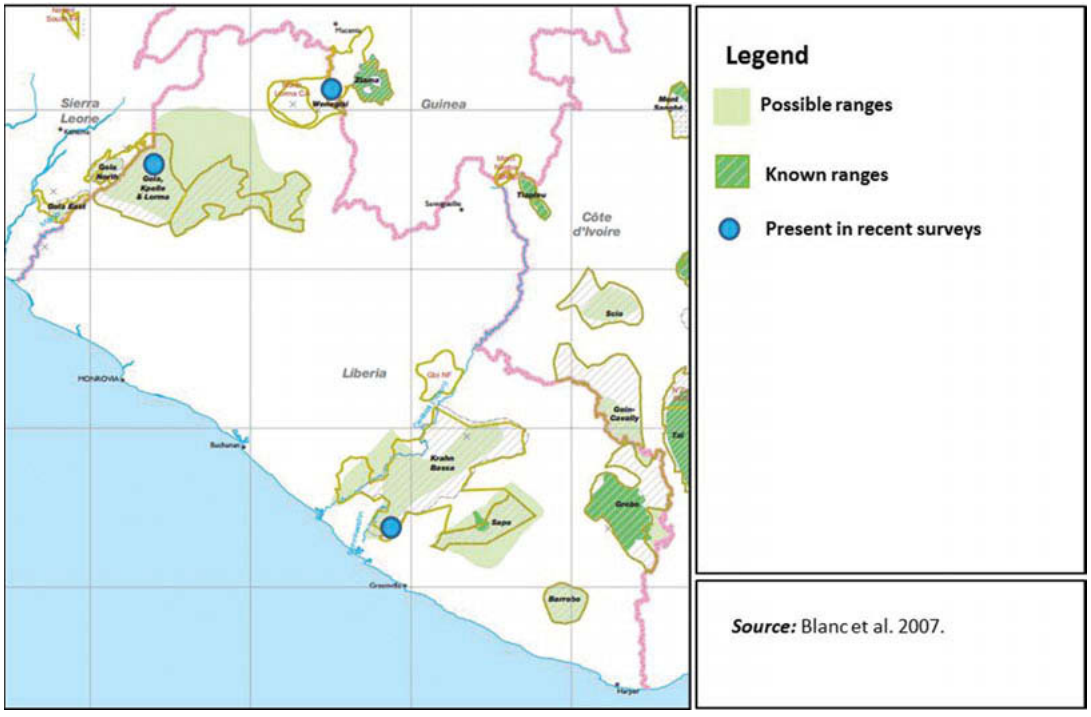
Junker et al. (forthcoming) used Marxan, a spatial prioritization software, to identify suitable conservation areas using recent data from their research. Using information on chimp density, mammal diversity, and tree diversity, Junker and colleagues developed a list of priority sites for conservation. Some of these sites, but not all of them, coincide with or overlap with the PPAs, indicating that there are high biodiversity areas outside of the PPA network.

Data from recent and historic surveys on the forest elephant (Blanc et al. 2007; Boafo and Massalatchi 2010; Anstey and Dunn 1991; Junker personal communication; Hillers et al. 2013) suggest that the main concentrations are found in Gola (and possibly areas north of Gola), Wonegizi, Grebo, and Sapo. They are still present in the Cestos-Senkwehn PPA and possibly Grand Kru (map 2.7).

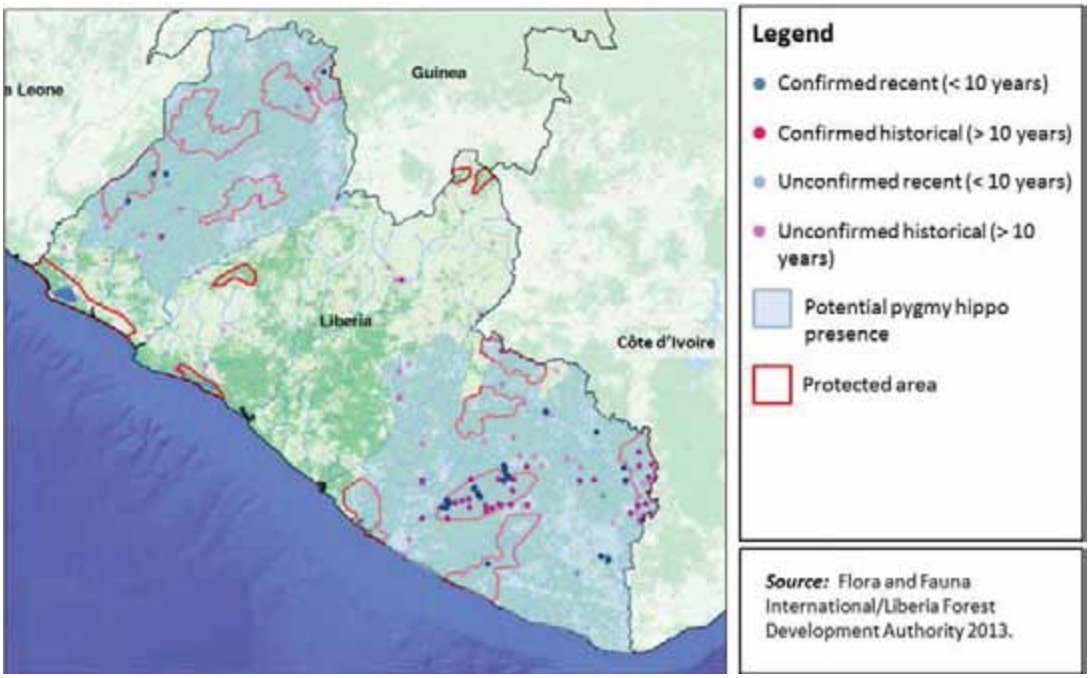
**MAP 2.6** Locations of Chimpanzee Populations in Liberia




**MAP 2.7** Distribution of Forest Elephants in Liberia



**MAP 2.8** Pygmy Hippo Occurrences in Liberia




Pygmy hippopotamus data (FFI and FDA 2013) suggest that the main concentrations are found in Grebo, forest areas to the west of Grebo, Gbi, Sapo, Putu Hills, Gola, and Wonegizi. It is also thought that pygmy hippopotamuses are present in the Cestos-Senkwehn PPA (map 2.8).

Surveys undertaken in Cavalla Forest (no longer part of the PPA network) in 2013 noted 11 species of birds that were of conservation concern (Phalan et al. 2013). Identified mammals and reptiles of conservation concern included the chimpanzee, western red colobus, and pygmy hippopotamus (endangered). It also included the sooty mangabey, the western black-and-white colobus, and Jentink's duiker (vulnerable); and two near-threatened species (the leopard, which was last seen in 2008, and the bongo). The West African dwarf crocodile (vulnerable) was also present.

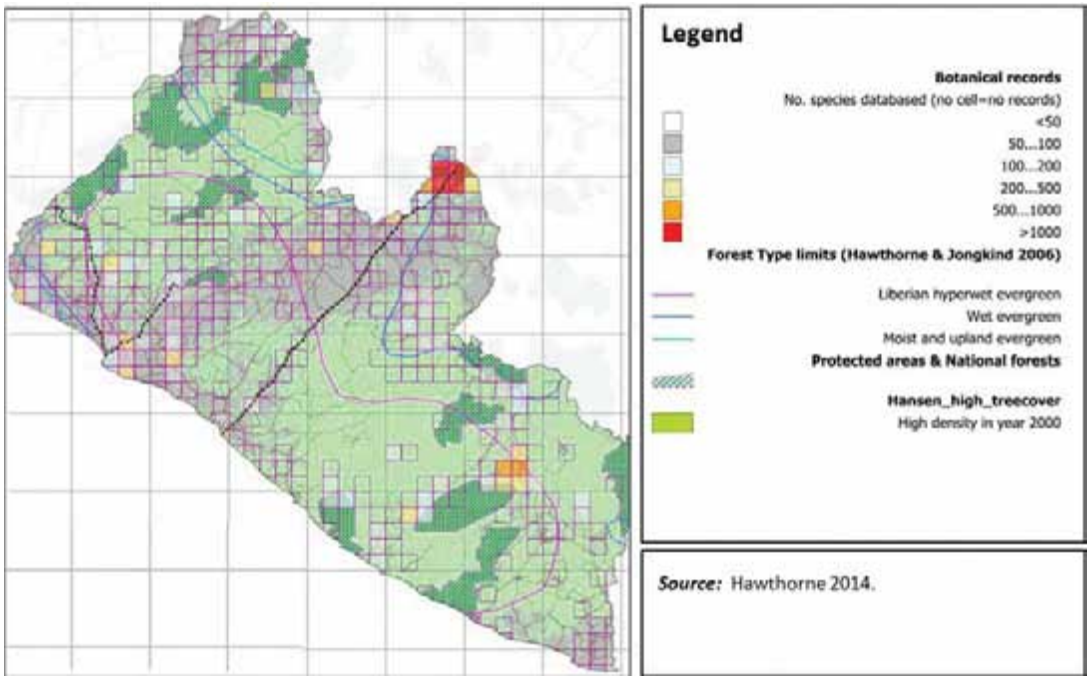
## Flora

Liberia has a relatively homogeneous series of habitats, which is important with respect to offsetting into sites that are "like for like." That is not to suggest that there is no zonation of vegetation types (along a precipitation gradient) or that there are no areas with higher levels of threatened species or endemism than other areas, particularly in a 50–100 kilometer belt inland and in the montane areas of Mount Nimba and possibly Putu or Wologizi. In general, there is a north-south gradient in species richness, with the south being slightly higher in diversity (Poorter et al. 2004).

Voorhoeve (1965) recognized evergreen forest types (mixed forest or mono-dominant) in areas with rainfall greater than 2,000 millimeters per year; semi-deciduous forest (1,600–2,000 millimeters per year); and an intermediate moist semi-deciduous type, straddling these zones. Marshall and Hawthorne (2012, 2013) note the dominance of evergreen forest, and a minor presence of moist semi-deciduous forest in both the Nimba area and the Putu Hills. Other authors distinguish between hyper-wet evergreen, wet evergreen, moist evergreen, and moist semi-deciduous and upper evergreen (above 500 meters) (Poorter et al. 2004). The major environmental gradient underlying the vegetation types is rainfall. Montane forests are rare and delimited at above 1,000 meters located in the west near Mount Nimba. There is, of course, some differentiation within the forest where patches of riparian and swamp vegetation occur as a mosaic within the area. Additional habitats, such as mangrove swamps, occur in tidal and silty areas in lagoons and rivers. Littoral forest is thought to still exist in some areas on the coast although they are extremely rare now, and patches of edaphic savannah are also present, for example, in Wonegizi PPA. Hawthorne and Jongkind (2006) use the limits of supposed indicators for forest types to propose the limits of the various forest types (hyper-wet evergreen, evergreen, semi-deciduous) based on herbarium collections (map 2.9).

Existing sources of botanical information for Liberia are lacking, and many recent Environmental and Social Impact Assessments (ESIAs) are highly inadequate botanically. The main data sets for Liberia were compiled for this study into a representative Liberian plant record database, summarized in map 2.9 (Hawthorne 2014). Although not completed,

**MAP 2.9** Density of Botanical Records in Liberia



this database indicates the trends of past data collection and the availability of these records to date. The data sets included Rapid Botanic Surveys by Marshall and Hawthorne (2012, 2013); the Wageningen database compiled from the university's own collections (including those from recent ESIAs conducted by C. Jongkind); the database developed for the Ecosyn project, including records of Upper Guinea endemics from other herbaria; plus herbarium records from many herbaria compiled by taxonomists at Wageningen while preparing monographs since the 1970s; and records from Kew and the Global Biodiversity Information Facility and other ESIAs.

This effort totaled 77,137 records of 3,906 plant species and shows that only about 45 percent of all the grid cells in Liberia have ever been sampled. Of the cells that contain any records, 328 (about 88 percent) contain fewer than 100 species records. Only about 1.5 percent of the cells have adequate botanical data for a proper assessment.

Based on existing botanical data, conservation priorities include sections of Liberian coastline between the Cestos River and Côte d'Ivoire, connecting the very wet evergreen forests with the Krahn-Bassa forest and Sapo/Putu range more inland. Connecting Grebo with Taï National Park in Côte d'Ivoire was also seen as important. Special consideration should also be given to montane habitat Ziama/Wologizi range and Nimba (Poorter et al. 2004).

## Summary of Findings and Way Forward

Liberia clearly supports very high levels of biodiversity, and a number of prioritization processes have been undertaken during the past 20 years to try to identify those areas that should be protected. Despite the slow progress of establishing a protected areas network, most of the PPAs still have integrity. There is still significant overlap between those areas that appear to be important for biodiversity and the PPAs. However, some of the data used has been spatially biased. The national chimp survey data has demonstrated that there is very high biodiversity value outside of existing and proposed protected areas (Tweh et al. 2014), and it is worth maintaining some flexibility in establishing future protected area boundaries taking account of Junker's (unpublished) prioritization process. However, many areas of high biodiversity value are allocated for commercial agriculture, logging, and mining (chapter 3), so the ideal range of flexibility may no longer exist.

The implications for a constructive way forward arising from these findings are as follows:

- *Extensive data collected but botanical work limited:* Many data have been collected on the PPAs from a biodiversity perspective, and in some cases from a socioeconomic perspective. The PPAs still represent some of most important sites in Liberia. It should be noted, however, that these sites are largely based on faunal data; very little botanical work has been undertaken. Ideally using both the new European Space Agency remote sensing data (available July 2014) and old data, forest types could be prestratified so that large blocks of apparently similar forest in similar landscapes would be grouped and prioritized based on levels of prior knowledge, with high priority cells being those with the highest likelihood of containing high-value vegetation or high uncertainty over what might be found. With high-resolution imagery, the main types of forest (mono-dominant evergreen, swamp forest, semi-deciduous) should be easily distinguishable in a way that has not been achieved nationally in the past. This imagery could be supplemented by

field surveys. Patterns of and priorities for local plant use (nontimber forest products) are very important (Marshall and Hawthorne 2012, 2013) and should be addressed in support of any gazetting process.

- *High biodiversity outside of PPAs needs further consideration:* Areas outside of the PPAs also support very high biodiversity. Given that some of the PPAs have now been altered (Bong Mountain is being affected by the China Union project, West Nimba is a Community Forest, Wologizi appears to have been removed as a PPA), it would be valuable for the government of Liberia and civil society organizations to hold a workshop to consider what other areas might replace these lost sites. As part of this process, opportunities to reinforce strategic wildlife corridors between protected areas could also be explored. This effort could incorporate the World Bank–funded remote sensing data from the European Space Agency that will provide more accurate information on the extent and broad status, type, or condition of vegetation cover. Other data sets could include information gleaned from the national chimpanzee survey and recent ESIAs.

- *Role for public-private partnership in establishing protected areas:* Because of budget constraints, the establishment of a protected areas network has been very slow, and securing additional funds through a biodiversity offset scheme could speed up the process and minimize land use conflicts over the current sites.

- *Integrity of the current PPAs as basis for future offsets:* The current PPAs provide an excellent network of sites that offer the potential for offsets spread around the country and include a range of vegetation types and species. This does not, however, preclude the setting up of project-specific offsets outside of these areas if deemed more appropriate.

## Notes

1. FAO's Liberia web page: http://www.fao.org/countryprofiles/index/en/?iso3=LBR.
2. This figure will be updated in 2015/2016 as a result of ongoing mapping of forest and land cover undertaken by Metria and Geoville, supported by the World Bank and the European Space Agency (ESA).
3. Being the only one of its kind.
4. Irreplaceability is the extent to which the options for achieving a particular conservation goal are lost if the area is made unavailable for conservation.

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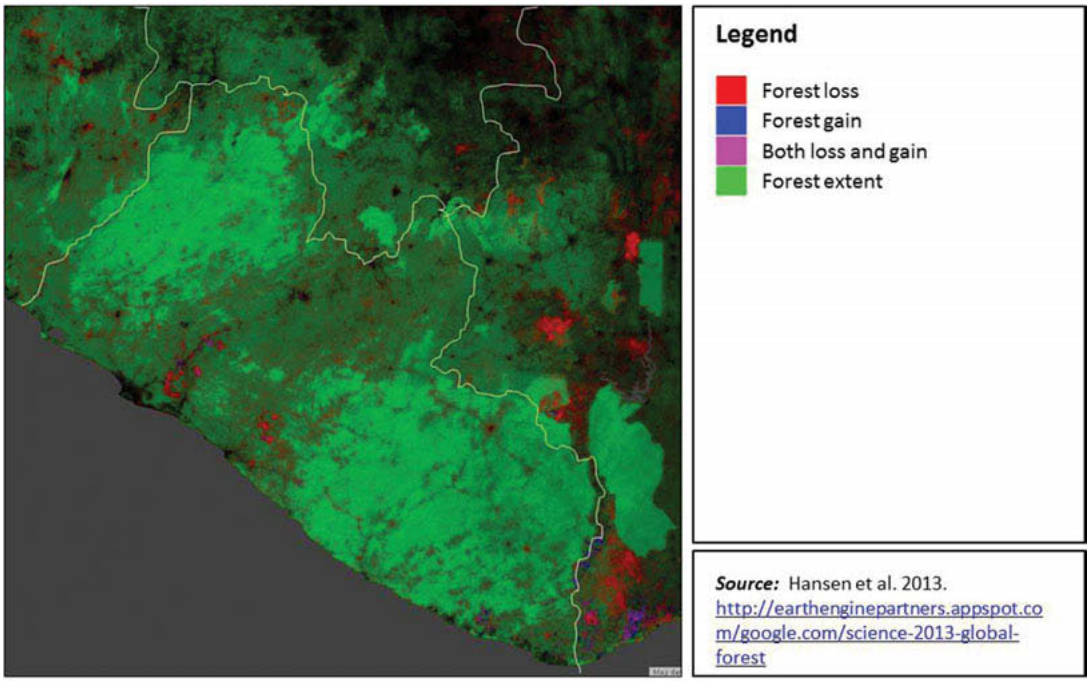
# 3. The Challenge of Securing Lasting Conservation Outcomes in Liberia

## Introduction

Natural ecosystems in Liberia are under pressure from the livelihoods pursued by the rural poor, coupled with population growth and the globalized demand for commodities. Rural communities are directly dependent on forest resources for their livelihoods, particularly bushmeat, firewood, charcoal, medicinal plants, and subsistence agriculture. More recently, the natural resource base has come under increasing pressure as a result of commercial logging, plantation agriculture, and mining, with localized disturbances from alluvial gold mining. Striking a sound balance between different interests and encouraging inward investment into the country overall (as well as investment in rural areas) while respecting the legal and customary rights of local populations and conserving biodiversity will be a major challenge.

Deforestation data over the past decade (Hansen et al. 2013) are illustrated in map 3.1.[1] Tree loss in Liberia since 2000 has been approximately 4 percent overall, clustered in a few places, such as in north Nimba County, at mines and other development areas, and along road and rail corridors. The key weakness with the data is that "tree cover" does not distinguish between natural forest and tree plantations, many of which were established before 2000 (the year the study began). The assessment is global in scope and focuses simply on tree cover, and does not attempt to consider conservation value. However, it does confirm the main, historically reported trends of forest cover (in National Parks and National

**MAP 3.1** Forest Losses and Gains (2000–12) and Current Extent of Forest Cover in Liberia



Forests on either side of a central Liberia "corridor"). It shows that even outside the main National Forests, fragmented forest-like patches of tree cover exist widely across Liberia.

## Key Threats to Biodiversity in Liberia

### Prevalence of Poverty

Liberia emerged from the civil war in 2003 as one of the poorest countries in the world, with an annual GDP per capita of US$135 and an estimated level of unemployment of 86 percent. Since then, Liberia has made some progress and was one of the 14 countries that experienced the highest gains in the Human Development Index (HDI), now ranking 175 out of 187 countries. However, Liberia's 2013 HDI of 0.412 is below the average of 0.493 for countries in the low human development group and below the average of 0.502 for countries in Sub-Saharan Africa (UNDP 2014). The government of Liberia has embarked on a medium-term economic growth and development strategy, "The Agenda for Transformation," to guide development activities over the period 2012–17. It provides the road map for Liberia's transformation from postconflict recovery toward a long-term vision of becoming an inclusive middle-income country by 2030. Achieving the Millennium Development Goals, however, remains a daunting challenge for Liberia.

Poverty poses an underlying threat to biodiversity in Liberia because the livelihoods pursued by poor people (agriculture, bushmeat hunting, charcoal-making, harvesting of medicinal plants, and so on) frequently degrade or destroy natural ecosystems, and it is often difficult for poor people to transition to more sustainable and biodiversity-friendly livelihoods. Poverty in Liberia remains pervasive, particularly in rural areas. Despite the intervention of donors and humanitarian organizations, access to basic services, although improved, continues to be limited. Some 64 percent of Liberians live below the poverty line (World Bank 2014); 68 percent of the rural population and 55 percent of the urban population are extremely poor, with the highest incidence of poverty in the southeastern counties of Grand Kru, Maryland, and River Gee, where the average is 77 percent. In Grand Bassa, Margibi, and Rivercess, the average poverty rate is 59 percent. Households countrywide spend 53 percent of their cash on food, primarily rice (World Food Programme 2012).

### Bushmeat Hunting

Bushmeat is an integral part of many people's diets in Liberia. Livestock husbandry is uncommon among households, who tend to rely on chickens and bushmeat for protein. A number of studies have been undertaken on the extent of bushmeat harvest and consumption in Liberia. Anstey (1991) estimates that the annual wildlife harvest in Liberia was one of the highest per capita rates in Africa. The civil conflict from 1989 to 2003, and the resulting collapse of the national economy, may have promoted the expansion of the wildlife harvest. Other surveys estimate the total income generated from bushmeat sales in Monrovia in one year to be US$8 million (CEEB 2003–2004). Hunting has been reported as one of the main threats to wildlife, even near officially protected areas, and in some regions, hunters may even specialize in killing chimpanzees. A bushmeat survey reported 58 chimpanzee carcasses in a commercial hunting camp near Sapo National Park (Greengrass 2011). Another study undertook surveys of and interviews with hunters

in Nimba County, where 94 percent of the hunters agreed that animals are no longer abundant in the forest, with more than half of these hunters (56 percent) attributing this decline to intensive hunting (Bene, Gamys, and Dufour 2013).

Some populations of forest-dependent animals have been reduced to such low levels that a number of them can no longer be considered viable. A study in one bushmeat market located in the Konobo District in northeast Liberia suggests that potentially unsustainable numbers of primates are currently extracted from Liberian forests to supply bushmeat demands in Côte d'Ivoire (Covey and McGraw 2014). Over a four-month period in 2009–10, the study's authors counted 723 animals, including 264 primates. They estimated that a minimum of 9,500 primates are traded annually at this one location.

A charitable foundation[2] working in the Gola Forest proposed protected area (PPA) during 265 days in 2013 confiscated 229 bushmeat bodies and found 233 spent cartridges. The Society for the Conservation of Nature in Liberia and the Liberia Self Reliance Initiative have done initial work on the feasibility of alternative livelihoods such as livestock rearing and fishpond development in four communities in the proposed park (Camp Alpha, Israel Town, Fula, and Gbanju). Although it is too early to say how successful the projects will be, early indications suggest that provision of alternative protein alone is an insufficient deterrent to bushmeat hunting. The livelihood options presented to communities by these programs cannot compete with incomes gained from illegal logging, the bushmeat trade, or diamond and gold mining in the parks and forest reserves.

The UN Security Council (2013) states that the robust trade in weapons in Liberia is mainly driven by agricultural communities hunting for bushmeat in violation of the arms embargo. It also noted that international hunters are spending time particularly in the Gola Forest PPA. They were allowed to hunt any "bush deer"; this generic terms covers a number of endangered species, including several species of duiker.

## The Implications of Land Tenure for Establishing Protected Areas

Tenure is a system of rights regulating the ownership or use of land. It can exist formally, inscribed in a legal document, or informally, as a result of orally established local property rights for which there is community-based consensus. Security of land tenure in Liberia is weak for many Liberians and the 14-year civil war exacerbated an already challenging and complex land situation. The administration of land in Liberia is hindered by the absence of a national land registry and by unclear and often outdated land laws. Many records were destroyed during the civil war, and numerous transactions have occurred with little reference to existing documents or previous transactions, leading to a situation of parcels of land being subdivided and sold with no accompanying adjustment to the original deed. In addition, there is a lack of clarity concerning what constituted public land. Historically, all unregistered and untitled land was considered public land. The result has been to weaken the government's ability to effectively manage and use land as well as to create insecurity for customary and private land rights.

The land law of Liberia consists of (1) a common law of land derived from U.S. common law and developed subsequently by judicial decision and statutes and (2) customary law

based on the practices of traditional communities and recognized by the Constitution as governing land not governed by common law. Since its creation in 2009, the Land Commission has been reviewing land rights and laws, and in 2011 the commission adopted the World Bank–funded report "Reform of Liberia's Civil Law Concerning Land" (Bruce and Kanneh 2011). In 2013, the Land Rights Policy was published.

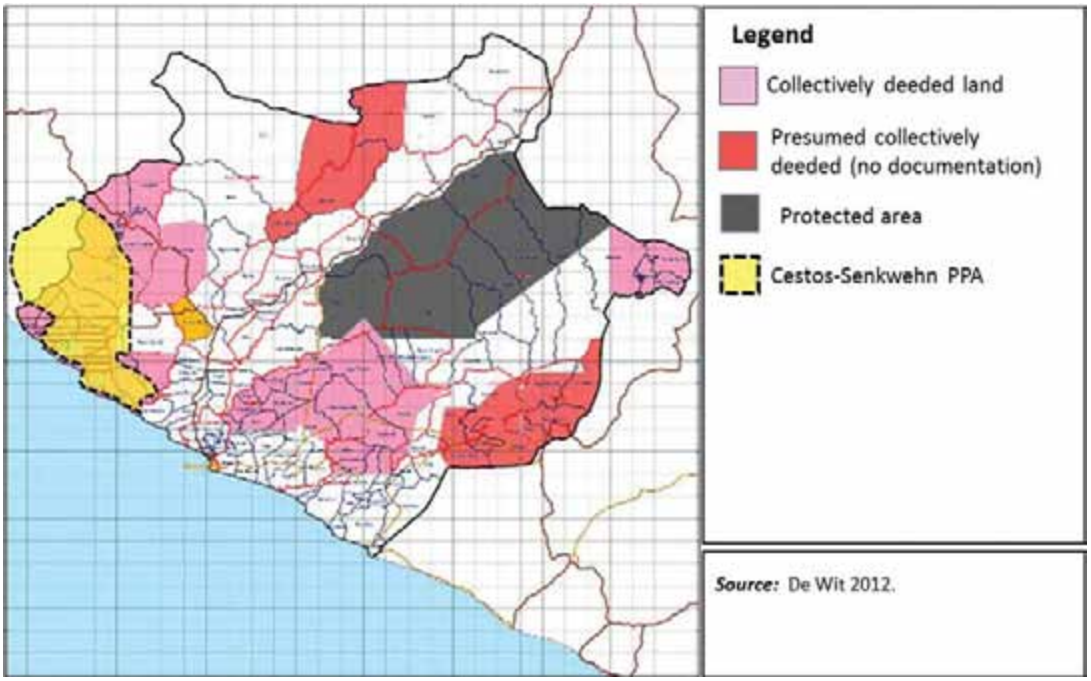
Implementation of the Land Rights Policy could change the quantity and location of land owned by the government and therefore available for allocation as concessions and possibly PPAs. This policy concerns four land rights categories (public land, government land, customary land, and private land), and a cross-cutting subcategory called protected areas. For public land and government land, the policy sets forth critical recommendations regarding how the government transfers such land and how the government acquires land, especially through the exercise of eminent domain (that is, forced acquisition). The policy makes several significant recommendations with respect to the new category of customary land: customary land and private land are equally protected; and communities will self-define, be issued a deed, establish a legal entity, and strengthen their governance arrangements to make them fully representative and accountable. This process will require substantial changes to the existing legal framework.

Accurately estimating the amount of land currently deeded to communities, either as fee simple ownership or as perpetual use rights, is challenging. Research by the Land Commission indicates that as much as 30 percent of Liberia´s land area is deeded community land, although copies of original deeds are still being validated by the commission. Some of these deeds originate as far back as the issuance of aboriginal land grant deeds under the 1905 and 1929 laws (De Wit 2012). Public land grant deeds were also issued although they relate to use only, not to ownership. Subsequent regulations saw community land rights changed from de facto ownership to formal use and possession rights. The government continued this trend toward recognizing community use and possession rights only with passage of the 1956 Aborigines Law. This law repealed previous laws under which public land grant deeds and aboriginal land grant deeds were issued. Those communities that did not already have deeds for their lands were reduced to Tribal Reserves, granting them perpetual use and possession rights only.

However, 1956 also saw passage of a Public Lands Law, reenacted in a revised form in 1973, which allowed the government to sell "government" land for US$0.50 per acre; in exchange the purchaser acquired a public land sale deed. As with aboriginal land grant deeds, it appears public land sale deeds were not originally intended to be used for communities to obtain fee simple ownership of their lands. Nevertheless, some communities took advantage of this law to obtain public land sale deeds for their community land.

As part of the Land Commission work, Sinoe County was used as a pilot to develop and fine-tune the methodologies for land inventory and assessment to address a number of challenges confronting the land sector (De Wit 2012). The results are presented in map 3.2. It includes mainly (1) collective (or community) private ownership rights such as aborigine land deeds, public land sale deeds, and public land grant deeds; and (2) enacted public land such as existing and proposed protected areas. As can be seen, large sections of the Cestos-Senkwehn PPA appears to be covered by community deeded land.

**MAP 3.2** Land Tenure Map of Sinoe County: Preliminary Results




The Land Rights Policy suggests that such areas would be called "Customary Protected Areas," which are owned by the community and must be conserved and managed by the community for the benefit of the community and all Liberians. Customary Protected Areas may be established by the government upon request of the community or on the government's initiative in collaboration with the community. Customary Protected Areas will not be sold, leased, or granted as a concession. Limited use rights may be granted in Customary Protected Areas to individuals, private entities, or the government only if the use is consistent with the land's conservation and management for the benefit of the community and all Liberians. This policy may have implications for the current approach to the establishment of the protected areas network (see "Opportunity for a Biodiversity Offsets Scheme to Provide Support for PPAs").

Concessions can only be granted for public land, not private land. Hence, where a concession area encompasses private deeded land, such land is legally not part of the concession area. In such case, the concession holder has the option to either negotiate a private lease of the land or avoid use of the private land.

In fact, nearly every concession agreement in Liberia contains a specific provision to the effect that if private land is within the area granted by a concession, the concessionaire is obliged to negotiate with the private land owner for lease of the land and that the government may assist the concessionaire if requested. If a private land owner refuses to lease or sell land needed to be allocated to a concessionaire for a public purpose (which

public purpose is easily satisfied just by fact of an investment on the land), the government has a right to exercise eminent domain.

Recently, the FDA requested all parties holding forest land deeds to submit their documentation for legal consideration. Nearly 3.4 million hectares of land claims arrived at the FDA for consideration, some of it overlapping, representing almost 80 percent of the forested areas of Liberia. This situation far outreaches the FDA's mandate and capacity to address and is under consideration by the government's Governance Reform Committee.

## Competition for Land and Overlapping Concessions

By 2012 more than 50 percent of Liberia's total land area had been awarded for commercial land use contracts (De Wit and Stevens 2014), largely dominated by transnational corporations. It should be noted, however, that some of these concessions are not mutually exclusive, and some of the mineral exploration licenses will never progress on to Mineral Development Agreements and result in the construction of mines because economically viable mineral reserves will not be identified. In addition, it appears that the Private Use Permits[3] that were so extensive until recently have now largely been rescinded. Nevertheless, a large portion of Liberia is still allocated for some form of development.

The main concession-awarding entities are the Ministry of Lands, Mines and Energy (MLME), the Ministry of Agriculture, and the FDA. An interministerial concessions committee, which includes the National Investment Commission and the National Bureau of Concessions, has an oversight and coordination role. Effective land use planning is absent at the national and regional levels and poorly coordinated between sectors, with the forestry, agricultural, and mining sectors largely operating independently of each other.

Consequently, there are overlaps in the allocation of concessions. Numerous mineral exploration licenses, mining licenses, and commercial agricultural concessions overlap each other and overlap with PPAs. Presently, much concession information is stored in documents, and not on a regularly updated geographic information system (GIS) database, making it very difficult for one concession-granting entity to know what the others are doing. The lack of any real central repository makes it difficult to manage. Poor coordination between different ministries that allocate concessions exacerbates this situation. In addition, there is no public-land database that would allow the granters of concessions to differentiate deeded land from public land.

No specific law prescribes the procedures to be followed in the case of conflict between (or overlap of) concessions in different sectors of the economy. A conflict between concessions in the same sector is likely resolved by application of the common law rule of first in time, first in priority. The PPAs receive no recognition until they are formally gazetted.

### Formal Mining

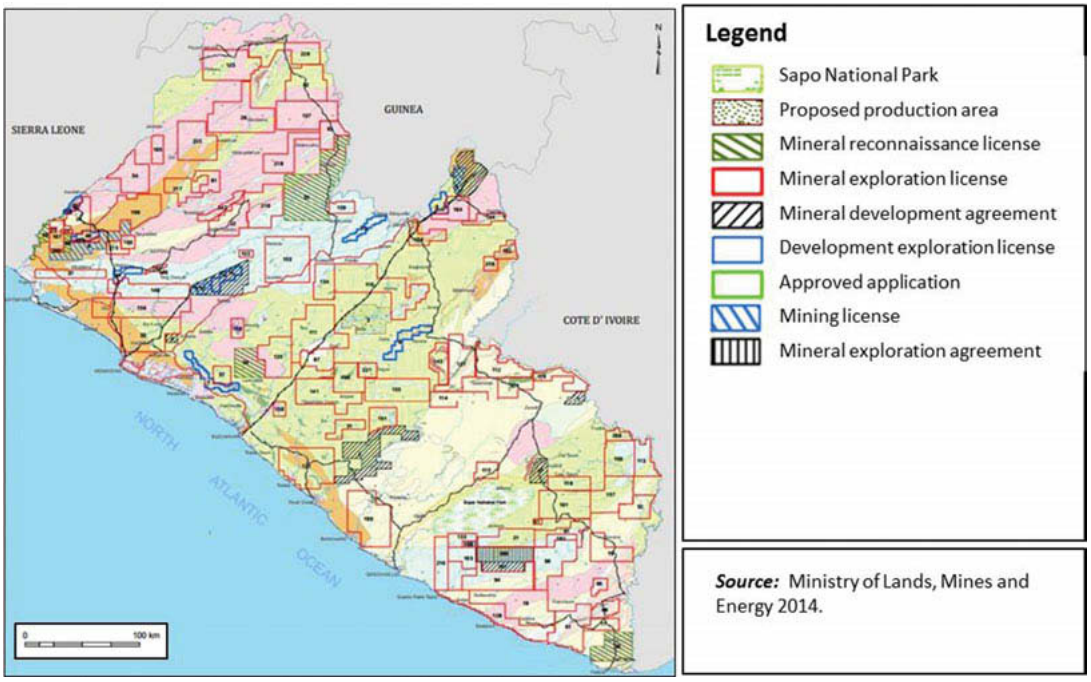
The MLME is responsible for administration of the mining sector. Early-stage exploration requires a mineral reconnaissance license with a term of six months. Later-stage exploration work during which significant drilling activities will be performed corresponds to a mineral exploration license, with an initial term of three years and an optional renewal of two years.

Mineral Development Agreements are long-term contracts assigning a company the right to develop a resource over a long period.

Map 3.3 shows a mineral property map for Liberia. The total area under exploration licenses appears to be extensive and numerous mineral exploration licenses overlap the PPAs. However, as stated above, many of these licenses will not become operational mines. Desk-based research indicates that some concession holders have no online presence. It is possible that some companies purchased the rights to explore prospective areas, with no intention of exercising those rights but to later sell the rights to a particular area to organizations interested in undertaking exploration activities.

Most of the mining companies that are currently active in Liberia typically have established some form of corporate environmental and social policy. These include ArcelorMittal's Nimba iron ore project, Russia's Severstal Resources (which has acquired rights to develop the Putu iron ore project), Vedanta Resources (developing the Western Cluster iron ore projects), China Union (developing the Bong project), Aureus Mining (constructing the New Liberty mine located within the Bea Mountain mining license), Hummingbird Resources (developing the Dugbe gold project), and Cavalla Resource Ltd (owned by Jonah Capital, developing the Buchanan iron ore project). Some of these companies are looking to implement offsets as a result of International Finance Corporation lending requirements, their own internal policies, or requirements specified in their Mineral Development Agreements. Several have expressed interest in the concept of a national offset scheme.

**MAP 3.3** Mineral Property Map in Liberia



## Alluvial Gold Sector

Government control over the alluvial gold sector remains very weak. Poor infrastructure, the remote border locations of many mines, and the underfunding of MLME personnel make monitoring of the sector extremely difficult. Consequently, the illegal mining of and trafficking in gold continues almost entirely unhindered. Although most alluvial gold production takes place in southeastern Liberia, particularly in Grand Gedeh, River Gee, and Sinoe counties, there is also significant activity in the Gola PPA. The UN Security Panel visited Kawelehun and Fornor, remote villages deep in the Gola Forest, in June 2013, and found large numbers of young men (many of whom had been former combatants from both Liberia and Sierra Leone) involved in illegal gold and diamond mining, as well as drug trafficking and bushmeat hunting (UN Security Council 2013).

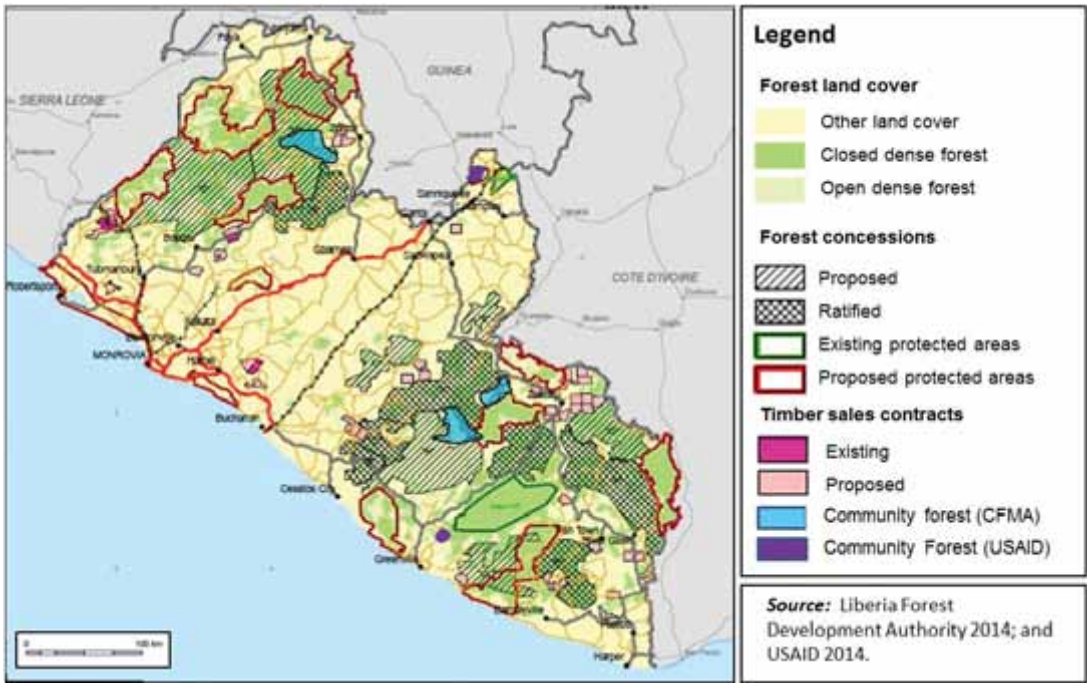
## Forestry

Timber concessions in Liberia are divided into four categories, Forest Management Contracts (FMC), Timber Sales Contracts (TSC), Private Use Permits (PUPs), and Community Forests (map 3.4). A Forest Management Contract is a 25-year concession allowing access to up to 400,000 hectares for commercial timber harvests. Timber Sales Contracts are valid for less than three years and reserved for areas smaller than 5,000 hectares. FMCs and TSCs can only be established, by law, on land that does not include private land. A third category, Private Use Permits (PUP), was rescinded in 2013. The original intention was to allocate concessions to communities or local groups to harvest timber, but PUPs were subject to misuse for commercial logging purposes.

As of July 2012, there were 9 FMCs and 11 TSCs outstanding (map 3.4), comprising 1.05 million hectares of forest. However, most of this area is not yet in operation. TSCs are intended for conversion of degraded forest (Class 3.1) to plantations or permanent agriculture, and allow the exploitation of all commercial species exceeding 50 centimeters in diameter within a three-year period. This amounts to destructive felling of land in which up to 80 percent of biomass may be removed. At the time of writing, no new FMCs and TSCs are being issued.

Chainsaw logging is informal, unregulated, and unlicensed, yet employs up to 4,000 people and supplies all domestic timber in Liberia, estimated to be as much as 200,000 cubic meters of sawn timber annually. In Community Forests, the Community Rights Law with Respect to Forested Lands (2009) provides for Community Forest Management Bodies, Community Assemblies, and Executive Committees. Their authority only extends over Community Forests. There was an increase in the number of concession applications from logging consortiums to obtain Community Forest Management Agreements (CFMAs) in 2012. These were principally designed to be small-scale community managed forest resource permits. However, the governance of these CFMAs has been called into question; published reports indicate that several CFMA applications have been submitted as an alternative means for logging companies to obtain access to forests for large-scale deforestation (Global Witness 2013). It is not clear which communities have requested or signed CFMAs and what the implications are for PPAs. In the case of one CFMA, out of 36 villages, only 5 have direct access to the Community Forest. The UN Security Panel of Experts noted a series of procedural irregularities that appear to contravene the Community

**MAP 3.4** Forestry Management and Timber Sales Contracts (Current and Proposed) and Protected Areas in Liberia

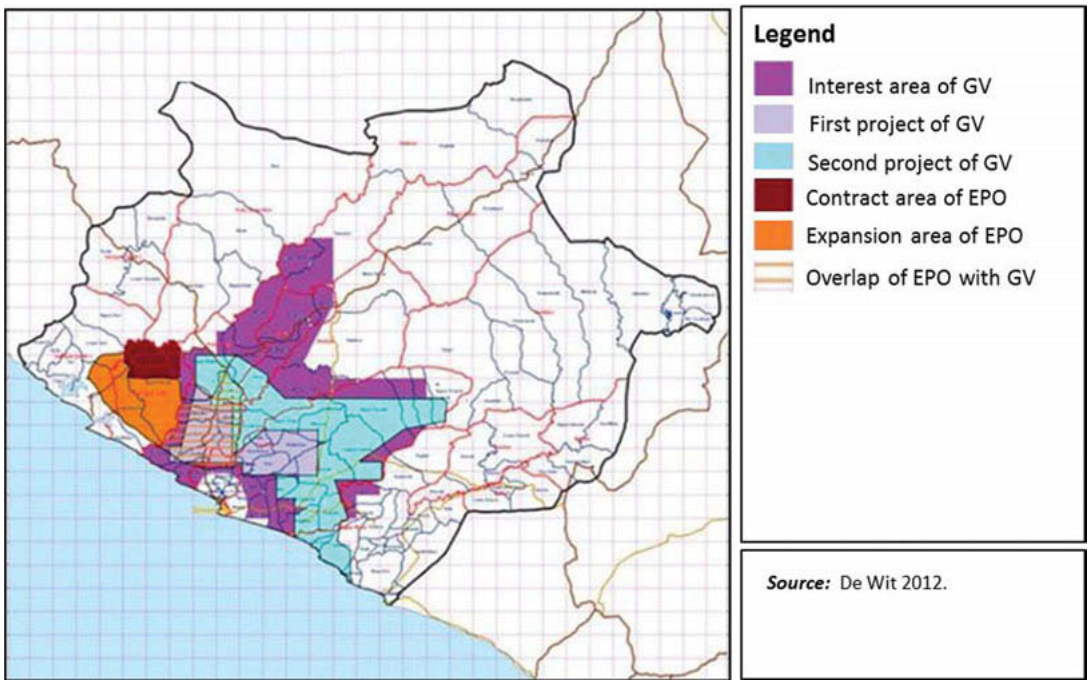



Rights Law and its attendant regulations regarding the application process and procedures for companies to conclude such agreements (UN Security Council 2012).

## Commercial Agriculture

Agribusiness in Liberia is concentrated in oil palm, rubber, and rice production. Substantial investments in oil palm have been made with contracts being awarded to Equatorial Palm Oil (EPO), Maryland Oil Palm, Golden Veroleum, and Sime Darby. Map 3.5 is not an accurate map of all of the palm oil concessions because the location and boundaries of the concessions could not be verified. The concession maps included within some of the contract documents are extremely difficult to read or are missing, and shape files are not always available. This makes it difficult to accurately assess the extent of overlap between concessions and PPAs or areas with high biodiversity value. This difficulty is exacerbated somewhat by the concepts of "area of interest," "gross areas," and "possible extension areas," because the eventual final boundaries of the concession areas are not clear. In addition, although concessions are negotiated directly with the Liberian government, it appears that companies can extend the area of the concession by negotiating separate deals with local communities. Map 3.5 highlights the issue of overlapping concessions—Golden Veroleum's concessions appear to overlap with those of EPO. In addition EPO's "extension area" overlaps with the Cestos-Senkwehn PPA. Increased transparency within this sector is important for natural resource management in Liberia.

**MAP 3.5** Concession Areas for Equatorial Palm Oil (EPO) and Golden Veroleum (GV) in Sinoe County




## Summary of Findings and Way Forward

Biodiversity conservation in Liberia is threatened by a range of factors, including poverty, uncertainties about land tenure, and competing land uses, particularly between commercial and community forestry, mining, and agriculture. The PPAs are afforded very limited protection from development until they are formally gazetted.[4] This is clearly illustrated by the granting of licenses by the government in recent years for Private Use Permits, mineral exploration licenses, and oil palm concessions that overlap certain PPAs. The very slow pace of gazetting of PPAs, coupled with the current lack of recognition of PPA boundaries and status by a number of government ministries, means that portions of PPAs are at great risk of being lost before they can be legally protected and brought under active management.

The implications arising from these findings for a constructive way forward are as follows:

- *Community deeded land and PPAs:* Greater clarity is needed on the potential overlaps between community deeded land and each of the PPAs and the implications of the Land Rights Policy that such areas would be designated Customary Protected Areas. Although such areas "must be conserved and managed by the community for the benefit of the community and all Liberians" under the Land Rights Policy, the extent to which this may adversely affect or impede the process of gazetting PPAs is unclear. The extent of valid community deeded land in PPAs is unclear, and further work is required to complete the inventory by the Liberian Land Commission.

- *Implement a GIS for allocating concessions:* A centralized GIS is urgently needed to accurately support the allocation and extension of forestry, palm oil, mining, and other concessions. Currently, there are large areas of overlap between competing land allocations—some of which also overlap with PPAs. It is understood that the USAID Governance and Economic Management Support Program is supporting the management of concessions through Concessions Information Management System (CIMS), an information communications technology system that should assist those involved in granting and managing natural resource concessions. The implementation of CIMS should be an urgent priority, and ideally, the data would be readily and publicly accessible.

- *Avoid further allocation of concessions in PPAs:* An immediate moratorium should be placed on the allocation of concessions within PPAs until effective land use planning is in place.

- *Avoid allocations of CFMAs in PPAs* until the issue of land rights is clarified and there is a clear strategy with respect to Community Forests and protected areas, and procedural irregularities are ironed out.

- *Clarify the status of concessions affecting PPAs:* The MLME has granted mineral rights that affect a number of PPAs, but it is important to clarify whether the FDA approved the granting of these mineral rights and issued appropriate guidelines. The National Forestry Reform Law (see "Forestry Development Authority and Related Legislation and Policy" in chapter 5) states that Class A mineral rights cannot be granted in PPAs unless there has been agreement with the FDA and FDA staff have developed and written guidelines for maximum protection of the environment and sustainable management of the forest during exercise of the grant.

- *Integrated land use planning:* The lack of a comprehensive, integrated land use plan complicates the rational management of natural resources while encouraging haphazard economic development; it also encourages ad hoc decision making by various line ministries that are not integrated. In the ideal, such a land use plan would be created.

## Notes

1. The maps from Hansen et al. (2013) are based on extensive analysis of historical Landsat data at 20 square kilometer resolution—a source that is objective, globally standardized, detailed, and meticulous.
2. The Aage V. Jensen Charity Foundation.
3. Private Use Permits were a type of logging license designed to allow private land owners to cut trees on their property, but which were reportedly subject to misuse by commercial logging companies.
4. One exception is that Class B or C Mineral Rights cannot be awarded in PPAs or protected areas. Class A Mineral Rights can only be awarded in PPAs if there has been an agreement from the FDA and FDA staff have developed and written guidelines for maximum protection of the environment and sustainable management of the forest during exercise of the grant. However, this has not prevented mining rights from having been assigned within some PPAs.

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# 4. A Role for Offsets in Securing Conservation Outcomes

## Emergence of and Drivers for Biodiversity Offsets

Biodiversity offsets are conceptually attractive, appearing to balance the needs of economic development with those of conservation. Despite significant problems with both the theoretical and practical issues associated with offsets, they are becoming more widespread and in the context of Liberia offer an opportunity for the private sector to contribute to the protected areas network.

The theory of biodiversity offsets has been supported and to some extent driven by the Business and Biodiversity Offsets Programme (BBOP), a multistakeholder initiative whose secretariat comprises Forest Trends and the Wildlife Conservation Society. BBOP defines offsets as "measurable conservation outcomes resulting from actions designed to compensate for significant residual adverse biodiversity impacts arising from project development after appropriate prevention and mitigation measures have been taken" (BBOP 2009, 6). The stated goal of biodiversity offsets is to "achieve no net loss and preferably a net gain of biodiversity on the ground with respect to species composition, habitat structure, ecosystem function and people's use and cultural values associated with biodiversity" (BBOP 2009, 6).

Various drivers have resulted in a number of mining companies in Liberia implementing or working toward creating project-specific offsets. These include the International Finance Corporation (IFC) Performance Standards, conditions attached to government of Liberia Mineral Development Agreements, and internal company corporate policies. In addition, the African Development Bank's Integrated Safeguards System (similar to the IFC Performance Standards) may be a stimulus for project-specific offsets in the future (see "African Development Bank" section in this chapter).

### IFC Performance Standards and the Equator Principles

Although BBOP has led much of the theory and associated principles and guidance, it is the IFC Performance Standards (specifically Performance Standard 6 [PS6]: Biodiversity Conservation and Sustainable Management of Living Natural Resources) that have become the major driver of biodiversity offsets within industry for those seeking project finance or political risk insurance (IFC 2012). The application of PS6 is very site specific. However, "a biodiversity offset should be designed and implemented to achieve measurable conservation outcomes that can reasonably be expected to result in no net loss and preferably a net gain of biodiversity; however, a net gain is required in critical habitats" (IFC 2012, 42).

In addition to the IFC, the Equator Principles Financial Institutions (78 institutions as of 2013 [Equator Principles Association 2013]) have committed to follow PS6 for all relatively large projects in developing countries. Together with the IFC, they are responsible for some 70 percent of project finance in developing countries.

In Liberia, one mining company is pursuing IFC financing and the IFC has an equity stake in another company. Both companies are currently assessing whether they will need to implement biodiversity offsets.

### Government of Liberia and Its Ministry of Land, Mines and Energy

The Ministry of Land, Mines and Energy is increasingly attaching conditions relating to the IFC Performance Standards and Environmental Health and Safety Guidelines to Mineral Development Agreements. For example, Putu Iron Ore Mining's Mineral Development Agreement includes the following provision:

> [T]he Company shall conduct its Operations in accordance with Sections 8.1 through 8.3 of the Mining Law, applicable law, the World Bank/IFC Environmental Health and Safety Guidelines for mining, the IFC Performance Standards on Environmental and Social Sustainability, the approved EMP and this Agreement.

A draft Mining Act[1] (see "Do Legal or Policy Anchors Currently Exist?" in chapter 5) proposes that all mining feasibility studies be required to comply with the IFC Performance Standards, which could create a further driver for mining companies to implement offsets.

### African Development Bank (AfDB)

The AfDB adopted an Integrated Safeguards System in 2013. Operational Safeguard 3 (OS3)—Biodiversity, Renewable Resources and Ecosystem Services—adopts similar language to that of IFC PS6. Specific objectives of OS3 are to "endeavour to reinstate or restore biodiversity, including, where some impacts are unavoidable, through implementing biodiversity offsets to achieve 'not net loss but net gain' of biodiversity" (AfDB 2013, 39). In addition OS3 states that "for projects that are being developed in natural habitats, modified habitats with significant conservation value, critical habitats or legally protected areas, the borrower or client incorporates the best available science and engages internationally recognised biodiversity experts in conducting the impact assessment and in developing and implementing mitigation and management strategies" (AfDB 2013, 40). Although no mining companies are looking to obtain AfDB financing at present, this may become important in the future.

### Corporate Policies

Individual companies within the mining sector are increasingly adopting "no net loss" commitments in their internal policies and standards. A reported 15 companies from the mining and aggregates sectors have adopted such a commitment and are implementing offset-type measures (The Biodiversity Consultancy 2012), including Anglo American, Barrick Gold, Hydro, Newmont Mining, and Rio Tinto. None of these companies are currently active in Liberia.

## Potential for Offsets and Other Forms of Compensatory Mitigation to Address Conservation Challenges

In 2010 and 2011, the Ecosystem Marketplace released two reports outlining the range of biodiversity market practices designed to reduce the adverse impacts of development on biodiversity, which collectively can be referred to as compensatory mitigation measures (Madsen, Carroll, and Moore Brands 2010; Madsen et al. 2011). Three broad categories of compensatory mitigation programs were outlined: one-off offsets, compensation funds, and mitigation banking. Some of the key features and characteristics of each are outlined in table 4.1 and briefly discussed below.

**TABLE 4.1** Features of Compensatory Mitigation Programs Worldwide

| | One-off offsets | Compensation funds | Mitigation banking |
|---|---|---|---|
| Main driver | Compliance or voluntary | Compliance | Compliance |
| Policy examples | Offsets under various environmental impact assessment laws (or required by providers of finance) | China's Forest Revegetation Fee; Brazil's Industrial Impact Compensation (developers' offsets) | U.S. Compensatory Mitigation or Conservation Banking; BioBanking in New South Wales, Australia |
| Implementation complexity | Medium | Low | High |
| Required market infrastructure | Low to medium | Low | High |
| Broad-scale or strategic conservation | Less likely (although efforts are being made to take broader conservation priorities into account) | Depends on program design. Funds can significantly contribute to the protected area network. | More likely |
| Ecological effectiveness | Depends on design and enforcement | Depends on design and enforcement but often is not related to impacts | Depends on design and enforcement |
| Who supplies the compensation? | Developer | Government | Third-party, government, or developer |
| Transparency | Less likely (although IFC requires transparency) | Moderately likely | More likely |

*Source:* Adapted from Madsen, Carroll, and Moore Brands 2010.

*Note:* IFC = International Finance Corporation.

## One-Off Offsets

One-off offsets or project-specific offsets tend to involve developers (or their nongovernmental organization partners) setting aside and managing an area of land to compensate for biodiversity losses resulting from a particular project to ensure "no net loss or a net gain in biodiversity." Such offsets are becoming increasingly widespread worldwide, particularly in the mining industry.

Project-specific offsets are an important tool for offsetting significant residual adverse impacts of a project, but they are not a panacea, nor are they necessarily the best tool for achieving conservation outcomes in Liberia. Because of the uncertainty around land tenure, competing land uses, and a rural population that is heavily dependent on forest resources, selecting offset sites that are politically, socially, and technically feasible to implement is a complex, costly, and time-consuming process unless there are available sites within the concession. High transaction costs must also be borne by each mining project developer, whereas there is scope for efficiencies and cost sharing among project developers in a national offset scheme. Although a number of major mining companies are either exploring or developing projects in Liberia (ArcelorMittal; Putu Iron Ore Mining, Inc.), many mining companies in-country are junior companies (Aureus, Hummingbird). Typically the larger companies only develop large-scale deposits, and these large-scale ventures create a revenue stream that can support higher transaction costs. In contrast, many junior companies may be jointly involved in developing projects with lower financial margins.

## Aggregated Offsets

A number of developers may collectively set aside an area to compensate for the combined biodiversity impacts arising from more than one project in a specific area; this effort is known as aggregated offsets.

Although this approach has the advantage of creating a larger offset area, and retaining large landscapes is of major importance for certain species, there are practical constraints to establishing an aggregated offset if all biodiversity impacts must be established for a number of defined projects at the same time. First, in practice, the timelines for developments within the mining sector may differ markedly. The vagaries of the exploration and development process are such that projects in a given region or country will typically be on different timelines. So establishing precise impacts for a set of projects within a narrowly defined time window is impractical. Second, if offsetting is a condition of either securing project financing or environmental permitting, individual project developers will want to proceed at a pace that meets their permitting, financing, and internal decision-making processes. They will understandably be reluctant to be held hostage to a timeline that accommodates several other resource developers.

## Compensation Funds

A compensation fund is a mechanism whereby a third party (either a government entity or a not-for-profit) collects and administers fees from developers of projects that have a detrimental impact on biodiversity, to offset these adverse impacts. The funds can either go directly toward compensation for biodiversity loss or be used to support more indirect biodiversity-related projects such as funding protected areas management or funding research.

In Brazil, for example, Industrial Impact Compensation (or developers' offsets) has been established under the National Protected Areas System Law (Federal Law 9,985/2000), which originally required project developers to pay 0.5 percent of the capital costs of projects to an environmental compensation fund to support the protected areas system. Following a Supreme Court ruling in 2009, the maximum amount payable is now set at 0.5 percent, although regulations at the state level vary: in Rio de Janeiro, for example, the level of compensation ranges between 0.5 and 1.1 percent of capital costs (World Bank 2012). In China, a Forest Vegetation Restoration Fee is payable by developers who affect lands zoned for forestry (required under the 1998 Forest Law of the People's Republic of China). The funds raised in this manner are used by the government for tree planting and forest-restoration activities.

In general, compensation funds are fairly straightforward to implement, and are not dependent on a well-developed market infrastructure. As a mechanism for raising fees that are based on the adverse impacts of development on biodiversity, the main advantage of compensation funds is one of potential universality (that is, they can apply to any form of development) and ease of administration. They can be structured as a mechanism for providing compensation for a range of different development impacts (not just mining) because fees could either be linked to the amount of capital invested or to the area of land being adversely affected. A further methodological refinement might take into account the quality of the affected ecosystems.

However, a key weakness in the implementation of such funds is that they often lack a clear and transparent link between project impacts and biodiversity outcomes. For example, the Brazilian system takes no account of the biodiversity value of the land that is affected by development. Similarly, the scale of compensation in China's system is dictated by the categorization of forested lands (for example, economic forest land), as opposed to the ecosystems affected.

In many respects compensation funds are a blunt instrument. Fees based on the amount of capital invested are regarded as an additional tax. Given that most of the private sector investment in Liberia is foreign rather than domestic, this "tax" could have a chilling effect on inward investment. A further limitation of compensation funds is that they fail to create private sector enthusiasm for engagement in measures to address adverse impacts on biodiversity. They neither address nor could substitute for the basic requirements on some mining companies operating in Liberia to implement biodiversity offsets to rectify their project-specific impacts. Even if the responsible Liberian ministries were to agree that payments to compensation funds could be made in lieu of offsets, such a program may not satisfy lenders unless a clear link between project-specific impacts and conservation outcomes could be demonstrated.

### "Mitigation Banking" and "Conservation Banking"

Mitigation banking and conservation banking emerged as a result of regulatory initiatives in the United States (respectively the Clean Water Act of 1972 and the Endangered Species Act of 1973) to mitigate and compensate for the adverse impacts of development. Under section 404 of the Clean Water Act and sections 7 and 10 of the Endangered Species Act, anyone who destroys regulated wetlands, streams, or endangered species habitat in the

United States must compensate for their destruction by either developing their own offset, paying in-lieu fees to a conservation organization to offset impacts, or buying credits from third parties who have already restored sites elsewhere in the same region (that is, from a mitigation bank in the case of wetlands or a conservation bank in the case of species). Mitigation banking has been an established practice since the 1980s; conservation banking began in the early 1990s. Regulatory developments in 2008[2] created a preference for third-party credits because of the economies of scale and ecological benefits that can be achieved when large areas of habitat are restored in advance of impacts occurring (Madsen et al. 2011).

In Australia, a number of state governments have instituted similar arrangements, in part because there is no guarantee that project-specific offsets will be managed for conservation or that there will not be pressure to develop the land in the future (Department of Environment and Climate Change of New South Wales 2007). For example, in New South Wales the BioBanking scheme addresses biodiversity values including threatened species listed under the Threatened Species Conservation Act 1995, and provides for the establishment of BioBanks on private or public lands, including land to which the Native Vegetation Act of 2003 applies (that is, where measures apply to ensure the protection of native vegetation). Similar to the system in the United States, landowners can sell the credits to provide income and fund future management of the site. Similar arrangements for compensation for the loss of fish habitat have been instituted in Canada under the 1986 Policy for the Management of Fish Habitat, which is an extension of the Federal Fisheries Act. Although there is no provision for private habitat banks, a number of provincial governments in Canada have created habitat banks as a form of compensation for habitat loss.

Collectively, the various systems described above are categorized as "mitigation banking" in the Ecosystem Marketplace reports from 2010 and 2011 (Madsen, Carroll, and Brands 2010; Madsen et al. 2011). A key weakness of these systems is that some of the schemes have relied on inadequate metrics for biodiversity (for example, credits for habitats that may or may not support target species), which results in a functioning market but delivers questionable outcomes. In general, they are also highly complex to implement (which entails significant costs), require a well-developed market infrastructure, and depend on a high level of capacity within the regulatory and enforcement agencies that administer and police such schemes. Outside of the developed countries where these systems have been implemented (including Australia, Canada, Germany, and the United States), there has been little uptake, although the South African National Biodiversity Institute is in the process of piloting a wetland mitigation scheme as part of its Grasslands Programme (SANBI 2013). On balance, therefore, they are not considered suitable for Liberia for the foreseeable future.

## Some Practical Challenges of Biodiversity Offsets in Liberia

Aggregated offsets are applied to compensate for known biodiversity impacts from a number of already defined projects, whereas conservation banking establishes biodiversity credits in advance, to offset losses arising from projects that may not yet be defined. In searching for an approach that works in Liberia, it was felt that using elements of both conservation banking and aggregated offsets was most appropriate.

One characteristic of most mining projects is that they take a relatively long time to advance from exploration to development, which allows some time to establish the nature of the biodiversity to be lost. The advantage of Liberia is that although it is home to exceptional biodiversity, the range of ecosystems represented is relatively narrow. In practice, these two factors offer the potential to establish some form of biodiversity or conservation credits in advance to support a national offsets scheme; resource developers could then acquire these credits. This plan overcomes some of the practical challenges outlined above. This approach would fall short of true market-based systems such as those in Australia and the United States, where the value of the biodiversity or mitigation credits may vary depending on the quality of the habitat protected as well as fluctuations in supply and demand. However, implementation of such systems is unrealistic in Liberia.

Establishing areas in which biodiversity or conservation credits could be pursued, however, is complicated by the range of factors discussed in chapter 3. The greatest potential, therefore, for establishing such areas lies within proposed protected areas (PPAs). For the most part, PPAs have already been through some sort of site-selection process based on their importance for biodiversity and other factors necessary to their establishment. However, progress in establishing PPAs has been very slow. Linking a national offsets scheme to the PPAs could provide additional and important financial support to the establishment of PPAs in the long term. Further details on how such a scheme might be implemented are outlined in the following subsection (and explored further in chapters 5 through 7).

## Opportunity for a Biodiversity Offset Scheme to Provide Support for PPAs

Despite the enabling legal and policy framework for a protected areas network in Liberia and assistance from development agencies such as the Word Bank and conservation organizations over many years, there are currently only three protected areas in Liberia. These areas represent a very small percentage of the globally important forest habitat. Progress in gazetting the other proposed areas (table 2.2 and figure 2.5) has been slow for a variety of reasons. In the meantime, mineral, forest, and agricultural concessions are being allocated that encroach on these areas.

Many of the PPAs greatly exceed the potential area that could be protected through a project-specific offset. Retaining large landscapes is of major importance for certain species, particularly forest elephants. Not surprisingly, numerous studies show that forest elephants move over large areas and are very sensitive to multiple access points into forested areas (Yackulic et al. 2011). The number of forest elephants throughout West Africa has declined dramatically overall, although there is very little quantitative data for Liberia outside of Sapo National Park.

Having a biodiversity offset scheme would provide an opportunity for the private sector to support the protected areas network, reduce risks, and overcome the limitations faced by many current, project-specific offset schemes including the following:

- ***Suboptimal selection of conservation offset areas:*** Because of uncoordinated, ad hoc approaches that are often dictated by proximity to a mining concession, project-specific offset areas are not necessarily optimal.

- *Insufficient participation or ownership by governmental authorities:* Governmental authorities are not part of the process, especially where arrangements are negotiated primarily between large private firms and conservation nongovernmental organizations, potentially undermining the long-term viability of an offset area.

- *Costs of and delays in identifying offset locations:* By linking to the PPAs network, limitations in identifying offset locations can be overcome because the biodiversity and socioeconomic data will have already been collected.

- *Inability to address cumulative impacts:* Linking to the PPAs network has the potential to effectively address the cumulative impacts of multiple (including smaller-scale) projects.

- *Sustainability and longevity:* Unlike potential project-specific offset locations, protected areas can only be converted to private land, customary land, or public land by a legislative act. In contrast, other land has no certainty of long-term protection.

- *High transaction costs:* Transaction costs can potentially be reduced, and outcomes improved, by using priority sites that are currently unprotected.

## Addressing the Rights and Interests of Landowners and Local Communities

As discussed in chapter 3, much of Liberia's rural population is heavily dependent on forests for their livelihoods and ecosystem services. The level of bushmeat hunting is thought to be one of the highest per capita in Africa (Anstey 1991). The gazetting of PPAs could have adverse impacts on local communities, unless there is increased local capacity for sustainable livelihoods of those communities who live in or around and are dependent upon the forest. The gazetting process requires social impact assessments to be undertaken by the government before an area becomes legally protected; such assessments have already been or are being undertaken for the Gola, Grebo, and Wonegizi PPAs.

Where a community is likely to lose access to certain forest resources, best practice requires appropriate consultation to determine the community's point of view and to understand how they might be adversely affected. In particular, it is important to ensure that vulnerable or marginalized groups are adequately consulted and not disadvantaged as a result of establishing a protected area. In addition, the Community Rights Law with Respect to Forest Lands (2009) establishes that all Community Forests are owned by local communities, and that any decision or activity affecting the status or use of Community Forest resources cannot proceed without the free, prior, and informed consent of local communities (see "Forestry Development Authority and Related Legislation and Policy" in chapter 5). This law underscores the imperative of balancing the interests of land owners and users in the process of establishing protected areas, and ensuring that their livelihoods are sustainably maintained or improved.

In general, the success of biodiversity conservation in protected areas is dependent on and affected by a range of factors, including how protected areas were created, how they are managed, the degree of local community involvement, the location of the protected area, the national policy governing the protected area, and the financial resource base of

the protected area. An analysis of 123 documents on case studies about conservation of biodiversity in national parks in Africa reviewed the factors responsible for both the success and failure of conservation (Muhumuza and Balkwill 2013). The results suggest that future conservation approaches in protected areas in Africa need to place more emphasis on the human dimension of biodiversity. Based on this work, some of the key factors that underpin the success (or failure) of protected areas include the following:

- Effective consultation and taking into account the needs of local people who depend on resources or establishment of resource use agreements
- Clear communication channels between park staff and local leaders, coupled with conflict- or grievance-resolution mechanisms and participatory monitoring
- Strong correlation of conservation of biodiversity with density of guards (but not the capacity of guards)
- Security of land tenure and uncontested ownership of the land in parks (although high population numbers and political instability correlate negatively with success).

## Summary of Findings and Way Forward

Various drivers have resulted in a number of mining companies in Liberia implementing or working toward creating project-specific offsets. A range of biodiversity market practices have been developed internationally that collectively can be referred to as compensatory mitigation measures. Three broad categories of compensatory mitigation programs include one-off (or project-specific) offsets, compensation funds, and mitigation banking.

Project-specific offsets are an important tool for offsetting residual adverse impacts of a project, but are not necessarily the best tool for achieving conservation outcomes in Liberia. Because of uncertainties around land tenure, competing land uses, and the dependence of rural populations on forest resources, selecting offset sites that are politically, socially, and technically feasible to implement is complex, costly, and time consuming. Compensation funds are simple to institute and implement, and can be structured as a mechanism for providing compensation for a range of different development impacts. However, in many respects compensation funds are a blunt instrument.

A biodiversity offset scheme offers the prospect of achieving enhanced conservation outcomes, but there are a number of practical constraints that require creative solutions. The long-term nature of the planning process for mineral developments and the relatively narrow range of ecosystems found in Liberia create an opportunity to establish some form of biodiversity or conservation credits in advance, which resource developers could then acquire to offset significant residual impacts. This approach would fall short of a true market-based system, but such systems are unsuitable for Liberia at present. The greatest potential for establishing conservation credits is within PPAs.

The implications arising from these findings for a constructive way forward are as follows:

- *A narrow definition of aggregated offsets is impractical and too limiting:* Limiting the use of aggregated offsets to situations in which all biodiversity impacts must be established for a number of defined projects at the same time is impractical given the varying timelines of projects resulting from the vagaries of the exploration and development process and requirements for different resource developers to access finance at different times. For this reason, a more elastic definition is needed that includes some form of biodiversity or conservation credits.

- *A biodiversity offset scheme offers certain advantages over alternatives:* Although project-specific offsets and compensation funds have merit, aggregated offsets combined with a simple form of biodiversity or conservation credit linked to the PPA network offers the greatest prospect for sustainable offsets that deliver conservation outcomes in the long term and help achieve conservation gains.

- *A biodiversity offset scheme could support expansion of the protected areas network:* In light of the protracted and slow progress toward creating protected areas from PPAs, linking an aggregated offsets scheme to the PPAs could provide additional and important financial support to their legal establishment and on-the-ground consolidation.

- *Defining how biodiversity or conservation credits can be linked to PPAs is a priority:* Given the practical constraints to ensuring the long-term sustainability of biodiversity or conservation credits outside PPAs, it is important that these credits be linked to existing PPAs. Because progress toward establishing protected areas in Liberia has been so slow, using aggregated offsets in this manner offers the potential for true additionality.

- *In establishing a biodiversity offset scheme, careful attention needs to be paid to the human dimensions of biodiversity:* The emerging lessons from establishing protected areas in Africa highlight the importance of the human dimension of biodiversity and point to critical success factors that should feature in the choice and establishment of aggregated offsets and biodiversity or conservation credit areas.

- *Project-specific offsets may also have a role:* Despite the challenges associated with project-specific offsets, they still have a potentially valuable role to play. However, pursuit of project-specific offsets should always be subject to the capacity and commitment of the company to design and implement effective offsets.

## Notes

1. The provisions of the draft Mining Act are subject to change.
2. US Environmental Protection Agency/US Army Corps of Engineers (2008). Title 40, Code of Federal Regulations, Part 230, Compensatory Mitigation for Losses of Aquatic Resources; Final Rule.

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# 5. Legal, Policy, and Institutional Framework in Support of a National Biodiversity Offset Scheme

## Do Legal or Policy Anchors Currently Exist?

This chapter is not a comprehensive review of Liberian legislation but focuses on those laws and policies relevant to biodiversity protection with specific regard to protected areas and the potential implementation of biodiversity offsets. Of particular interest are the Environment Protection and Management Law (2002), the Act for the Establishment of a Protected Forest Areas Network (2003), the National Forestry Reform Law (2006), and the draft National Wildlife Conservation and Protected Areas Management Act (2014). In addition to these, certain sectoral laws also address biodiversity conservation, for example, the Minerals and Mining Law (2000) and the draft Mining Act (2014).

No Liberian legislation specifically mentions "offsets." However, the Environment Protection and Management Law (2002) requires the application of the mitigation hierarchy as part of the Environmental and Social Impact Assessment (ESIA) process. The Act for the Establishment of a Protected Forest Areas Network (2003) mandates that 30 percent of existing forest area should be set aside for protection. The National Forestry Reform Law (2006) reinforces the need for a protected forest areas network. The draft Mining Act (2014) states that all mining feasibility studies must comply with International Finance Corporation (IFC) Performance Standards. In addition, clauses relating to the IFC Performance Standards are already being integrated into Mineral Development Agreements, which could provide a legally enforceable anchor for mining companies to implement offsets.

The next paragraphs provide an introduction to the government institutions responsible for implementing and administering the laws, followed by an overview of these key legislative provisions. One fundamental cross-cutting point is the question of political will, given the past history of the establishment of a protected areas network in Liberia. This is an important consideration that will require a level of introspection and honesty on the part of various line ministries and agencies.

### Forestry Development Authority and Related Legislation and Policy

In 1976 the Forestry Development Authority (FDA) was established as the sole government agency responsible for forest and forest resource management, including protected areas. Since its inception, the FDA has largely focused on timber concessions. Logging activities greatly increased during the 1980s and 1990s to unsustainable levels of harvesting. As a result of the apparent connection between revenues generated by the sector and the financing of Liberian civil war and regional conflict, the UN Security Council imposed sanctions on Liberian timber beginning in 2003.

Following the signing of the Comprehensive Peace Agreement in 2003, attention turned to supporting reform of the forestry sector. The aim of the reforms was to strengthen governance, accountability, and transparency, and to improve the sharing of benefits from the forestry sector, which would allow UN sanctions to be lifted. Several development partners, including the U.S. government and the World Bank, offered technical and financial assistance to support the reform efforts. Their assistance was coordinated through the Liberia Forest Initiative.

The National Forestry Reform Law (2006) provided the foundation for a revised process for concession allocation and management, and the restructuring of the FDA. The National Forestry Reform Law (2006) was supported by the National Forest Policy, National Forest Management Strategy, and the FDA Ten Core Regulations. These documents supported a "3 Cs" approach, giving equal balance to community, commercial, and conservation aspects of forestry. Commitments were made to expand the network of protected areas, and a number of suitable areas were identified, requiring community consultations and development of legislation to secure these areas. An additional law was passed: The Community Rights Law with Respect to Forest Lands (2009). This law and its implementing regulations (finalized in June 2011) provide the basis for recognition and regulation of Community Forests. Finally, the National Wildlife Conservation and Protected Areas Management Act (submitted by the Liberian President to the Senate for enactment in June 2014) includes a number of important provisions relating to conservation and protected areas management.

### *The Act for the Establishment of a Protected Forest Areas Network (2003)*

In 2003, the government of Liberia committed to establishing a biologically representative network of protected areas covering at least 30 percent of the country's existing forest area, or about 1.5 million hectares. The act provided a comprehensive set of definitions that remain in use today and are reflected in other legislative provisions, including definitions of National Parks, Game Reserves, Nature Reserves, Multiple Sustainable Use Reserves, Strict Nature Reserves, and others. It also identified prohibited and permitted activities within the various defined areas. It refers to the fact that the government had identified 11 areas of existing National Forests as candidates for the protected forest area classification, but no further details were provided.

### *The National Forestry Reform Law 2006 (amending the National Forestry Law of 2000 and the act creating the FDA)*

The National Forestry Reform Law (2006) is a wide-ranging law contained in 23 chapters including ownership, administration, policy, commercial use of forests, contractual aspects, protected areas, community, and other land rights. Although the law includes no specific mention of offsets, several provisions are particularly relevant to the establishment of offsets in Liberia.

- Section 8.2 *Sustainable Management and Utilization of Forest Resources* states that the government cannot grant Class B or C mineral rights in protected areas or proposed protected areas (PPAs). Class A mineral rights cannot be awarded in National Forests or PPAs unless there has been an agreement from the FDA and its staff has written appropriate guidelines for maximum protection of the environment and sustainable management of the forest during exercise of the grant. Compliance with the guidelines is a condition of the grant.

- Section 9.1 on *Protected Forest Areas Network and Wildlife Conservation* states that the authority shall establish a protected forest areas network, together with conservation corridors, and incorporating existing National Forests, to cover at least 30 percent of the existing forested area of Liberia, or about 1.5 million hectares.

- Sections 9.2–9.9 describe the measures that are required for presidential and legislative approval. The measures include biodiversity and socioeconomic data, including existing threats and resource utilization; a 60-day consultation period; views of local communities; and proposed boundaries. Once an area has been gazetted, a management plan is to be prepared. Every five years thereafter, a comprehensive management plan for the protected area is to be reviewed and republished. Within the protected areas game reserves, controlled hunting areas and buffer zones can be created.

- Section 9.7 under *Modification of Boundaries or Abolishment,* states that "No National Forest, National Park, Nature Reserve, or Strict Nature Reserve shall be abolished or alienated nor shall its boundaries be modified, except by an act of legislature, following consultation with the Forestry Development Authority."

- Section 9.9 *Game Reserves, Controlled Hunting Areas, Buffer Zones, Conservation Corridors, and Other Protected Forest Area Categories* provides for the establishment of "Game Reserves, Controlled Hunting Areas, Communal Forests, and other Buffer Zones" to serve as conservation corridors to facilitate sustainable protected forest management and biodiversity protection.

- Section 9.10 on *Regulations and Prohibitions* outlines a number of strict prohibitions, including restrictions on individuals or organizations (1) in a Strict Nature Reserve, from pursuing activities other than conservation management and research; (2) in a National Park, Nature Reserve, or Game Reserve, prospecting, mining, farming, hunting, fishing, extracting timber or nontimber forest products, or taking any other action except those for management or nonconsumption uses, such as tourism, recreation, and research; (3) in Community Forests, prospecting, mining, farming, or extracting timber for commercial use; and (4) in a Multiple Sustainable Use Reserve, farming or extracting timber for commercial use.

- Section 9.12 *Protected Animals, Hunting, and Trade in Wildlife* outlines other activities of the FDA such as reviewing the population, distribution, and status of Liberia's wildlife, and identifies categories of animals and plants that are threatened or in danger of extinction. With regard to the hunting of protected animals, the law states that "No Person shall hunt, capture, or trade any species identified in the list established and maintained by the Authority under Subsection (a) of this Section."

- Section 10 *Community Rights Aspect of Forest Management,* ensures that local communities are fully engaged in the sustainable management of the forests of Liberia, by granting user and management rights to communities and ensuring that communities can equitably participate in and benefit from the sustainable management of the forests.

Section 5.6 of this law also includes provisions for Private Use Permits. Private Use Permits were a type of license designed to allow private land owners to cut trees on their property for commercial purposes, but were reportedly subject to misuse by commercial logging companies (Global Witness 2012). In December 2012, a Liberian government investigation reported systemic legal violations, including fraud and corruption, in the issuance of illegal logging licenses covering a quarter of Liberia's surface area. The investigation report recommended that the government cancel Private Use Permit contracts and prosecute

those guilty of violating laws (Global Witness 2012). In response, President Ellen Johnson Sirleaf issued an executive order placing a moratorium on logging by Private Use Permit holders and committing to prosecute and sanction those who broke the law.

### *National Forest Management Strategy (2007)*

The National Forest Management Strategy summarizes the FDA's approach to managing the national forest endowment. It includes objectives, goals, and management actions in pursuit of the overall aim to "conserve and sustainably manage all forest areas so that they will continue to produce a complete range of goods and services for the benefit of all Liberians and contribute to poverty alleviation in the nation" (FDA 2007, 4). The FDA has embraced a "3 Cs" approach—commercial, community, and conservation—that focuses on the management of Liberia's forests to achieve the agency's overall goal of developing and sustaining the benefits of Liberia's forest resources.

As part of this process the FDA, in conjunction with the U.S. Forest Service, Conservation International, and the Liberia Institute of Statistics and Geo-Information Services, conducted a Forest Management Suitability Study that evaluated all forest areas for their relative suitability for various land uses. The study incorporated information on towns, roads, and the like; biodiversity information from 75 field transects conducted by Flora and Fauna International; and three rapid field assessments by Conservation International. Where conservation and commercial forestry remain equally suitable, areas were allocated to commercial use, recognizing the economic and enforcement realities in Liberia. The team then revised conservation area boundaries to form contiguous protected areas using boundaries easily defined by the landscape such as rivers and roads.

The suitability study identified 3.41 million hectares for commercial management, 80.6 percent of which was considered suitable for this activity. Some 85.7 percent of this area was also suitable for conservation and 32.2 percent was suitable for community management. Eleven target areas were identified for community management, each totaling approximately 5,000 hectares for a total of 52,000 hectares. About 98.7 percent of this area is suitable for community management. An estimated 18.75 percent of suitable community areas were also suitable for commercial forestry management, and 38.5 percent of this area was also suitable for conservation management.

The suitability study also identified a total existing and potential protected area network of 1.14 million hectares, including 193,500 hectares of existing protected areas (that is, Sapo National Park and East Nimba Strict Nature Reserve); 93.6 percent of this area is suitable for conservation management; 65.4 percent is highly suitable for commercial forestry management; 17.6 percent of the protected areas network is also highly suitable for community management. Some 950,051 hectares of this area is classified as either closed or open dense forest.

The conservation components of the National Forest Management Strategy include some laudable goals. One of these goals is to "Work to conduct social and biological surveys of PPAs and allocate up to 950,000 hectares to the National Protected Area Network with at least 100,000 allocated per year as consistent with the suitability study" (FDA 2007, 24). Other goals are to "Develop new Wildlife Management Law and raise awareness

throughout Liberia on hunting issues including the impact of the law while enforcing the ban on hunting of all protected wildlife species in Liberia" and to "Ensure conservation at the landscape scale to preserve integrity of biodiversity" (FDA 2007, 24). However, progress toward achieving these goals has been slow (see "Overview of institutional strengths and weaknesses" in this chapter).

### *Community Rights Law with Respect to Forest Lands (2009)*

This law was established with the aim of empowering communities to fully engage in the sustainable management of forests in Liberia by supporting community rights in the management and use of forest resources. It asserts a number of principles to guide the implementation of the law, including that all forest resources on community lands (that is, Community Forests) are owned by local communities, and that any decision or activity affecting the status or use of Community Forest resources cannot proceed without the free, prior, and informed consent of local communities. Community Forestry is defined as the governance and management of forest resources by communities in designated areas, for commercial and noncommercial purposes, to further their livelihoods and development. This law only relates to community rights to access, use, and manage forest resources but does not extend to land ownership.

Forest Land areas ranging from 5,001 hectares to 49,999 hectares may be designated as Community Forest Land (section 2.3 of the law). "The Authority shall have the powers to grant a community the right to access, manage, use and benefit from forest resources on a specified area of land."[1] Communities may enter into small-scale (1 to 5,000 hectares) commercial use contracts with small commercial enterprises to harvest timber and nontimber forest products on a noncompetitive basis. They may also enter into medium-scale (5,001 to 49,999.99 hectares) commercial use contracts on a noncompetitive basis. Section 6 of the law states that communities may also enter, in collaboration with the FDA, into large-scale (50,000 or more hectares) commercial use contracts for timber products on a competitive basis guided by the Sustainable Forest Management Standards.

In mid-2013, Global Witness reported that the government had received 23 applications for Community Forest Management Agreements (CFMAs), but that logging companies appear to be behind the new applications with little or no involvement by local communities. Global Witness alleged (Global Witness 2013) that this risks turning an instrument designed to empower communities into an exploitative mechanism by which logging companies illegally gain cheap access to forests (see also "Overview of Institutional Strengths and Weaknesses" in this chapter).

### *National Wildlife Conservation and Protected Areas Management Law (2014, in draft)*

This yet-to-be-approved law, which was submitted by the Liberian President to the Senate for enactment in June 2014, will be referred to as "the draft National Wildlife Law (2014)" and includes a number of important provisions relating to conservation and protected areas management. The objectives of the law are the following:

- Provide for the establishment of conservation areas and the management of wildlife (within the framework of national legislation including the Forestry Reform Law 2006).

- Provide for the protection of wildlife and wildlife management throughout Liberia.
- Provide for cooperative governance in the establishment of conservation areas and management of wildlife.
- Effect a national system of conservation areas in Liberia.
- Provide for a representative network of conservation areas on state land, private land, and community lands.
- Promote sustainable utilization of conservation areas for the benefit of people in a manner that would preserve the ecological character of the areas.
- Promote participation of local communities in the management of conservation areas and wildlife, where appropriate.
- Facilitate the integrated management of conservation and wildlife.

The law sets out the ambition of managing "wildlife and natural areas for the benefit, utility, and enjoyment of all people in accordance with internationally accepted principles of ecologically based management" and of enhancing the social and economic benefits to forest-dependent communities by "sustainable wildlife management as a source of protein, revenue generation and employment." In parallel, the act establishes the aim of protecting and managing wildlife that are "endemic, rare, threatened or endangered by extinction" and maintaining the habitats they depend on.

Section 2.2 of the law also establishes a policy of transferring, to the extent feasible and practicable, wildlife management in and outside of protected areas to "communities, private land owners and voluntary associations organized for the purpose." Consistent with the idea of devolved responsibility, section 3.2 provides for "decentralization of conservation and wildlife management and the incorporation of protected areas and wildlife issues in the agenda of District and Community level Environmental Committees." County or local-level authorities may establish a Protected Area Management Committee for each protected area created or for a county or region where there is more than one protected area, in collaboration with relevant stakeholders.

The objectives of establishing a national protected areas network are to ensure a viable network of sites that are representative of natural ecosystems in Liberia for the protection and maintenance of biodiversity and associated cultural resources, and to ensure the conservation of viable populations of all indigenous wild species, especially rare, endangered, and endemic species.

Section 5.2.2 of the law reiterates the ambition of the National Forestry Reform Law (2006) to establish a "Protected Area Network, together with corridors and incorporating existing national forests and community forest lands, to cover at least 30 percent of the existing forested area of Liberia, representing about 1.5 million hectares."

Section 7.1 of the law deals with private sector participation in wildlife management and requires the FDA to transparently and consultatively develop a policy and guidelines for

private landowner and community-based management or joint forest management of protected areas, conservation areas, and wildlife management areas.

Of particular relevance to the potential future funding of an offset scheme is Section 10.1 of the law, which requires the FDA to establish a "Conservation and Wildlife Fund for the administration of protected areas, wildlife conservation and management activities, and enforcement of this Law." The sources of funding shall include, but not be limited to (1) funds appropriated by the legislature; (2) voluntary contributions; (3) donations, grants, endowments; and (4) payment of fees.

Specifically in relation to mining, it is noted in Section 3.1.2 of the law that the FDA's role with respect to protected areas and wildlife management includes a requirement to ensure "wildlife conservation in the extractive industries such as logging and mining operations." Section 5.12 requires the FDA to consultatively develop regulations governing activities permitted and prohibited in the various management categories of protected forest areas, conservation areas, and wildlife management areas within one year of the law coming into effect, including mining. This section may offer further clarity on which of these areas, if any, may be subject to mineral exploration or mining. Last, although not sector specific, section 5.14 signals that the FDA may develop protected-area-specific Environmental Impact Assessment guidelines or "ensure that forest sector-specific EIA guidelines include adequate EIA requirements for protected areas and that the guidelines promote transparency and public participation of relevant conservation stakeholders in the process."

## Environmental Protection Agency and Related Legislation and Policy

The Environmental Protection Agency (EPA), established by an act of the Legislature of Liberia in 2003, was formally set up in 2004 as an autonomous agency of the government of Liberia. The EPA is responsible for coordinating, integrating, and harmonizing implementation of the National Environmental Policy under the guidance of the National Environmental Policy Council. The council was established under Section 7 of the 2003 Environmental Protection Agency Act. Under section 30 of the act, the EPA will prepare a National Environmental Action Plan every five years in consultation with the line ministries and county environmental committees.

The EPA took over the responsibilities of the National Environmental Commission of Liberia (NECOLIB), which was established in 1998 with the mandate to coordinate environmental management activities, including the conservation of biological diversity. NECOLIB was the focal institution for the Convention on Biological Diversity, the Cartagena Protocol on Biosafety, the United Nations Framework Convention on Climate Change and its Kyoto Protocol, and the Stockholm Convention on Persistent Organic Pollutants. These responsibilities now fall to the EPA.

### *National Environmental Policy (2003)*

The National Environmental Policy of 2003 provides a broad framework for the implementation of national objectives and plans. The policy aims to ensure the sound management of resources and the environment, including the "protection and maintenance of human habitats, the ecosystems, and ecological processes essential for the functioning of the biosphere" (Ministry of Foreign Affairs 2003, 5). The overall goal of the

National Environmental Policy is to ensure the long-term economic prosperity of Liberia through sustainable social and economic development, which enhances environmental quality and resource productivity on a long-term basis that meets the requirements of the present generation without endangering the potential of future generations to meet their own needs.

The ultimate aim of the National Environmental Policy is to ensure the improvement of the physical environment, quality of life, and economic and social living conditions of the entire citizenry, for present and future generations.

There is no mention of offsets in the National Environmental Policy, which is not surprising given that it dates from before the concept gained widespread acceptance. There is also little or no mention of compensation or mitigation, except in the context of bio-prospecting (see section 6.2 of the policy). Section 4.12 of the National Environmental Policy, which deals with Environmental Economics, recommends the development of "effective decentralized resource management mechanisms to involve local communities, NGOs and the private sector, thus augmenting the implementation of government agencies."

### *National Biodiversity Strategy and Action Plan (2004)*

Liberia ratified the Convention on Biological Diversity in November 2000, establishing a requirement to produce a National Biodiversity Strategy and Action Plan (NBSAP) for the conservation and sustainable use of biological diversity. The overall goal of Liberia's NBSAP, prepared between June 2002 and February 2004, is to sustainably use biodiversity on a long-term basis to meet the needs of both the present and future generations. The specific goals follow:

- To take appropriate measures to protect critical ecosystems against harmful effects or destructive practices for conservation of biological diversity.
- To create biodiversity awareness among sectors of the society and promote international cooperation.
- To commit the people to the sound and sustainable use of biological diversity to bring about socioeconomic development.
- To promote rational utilization and conservation of biological diversity.
- To promote access to genetic resources and the fair and equitable sharing of benefits arising from their utilization.
- To contribute to the fulfillment of the Millennium Development Goals through poverty alleviation, food security, and women's empowerment in biodiversity conservation by 2015.

As with the National Environmental Policy, the NBSAP dates from before the concept of offsets gained acceptance, so there is no mention of offsets within the NBSAP and there is also little to no mention of compensation or mitigation.

### *The Environment Protection and Management Law of the Republic of Liberia (Approved 2002, published 2003)*

This law is a wide-ranging piece of legislation that is divided into 13 parts and includes 115 sections covering Environmental Impact Assessment, pollution control, protection of natural resources, protection of biodiversity, restoration, inspection, international obligations, education, and offenses.

The law makes no specific mention of biodiversity offsets, although ESIAs should include an understanding of ecological impacts and describe their mitigation. The law does, however, allow for the setting aside of land for the protection of biodiversity, but doing so must take into account impacts on local communities.

Specific provisions that are relevant to biodiversity offsets are summarized below.

- Part II, Section 4, *Principles of Environmental Management and Objectives* includes provisions to "Facilitate the restoration, protection, and the conservation of biological diversity for the function of the biosphere and the maintenance of the ecological system and processes" and to "Ensure the sustainable or wise use of the natural resources in pursuance of social and economic development without undermining the ecosystem's renewal and resupply processes."

- Part III, Sections 13–33, *Environmental Impact Statement* pertain to the ESIA process. They identify which projects require ESIAs and outline what is needed to fulfill the legal obligations. There is no specific mention of or requirement for biodiversity offsets, although there is a requirement in section 14 for the ESIA to describe "ecological impacts" and to include a "description of measures proposed for avoiding, minimizing, mitigating and monitoring the anticipated adverse effects of the project or activity on the environment."

- Part VI, *Guidelines and Standard for the Management of the Environment and Natural Resources* includes provisions relating to protected areas and threatened species. Sections 77–79 address the Protection of Forest and of Natural Environmental Areas. Section 77 lays out some of the measures to be undertaken by and the role of the EPA, such as issuing guidelines and prescribing measures for the sustainable use and protection and management of all forests in Liberia. Section 80 deals with the Protection of Wild Animals and Birds, and states, "All wild animals and birds and in particular, rare, threatened and endangered species and their habitats shall be preserved and protected in accordance with the guidelines and recommendations made by the Agency after consultation with the Line Ministry." Section 80 goes on to state that before any areas can be declared as protected, an ESIA needs to be conducted, and a report is required on the social and ecological consequences of the declaration. There should also be a detailed boundary description of the protected area under this section.

  Under Section 80, a Wildlife Protected Area is defined as a National Park, Wildlife Reserve, Nature Reserve, or any other area the line ministry may designate as a Wildlife Protected Area. A Wildlife Management Area is defined as a Wildlife Sanctuary, a Community Wildlife Area, or any other area the line ministry may declare a Wildlife

Management Area. The EPA is responsible for prescribing conservation measures to ensure that communities and persons and wildlife coexist in the Wildlife Management Area and that wildlife is protected.

- Part VII, *Protection of Biodiversity, Natural Heritage and the Ozone Layer:* Section 83 deals with the Conservation of Biological Diversity. Among other things, it requires the EPA to (1) specify national strategies, plans, and programs for the conservation and sustainable use of biological diversity as part of the National Environmental Action Plan process, including the preparation of an inventory of biological diversity of Liberia; (2) determine which species are endangered, rare, or threatened with extinction; (3) integrate conservation into state activities, respecting and encouragement of the diverse cultural and aesthetic values and sacred knowledge and interests of the communities in biodiversity; and (4) protect indigenous knowledge and collect data on the roles of women and youth in the conservation of biological resources and the impact of natural resource policies on women and youth.

Section 84 deals with the Conservation of Biological Resources in situ. It states that the FDA shall, in consultation with the relevant line ministry, issue guidelines for, among others, (1) "The selection and management of protected areas so as to promote the conservation of the various terrestrial and aquatic ecosystems in Liberia"; (2) the "selection and management of buffer zones near protected areas"; (3) "special measures for protection of species, ecosystems, and habitats [that] are threatened with extinction"; (4) "prohibiting or controlling of the introduction of alien species"; and (5) "integrating traditional knowledge for the conservation of biological diversity."

## The Ministry of Lands, Mines and Energy (MLME) and Related Legislation

The MLME ensures the sustainable management and judicious utilization of the country's lands, mines, and energy resources. There are three main departments, respectively covering matters relating to lands, mineral resources, and energy. The Lands Department deals with land surveys, mapping (for example, of protected area boundaries or exploration blocks), and issues relating to land tenure. It also deals with procurement of land for all government departments. The Mineral Resources Department has the mandate for the mining sector. Its two major operating areas are Mines Administration and Geological and Mineral Investigations, including the administration of exploration and mining tenements, the processing of applications for grant and renewal of licenses, the allocation of special site licenses or permits, as well as the certification of mining personnel and specific mining equipment. It also has a mandate for monitoring mining and exploration activities through regular inspections for adherence to safe environmental practices. The Department of Energy continues to serve and maintain linkages with energy-oriented organizations, both state controlled and privately owned.

### *Mineral Policy (2010)*

The Mineral Policy was introduced in 2010 and is intended to provide adequate indications to the investment community (both national and foreign) of a competitive mineral regime in Liberia that is informed by international trends, adheres to international norms, is grounded in local conditions, and is accountable to national common interests.

### *Mining Act (2014, Draft)*

The application for the grant of a mineral mining license must be accompanied by an ESIA for the proposed project. In addition, the introductory section of the draft Mining Act states that companies' feasibility studies should "Comply with National Standards and Regulations of the Liberia, The Equator Principles, World Bank Guidelines and the IFC Performance Standards." This extends the reach of domestic legislation to include provisions relating to biodiversity offsets, as required by the IFC Performance Standards on Social and Environmental Sustainability.

Section 6 of the draft Mining Act (2014) deals with the reconciliation of competing land uses, and states that the "Minister must engage in consultation with other relevant Ministers and Government agencies to design and implement an integrated system of land use planning to evaluate competing land use options to address and resolve existing conflicting land uses involving mining operations and mining titles and potential future conflicting land uses."

The draft Mining Act (2014) enables the minister to give the holder of a Mineral Exploration License a notice "requesting the surrender of all or a specified part of the mineral title area, to enable the land to be used for a purpose beneficial to Liberia as prescribed by regulation" (section 140). Mineral titles can be cancelled for a range of reasons, including "failure to adopt good working practices" or because the holder "no longer has the financial or technical resources to carry out the mining management plan."

Section 144 (Protected Areas) states that certain areas, such as a sacred ground or wildlife sanctuary, may be protected from mining. The section dealing with environmental protection (163) states that "In deciding whether or not to grant a mineral title, the Minister must take into account the need to conserve the natural resources in or on land over which the mineral title is sought, or in or on neighboring land."

## Which Institutions Should Be Involved in Support of a Biodiversity Offset Scheme?

As the sole agency with responsibility for managing the forest resources of Liberia, and given its mandate for establishing and maintaining a protected areas network, the key institution that would need to be involved in the creation of an offset scheme in Liberia is the FDA. However, the EPA would almost certainly have a role in oversight of the scheme. In addition, the Lands Department of the MLME would likely have a role in demarcating and mapping any future offset areas that form part of the protected areas network. More substantively, the MLME should also play a role in determining mining footprints and potentially in extending the reach of the geographic information system for allocating concessions to support the scheme.

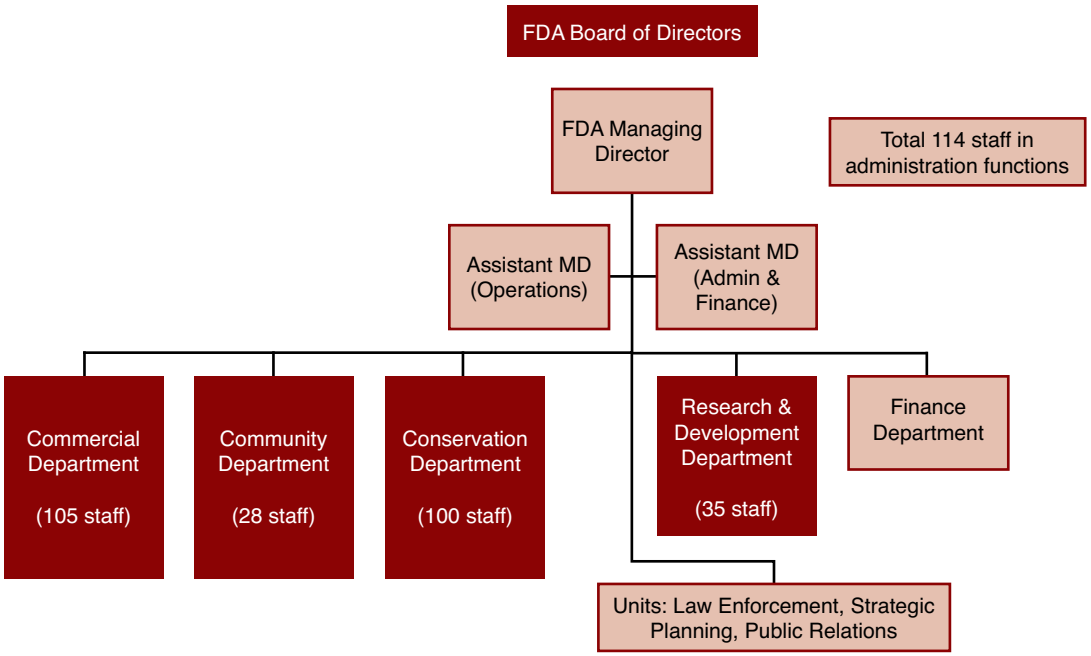
Liberia is still rebuilding after years of civil conflict that came to an end in 2003. Despite the presence of many dedicated and professional staff, in general, the capacity of government agencies within Liberia is weak. However, the FDA and EPA are particularly constrained by the resources available to them, given that their respective mandates and supportive legal provisions require them to fulfill a broad range of activities across the entire country. Both agencies lack the necessary equipment and trained staff to carry out their roles effectively.

## Overview of Institutional Strengths and Weaknesses

An organization chart for the FDA is outlined in figure 5.1. An assessment of key governance issues relating to the implementation of REDD+[2] in Liberia (Forest Carbon Partnership Facility 2012) highlights a number of issues with the capacity of the FDA. In particular, the report underscores that "there is an urgent need to enhance the skills and capacity of personnel (in FDA in particular) to deliver on the ground and close the 'governance gap' in implementation" (Forest Carbon Partnership Facility 2012, 4). The same report highlights that although the concept of the 3 Cs had been useful, progress on each "C" had been unequal, with significant focus on commercial forestry but less progress on community or conservation forestry.

The report also expressed concern that the 3 Cs are operating in parallel, but not being integrated in the management of the sector. For example, the land areas deemed suitable for each "C" were set out in the National Forest Management Strategy of 2007 (described above), but are difficult to interpret because large areas of land were identified as suitable for "mixed use" without a clear indication of how this would be effectively managed by the 3 Cs structuring of the FDA. The 2012 Forest Carbon Partnership Facility report also highlights the reality that a significant amount of land identified as "long-term multiple sustainable use" that included forest suitable for any or all of the 3 Cs has since been allocated as Forest Management Contracts. These contracts are allocated to logging operators to be managed as permanent forest cover, but do not clearly meet conservation principles and have limited involvement of communities.

**FIGURE 5.1** Organization of the Forestry Development Authority to Reflect the 3 Cs Approach in Liberia




*Source:* Carbon Partnership Facility 2012, 8 (adapted from the Forestry Development Authority organization chart of 2012).

Despite the almost equal numbers of staff allocated to commercial and conservation activities, the emphasis in the FDA appears to be primarily focused on the commercial aspect, although, given the findings from the Land Commission (see Chapter 3, The Implications of Land Tenure for Establishing Protected Areas) and concern over what happened with Private Use Permits and CFMAs (see "Forestry Development Authority and Related Legislation and Policy" earlier in this chapter), there may now be greater emphasis on Community Forestry and more benefit sharing. The alleged exploitation of both Private Use Permits and CFMAs by commercial interests serves to fuel concerns that the FDA has a potential conflict of interest in forest protection, given its role in facilitating commercial forestry and revenue generation from forest resources. It is therefore particularly important that the EPA, which does not have a role in encouraging revenue generation from the sector, be involved in overseeing sustainable forest management.

## Process for Creating New Protected Areas

Protected areas in Liberia are an integral part of the country's legislation, conservation policy, and implementation strategy. Liberia ratified the United Nations Convention on Biological Diversity treaty in 2000, and the 2004 National Biodiversity Strategy and Action Plan[3] pledges 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 commitment to set aside 30 percent under some form of protection was again stipulated in the National Forestry Reform Law (2006).

The protected areas network outlined in table 2.2 and figure 2.5 includes the two categories of current and proposed protected areas. The current protected areas refer to the three areas that have been officially afforded protection (Sapo National Park, East Nimba Nature Reserve, and Lake Piso Multiple Use Reserve).

The steps required to establish a protected area are as follows (World Bank personal communication 2014):

A. Legal establishment (gazettement)
    1. Identification of the proposed site by the FDA.
    2. Reconnaissance mission to the identified site.
    3. Hold introductory consultation meeting with the affected community (state the purpose).
    4. Issue public notice for 90-day opportunity for public comments.
    5. Conduct biophysical and socioeconomic surveys to gather information on the identified site including
        - Assessment of wildlife, national cultural, and other resources of the site.
        - Assessment of the existing state of human disturbances and resource utilization of the site.
    6. Conduct consultative workshop for all stakeholders at all levels (community, regional, and national), presenting information about the area and the stakeholders' input into the establishment process.

7. Compile results of surveys, scientific research, and other relevant data and information to include
    - Proposed description of the area.
    - Assessment of wildlife, national cultural, and other resources of the site or forest.
    - Assessment of the existing state of human disturbances and resource utilization.
    - Summary report of any consultation with government ministries, agencies, and persons and local communities of the area.
    - Other environmental impact data for the area.
8. Prepare proposal for presidential and legislative enactment or approval.
9. The president, upon approval of proposal, submits it to the national legislature.
10. The legislature enacts legislation, establishing the respective protected area for the president for printing into handbill (gazettement completed).

B. On-the-ground consolidation

11. Provide core staff to support the protected area.
12. Physically demarcate the boundary between the protected area and surrounding lands within one year of the establishment of the protected area; this is the responsibility of the FDA.
13. Produce and implement a Management Plan, which shall be reviewed every five years.

One challenge presented by the Land Rights Policy (see chapter 3) in its current draft is that it is unclear how this process would apply, or need to be adapted to, Customary Protected Areas.

## Legal Basis for Establishing Conservation Trust Funds

Chapter 6 (the section titled "Operational and Management Considerations for a National Offset Scheme") considers the potential of using a conservation trust fund (CTF) to finance an offset scheme for Liberia. This section considers whether the legal framework and policy environment in Liberia individually and collectively support the establishment and sound management of a CTF in Liberia. A fuller discussion of the potential establishment of a CTF in Liberia, with reference to other CTFs established elsewhere in Africa, is included in appendix 3.

Liberian law recognizes trust as a contractual relationship enforceable when validly established. The country also has a dedicated statute on the creation and management of private foundations. A chapter in the tax code of Liberia is dedicated to the taxation of trust and offers clear and predictable rules on taxation of trust income. No Liberian law or policy precludes the government or any of its agencies from establishing or contributing to a trust fund. The government also has a noticeably strong public policy for biodiversity

conservation generally; the creation, protection, and monitoring of protected areas; the effective involvement and participation of communities and civil society generally in forest management and conservation; and the building of public-private partnerships for conservation in Liberia.

Although Liberia, like many common law jurisdictions (countries whose laws are based on English or American laws), has no specific statute on trusts, the legal concept of "trust" is well established under Liberian laws. The nature of a trust and how it is created to become enforceable is therefore determined in Liberia by reference to the common law. A trust may be created by any contractual instrument and by whoever is capable of making or entering into an enforceable contract. A trust under Liberian law is a legal relationship whereby an asset or resource is given or set aside by one or more persons to a custodian who holds and manages it for the benefit of another person (or persons) generally referred to as the beneficiary or beneficiaries.

A CTF may be established by one or more extractive companies, one or more agencies of the government of Liberia, or by a combination of extractive companies and agencies of the government. A trust may be a private trust (created for the benefit of a certain designated individual or individuals, or class of persons) or it may be a public trust (created for the benefit of the public at large). A public trust is generally considered a charitable trust because it is for the benefit of the entire public as opposed to private interests. Because any CTF dedicated to funding the protection of protected areas would clearly be for public benefit, it would qualify as a charitable trust. Any charitable CTF would generally be tax exempt under Liberian law, under section (9) of the Consolidated Tax Code of Liberia.

Although Liberia has no specific trust statute, the country is one of a few common law jurisdictions with a dedicated statute on foundations. A foundation is substantially similar to, but slightly different from, a trust. The two are similar in that in either case the donor irrevocably transfers ownership of the endowment asset or fund for use or application toward the indicated purpose of the trust or foundation. They are different by the method of creation and also by the fact that whereas title to a trust property is vested in the trustee, the same is not true of the founder or manager of a foundation. The private foundations statute is called An Act to Further Amend the Associations Law as Amended, Title 5 of the Liberian Code of Laws Revised, by Adding Thereto a New Part VI, chapter 60, Providing for the Establishment of Private Foundations. It contains detailed provisions on the registration, purpose, management, and audit of foundations.

With appropriate drafting, a CTF may be established in Liberia under the private foundations statute or by way of the usual deed of trust executed by the original donor(s). The statute further provides that a private foundation may, but need not be, charitable. It also prescribes the modes of establishment of private foundations, and the mandatory optional provisions of a memorandum of endowment. The statute further requires the initial assets of a foundation to be not less than US$10,000.00. Many trusts and foundations exist in Liberia, such as the Joseph Jenkins Robert Educational Trust Fund. This trust was created more than a century ago by the first president of Liberia for the purpose of promoting education, and it still exists today. Its trustee is the Methodist Church of Liberia, and the beneficiaries are the children of Liberia.

In summary, there is no provision or interpretation of Liberian law that hinders or could hinder the establishment of a CTF. In fact, the laws of Liberia on trust, contract, and taxation provide a clear and predictable framework for the establishment of a CTF or any other trust (see appendix 3 for further details).

## Summary of Findings and Way Forward

There is no specific mention of offsets in any Liberian legislation, but clauses relating to the IFC Performance Standards are already being integrated into Mineral Development Agreements (MDAs), which could provide a legally enforceable anchor for mining companies to implement offsets.

A range of legal provisions in the National Forestry Reform Law (2006) and the Community Rights Law with Respect to Forested Lands (2009) relate to and help to underscore the conservation of biodiversity. These provisions will be further strengthened by enactment of the draft National Wildlife Law (2014). However, allegations of misuse of provisions relating to Private Use Permits and CFMAs have undermined the sense that the conservation mandate of the FDA is afforded weight equal to its commercial mandate.

As the sole agency with responsibility for managing the forest resources of Liberia, the key institution that would need to be involved in the creation of an offset scheme in Liberia is the FDA. However, the EPA would almost certainly have a role in oversight of an offset approach. In addition, the Lands Department of the MLME would likely have a role in demarcating and mapping any future offset areas that form part of the protected areas network.

The implications arising from these findings for a constructive way forward are as follows:

- ***Need for honest reflection on the question of political will:*** Given the past history of the establishment of a protected areas network in Liberia, the issue of political will is an important consideration that will require a level of introspection and honesty on the part of various line ministries and agencies.

- ***No specific mention of offsets but MDAs and the draft Mining Act (2014) require compliance with the IFC Performance Standards:*** Although the current laws do not specifically address offsets, the draft Mining Law (2014) and the current MDAs do make reference to compliance with IFC Performance Standards, which effectively means that developers would need to comply with Performance Standard 6 and implement offsets if projects affect natural or critical natural habitat. The FDA will also have an opportunity to further clarify requirements for offsets under the regulations it is to develop under the draft National Wildlife Law (2014) for activities, including mining, that are permitted and prohibited in the various protected areas designations.

- ***Address capacity constraints within the FDA and EPA:*** Numerous studies and reviews have highlighted the capacity constraints within the FDA, as well as the tension between different elements of the 3 Cs mandate. If an offset scheme is to be successfully implemented in Liberia, this issue needs to be addressed.

- *Specific capacity building around offsets:* Given that biodiversity offsets are a new construct in Liberia and the approach under development is also new, capacity development among the key line ministries, including the FDA, EPA, and to a lesser extent the MLME, will be required.

- *Possible need to update process for establishing protected areas:* The National Forestry Reform Law (2006) provides the framework for a PPA to become protected. However, if some of the PPAs are subject to community deeds and are not in fact public land, it is unclear whether the FDA can gazette them, and it is unclear whether existing legislation would cover a Customary Protected Areas designation. These uncertainties need to be clarified. The regulations governing activities permitted and prohibited in the various management categories of Protected Forest Areas, Conservation Areas, and Wildlife Management Areas, which are to be produced within one year of the draft National Wildlife Law (2014), provide an opportunity to clarify these uncertainties.

- *New legislation would be required if offsets were to be extended to other sectors:* MDAs and the draft Mining Act only cover the mining sector; a change in the Environment Protection and Management Law (2002) would be necessary to extend its coverage to other sectors.

- *The legal framework and policy environment support the establishment and sound management of a conservation trust in Liberia:* Liberian law recognizes trust as a contractual relationship enforceable when validly established; the law also has a dedicated statute on the creation and management of private foundations. There is a dedicated chapter of the tax code of Liberia on taxation of trust, providing clear and predictable rules on taxation and on determination and taxation of trust income. No Liberian law or policy precludes the government of Liberia or any of its agencies from establishing or contributing to a trust fund.

- *Need to further clarify the implications of the proposed Conservation and Wildlife Fund:* The commitment in the draft National Wildlife Law (2014) to establish a "Conservation and Wildlife Fund for the administration of protected areas, wildlife conservation and management activities, and enforcement of this Law" is consistent with the proposed model for future funding of an offsets scheme in Liberia (as discussed in "Costs and Long-Term Financing Arrangements for a Biodiversity Offset Scheme" in chapter 6). Given that details of how the fund would operate are yet to be developed, it is unclear whether the proposed Conservation and Wildlife Fund could serve as the vehicle for funding the scheme as part of a broader effort to expand the protected areas network. This concern needs to be clarified with the government of Liberia, as well as with potential providers of funding.

## Notes

1. Regulations to the Community Rights Law with Respect to Forest Lands, Chapter 2, Section 1, page 12, Forestry Development Authority, 2011.
2. REDD+ stands for countries' efforts to Reduce Emissions from Deforestation and forest Degradation, and foster conservation, sustainable management of forests, and enhancement of forest carbon stocks.

3. https://www.cbd.int/doc/world/lr/lr-nbsap-01-p1-en.pdf.

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# 6. Methodological Challenges of Implementing a National Biodiversity Offset Scheme

## Introduction

As noted in chapter 1 and at various points in preceding chapters, a number of challenges must be overcome to ensure the successful implementation of a national biodiversity offset scheme in Liberia. At the same time, successful implementation of project-specific offsets is also constrained by a number of factors, as highlighted in chapter 4, and a national biodiversity offset scheme offers the potential to overcome some of these constraints.

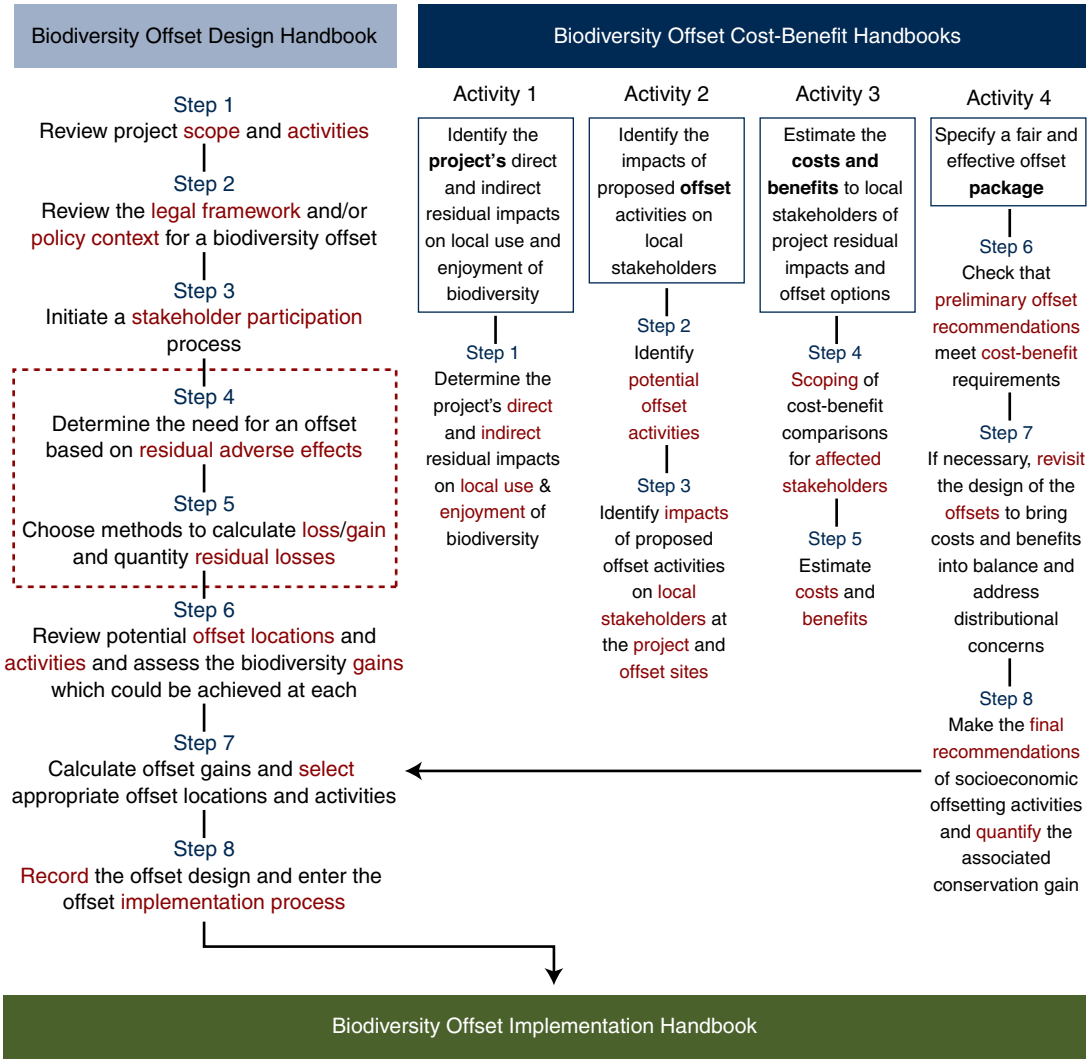
The Business and Biodiversity Offsets Programme (BBOP) has led the way in developing methodological approaches and supporting documentation for the design and implementation of project-specific offsets. The three key resource documents in this respect are the *Biodiversity Offset Design Handbook* (BBOP 2009b), the *Biodiversity Offset Cost-Benefit Handbook* (BBOP 2009a), and the *Biodiversity Offset Implementation Handbook* (BBOP 2012). The scope of and relationship between the three key resources are illustrated in figures 6.1 and 6.2.

The aspects of offset design that are most relevant to a national offsets scheme that are elaborated on further within this section are steps 4 and 5 in figure 6.1 (highlighted by a dotted red line) and for offset implementation, activities 2 and 3 in figure 6.2 (also highlighted by a dotted red line).

With regard to offset design, the most relevant steps that are explored further in this section are Step (4) Determine the need for (and appropriateness of) an offset, based on the nature and extent of residual impacts on biodiversity after the application of the mitigation hierarchy, and Step (5) Decide on methods and metrics to demonstrate that no net loss will be achieved through the biodiversity offset and to quantify the residual loss using these metrics. Step (2) Reviewing the legal framework and Step (3) Initiating stakeholder participation to ensure their effective involvement in offset design are not addressed because they are already integral to the process for establishing protected areas (see "Process for Creating New Protected Areas" in chapter 5). Similarly, Step (6) Identifying potential offset locations and Step (7) Calculating offset gains at appropriate offset locations will largely have been completed as part of the process of gazetting proposed protected areas (PPAs). The design elements that are given further consideration in this section comprise the *technical feasibility challenges* of implementing an offset scheme.

With respect to implementing offsets, the BBOP *Biodiversity Offsets Implementation Handbook* focuses on four main activities (figure 6.2). These are (1) What are the offsetting activities and where will they be carried out? (2) How will the offset operate and be managed? (3) How will the offset be financed over the long term (legal, institutional, and financial aspects)? (4) How will the offset be monitored? The first of these has already been addressed given that the focus is on PPAs. The fourth activity, although important, will form an integral part of any protected area management plan (see "Process for Creating New Protected Areas" in chapter 5) and is not considered further. This section focuses instead on the operational, management, and financial aspects, that is, the process and institutional challenges of implementing a biodiversity offset scheme in Liberia.

**FIGURE 6.1** Scope of Biodiversity Offset Design and Cost-Benefit Handbooks



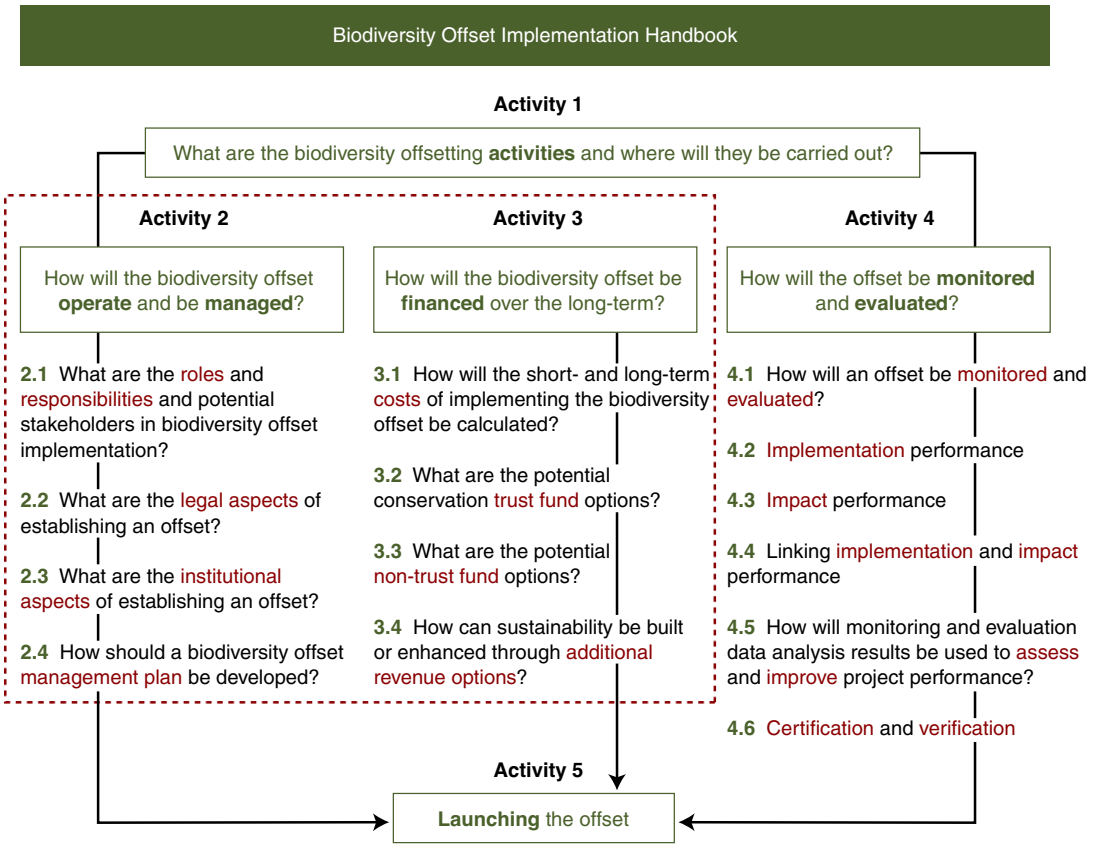

*Source:* BBOP 2012.

## Technical Feasibility Challenges

### Determining Need for an Offset Based on Residual Impacts

It is important that the Environmental and Social Impact Assessments (ESIAs) being prepared in Liberia include sufficient information on biodiversity to not only assess direct and indirect project-related impacts on biodiversity and ecosystem services, and identify any significant residual impacts, but also to determine the need for an offset. As part of the ESIA process, the draft Mining Act stipulates that project proponents should comply with the International Finance Corporation (IFC) Performance Standards.

**FIGURE 6.2** Scope of Biodiversity Offset Implementation Handbook




*Source:* BBOP 2012.

IFC Performance Standard 6 (Biodiversity Conservation and Sustainable Management of Living Natural Resources) states that to ensure the "protection and conservation of biodiversity, the mitigation hierarchy includes biodiversity offsets, which may be considered only after appropriate avoidance, minimization, and restoration measures have been applied" (IFC 2012, 42). "In areas of natural habitat, mitigation measures will be designed to achieve no net loss of biodiversity where feasible" (IFC 2012, 43). In areas of critical habitat, the project's mitigation strategy will be designed to achieve net gains of those biodiversity values for which the critical habitat was designated (IFC 2012). Critical habitats are areas with high biodiversity value, including (1) habitat of significant importance to critically endangered or endangered species, (2) habitat of significant importance to endemic or restricted-range species, (3) habitat supporting globally significant concentrations of migratory species or congregatory species, (4) highly threatened or unique ecosystems, and (5) areas associated with key evolutionary processes. The majority of potential mining sites in Liberia will affect natural habitats and some are likely to affect critical habitats.

### *The Likelihood of an Offset Being Required*

The likelihood of an offset being required will depend on a number of factors, including the conservation significance of the habitat (and associated species) affected and effectiveness of the mitigation strategies. With respect to criteria (1)–(3) outlined above, Liberia harbors a large number of threatened and endemic species. Many mining projects in remote locations in Liberia are highly likely to have impacts on species of conservation concern and ecosystem services. Much of the unmodified habitat in Liberia could be considered critical habitat under the highly threatened or unique ecosystems criterion. The International Union for Conservation of Nature's (IUCN's) Red List Criteria for Threatened Ecosystems (Rodríguez et al. 2011) provides some criteria for defining threat levels for habitats, including recent declines in distribution and historical total loss in distribution of habitat. The Upper Guinean Forests (hyper wet, wet, and moist evergreen forests, and moist semi-deciduous) have drastically declined from an estimated 1,265,000 square kilometers to approximately 141,000 square kilometers, a reduction of approximately 85 percent of the original vegetation. This means the Upper Guinean Forests could be considered "endangered" or even "critically endangered."

Special attention should also be given to montane habitats, which are very rare and difficult to offset in Liberia. Recent research shows that Liberia supports a diverse range of butterflies, with more than 850 species, many new to science. It is very likely that some of these species are associated with upland or submontane habitats where the microhabitats are significantly more diverse for butterflies. Because many iron ore deposits are found in mountainous areas, it is important to consider that potential offsets should include other upland areas if possible (Szabolcs Sáfián, personal communication, 2014). Some rivers also support highly endemic freshwater fish and crab fauna (Hugueny and Lévêque 1994).

With respect to the fifth criterion (areas associated with key evolutionary processes), again parts of Liberia, particularly just inland from the coast in southeast Liberia and some riverine habitats, could be considered critical habitat. It is thought that some areas may have played an important role during past climate changes, for example, during the Pleistocene ice ages. The presence of evolutionarily important forest refuges has been hypothesized, primarily in humid mountainous zones (Mount Nimba), but also along some large riparian areas (for example, the Congo Basin) and in littoral areas. These refuge areas are generally characterized by a comparatively large number of locally endemic species. Studies in West Africa (Poorter et al. 2004) have shown the presence of a belt of high rare and endemic species richness that is found about 50–100 kilometers inland, starting in Sierra Leone and running through Liberia to southwest Côte d'Ivoire.

In addition, wet conditions have existed almost permanently over evolutionary time in the Upper Guinea ecoregion, allowing species to survive here when dry conditions dominated other portions of West Africa. Southern Upper Guinea (including Liberia) is part of the Upper Guinea aquatic bioregion, which is characterized by a distinct fish fauna that includes many endemics (species and subspecies found nowhere else). This high endemism is likely the result of long-term geographic isolation and stable and wet climatic regimes. Rapids and waterfalls within individual basins have likely served as additional barriers (Lévêque 1997).

Other areas that may qualify as critical habitat include internationally and nationally recognized areas of high biodiversity value and include all protected areas in Liberia, the

PPAs, Key Biodiversity Areas, Ramsar Sites, Important Bird and Biodiversity Areas, Important Plant Areas, and Alliance for Zero Extinction Sites; these are shown in figures 2.1 and 2.2.

Therefore, because almost all mining projects in Liberia will affect natural or critical natural habitat, the issue is whether there are mitigation strategies to ensure "no net loss" where feasible in natural habitat or "net gain" in critical habitat. Where a project affects critical habitat, IFC Performance Standard 6 requires companies to demonstrate the following:

- There are no other viable alternatives within the region for development of the project on modified or natural habitats that are not critical.
- The project does not lead to measurable adverse impacts on those biodiversity values for which the critical habitat was designated, and on the ecological processes supporting those biodiversity values.
- The project does not lead to a net reduction in the global, national, or regional population of any critically endangered or endangered species over a reasonable period.

### *Other Considerations with Respect to ESIA and Offsets*

The effort involved in characterizing the biodiversity baseline conditions will vary depending on the nature and scale of the project. The application of the mitigation hierarchy is fundamental, and for those sectors, such as palm oil, that can avoid high-value sites, avoidance should be strongly emphasized. For mining projects, where the ore body is fixed in location, to minimize further direct habitat loss attention should be paid to the location of access roads, waste rock dumps, tailings dams, other mine infrastructure (including crushers, concentrators, conveyer belts, sewage treatment plant, offices, accommodations, waste disposal facilities, and so on), and resettlement sites. Alternative engineering and processing options should also be considered.

Attention should also be paid to induced (indirect) impacts, particularly the potential impacts from increased in-migration, such as increased access to forest areas, land conflict, and increased bushmeat hunting. The mining (or other) project's impact area—to be considered when calculating the appropriate offset area—includes the area to be affected by both the direct and indirect impacts. It is also important to understand that not everything can be offset. It may not be possible to offset the loss of critically endangered species, or significant losses of endangered species or endemic species, particularly those that are confined to habitats that are very rare in Liberia, such as montane habitats. In such circumstances, preventing irreversible biodiversity losses might require not proceeding with the project, or setting aside a portion of the concession area for permanent protection. A forthcoming World Bank publication on offsets suggests a number of red flags to help determine whether offsets could be high risk and difficult to offset. These include the following:

- Areas where endemic or restricted range species are present.
- Areas where highly threatened ecosystems, species, and their habitats are present.
- Areas that are legally protected or of international importance.

- Areas where communities are critically dependent on the natural resource base to maintain a traditional and cherished way of life.
- Areas subject to competing land use claims and complex land tenure arrangements.

However, ultimately decisions such as these that are of a strategic nature are for host governments to determine.

The following aspects should be covered by all ESIAs to provide sufficient information for application of the biodiversity offset scheme methodology:

- Preparation of a habitat map based on different vegetation types in the project area.
- Identification of species of conservation concern.
- Determination of whether the habitat is modified, natural, or critical habitat.
- Identification of key ecological dependencies for certain species that might be affected; for example, forest elephants require relatively large home ranges.

Impacts on ecosystem services should be addressed as part of the ESIA process. Ecosystem services cannot realistically be addressed within an offset scheme, particularly if the PPA is not easily accessible to communities whose access to ecosystem services has been adversely affected by projects. Instead, the issue of loss of ecosystem services must be assessed and mitigated or compensated for locally.

One drawback with the preparation of habitat maps on a project-by-project basis is the lack of comparability between ESIAs. Ideally, work would be undertaken in advance to identify a national vegetation classification system for Liberia. This classification scheme could also be combined with some form of "quality criteria" to signal the extent to which such vegetation types are either pristine or modified. Such work is beyond the scope of the current work on offsets, but of broader value to conservation and development in Liberia.

### Methods and Metrics to Determine No Net Loss

Ideally, the methodology would use a transparent and science-based approach to measure no net loss and net gain. However, there is no single best way to measure losses and gains, and it is very hard to measure ecosystems with a high degree of meaningful accuracy: some would argue that the use of quantitative metrics provides a false sense of accuracy. Unlike carbon offsets, where metrics are relatively easily comparable and exchangeable (measured in tons of carbon dioxide equivalent), biodiversity metrics are much more complex, particularly in highly biodiverse regions that are poorly surveyed.

The use of single metrics such as area of habitat to represent biodiversity losses and gains is not recommended because of the complexity of ecosystems. Compound metrics, for example, those used in offset schemes in Victoria, Australia (Department of Environment and Primary Industries 2013), are considered more scientifically valid. In those cases, the basic currency is a composite metric—habitat hectares—which is a metric that combines

the condition and extent of native vegetation. The habitat hectare approach is considered practical and cost-effective for Liberia and requires relatively simple site measurements. For example, 100 hectares of forest in pristine condition would count as 100 quality hectares (100 hectares × 100 percent quality = 100 quality hectares), whereas 100 hectares of a slightly degraded forest at 75 percent of "optimum quality" would be expressed as 75 quality hectares (100 hectares × 75 percent quality = 70 quality hectares). This methodology was expanded in 2013 to include landscape-scale information. For example, some sites are better connected to other areas of native vegetation in the landscape, or provide more important habitat for rare or threatened species than other sites. This landscape value of a site is captured in two scores. The first is the strategic biodiversity score, which quantifies the site's importance for Victoria's biodiversity relative to other locations across the landscape. The second is a habitat's importance score, which is a measure of the importance of a location in the landscape for the persistence of a particular rare or threatened species.

A modified version of habitat hectares has been used by other mining companies, such as Rio Tinto. Although it is increasingly expected that multiple metrics should be used, some schemes simply use multipliers in the face of uncertainty with respect to outcomes. The largest obligatory multipliers come under South Africa's Western Cape offset policy, and can require up to 30 hectares of land to be offset for every single hectare cleared in critically endangered habitats (DEADP 2007). Although they are simple, multipliers have been based on quite complex assessments.

The methodology proposed here tries to balance conservation imperatives and pragmatism, with a reluctance to create a one-dimensional metric that might not be supported by stakeholders. It should be noted that this methodology will be refined in conjunction with stakeholders. Table 6.1 shows how this methodology compares with some features of existing methodologies. Some aspects are similar, such as identifying priority biodiversity features and choosing appropriate metrics, but other areas have been streamlined. In particular, the methodology does not try to quantify precisely the area of habitat hectares to be lost due to induced impacts. For example, it is difficult to predict the exact scale of project-induced in-migration. Accordingly, the methodology proposes that a standard additional buffer area should be applied to all projects; the size of this buffer would be determined through consultation.

If abundance data are available for species (particularly large mammal data), this methodology could be extended to incorporate that data. For example, it is possible to multiply the area of the impact by the density of the species in the impacted area. This calculation would enable the relationship between species density, as well as area affected, to be factored into the approach. However, caution should be used in the interpretation and application of abundance data. Surveys in Sapo National Park estimated 0.20 forest elephants per square kilometer and from that calculated 124 elephants in the whole park, the range being from 44 to 242. As can be seen, the coefficient of variation can be high (Boafo and Massalatchi 2009). This is an indicative example, rather than an explicit suggestion that adverse impacts on elephants ought to be amenable to offsetting.

The proposed methodology does not use counterfactual scenarios, that is, it does not apply a discount rate to the area to be offset based on the anticipated annual rate of

**TABLE 6.1** Key Approaches for Project-Specific Offsets and Suggested Approaches for a Biodiversity Offset Scheme in Liberia

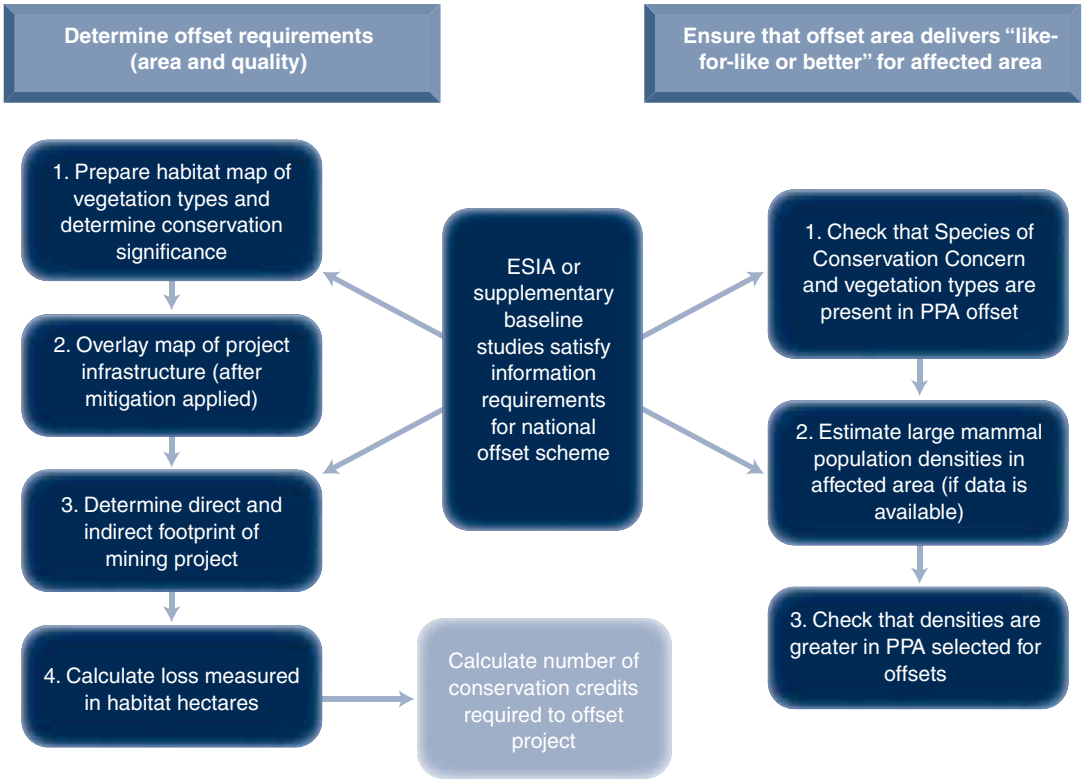
| Project-specific methodological approaches | Proposed methodology for national biodiversity offset scheme in Liberia |
|---|---|
| Identify priority biodiversity features affected by the project | Identify priority biodiversity features affected by the project |
| Identify metrics to use in quantifying impacts | Identify metrics to use in quantifying impacts |
| Select the counterfactual scenario against which to measure losses and gains | Not applied |
| Quantify gross, premitigation losses from the project | Done as part of the ESIA |
| Identify mitigation actions to reduce residual impact | Done as part of the ESIA |
| Quantify the estimated reduction in losses from mitigation | Not applied |
| Determine the residual impact (which needs to be offset) | Determine the residual impact (which needs to be offset) |
| Identify candidate offset sites | Review official PPA list for offset sites |
| Quantify offset gains | Undertake qualitative assessment of offset gains |
| Determine technical feasibility of offsets | Already completed (for existing PPAs) |
| Summarize costs, sociopolitical constraints, and uncertainties of offset implementation | Summarize costs (other aspects already completed) |

*Source:* Author.

*Note:* ESIA = Environmental and Social Impact Assessment; PPA = proposed protected area.

degradation at the project site for the duration of the project if the project were not to go ahead. Although the approximate annual rate of deforestation is known in Liberia, the rate of deforestation cannot be guaranteed to be zero at the offset site, which the use of counterfactuals implicitly assumes. Finally, the methodology does not try to quantify gains at the PPA. The main objective of the offset scheme is to directly improve the security of priority habitats against future land use change or incompatible land uses, and yield measurable outcomes on the ground through improved management of those areas, such that gains will be inevitable. PPAs are considerably larger than most project-specific offsets could realistically be. In addition, species-specific monitoring would be undertaken as part of the protected area management plan. However, it is very important to stress that this pragmatism depends on robust biodiversity assessments being undertaken as part of project ESIAs. Figure 6.3 outlines the proposed methodology.

**FIGURE 6.3** Possible Process for Determining Biodiversity/Conservation Credits




*Source:* Author.

*Note:* ESIA = Environmental and Social Impact Assessment; PPA = Proposed Protected Areas.

The methodological steps may be summarized as follows:

### *Determine Offset Requirements (area and conservation significance)*

The following methodology is proposed and will be developed further with stakeholders in a workshop planned for 2015 in Liberia.

1. Prepare a habitat map of the project area identifying different vegetation types.

2. Determine the conservation significance of the site using the number of species of concern and conservation status of the ecosystem. This information could include those species that are threatened (endangered and critically endangered and possibly vulnerable) and locally (and regionally) endemic. The conservation status of the ecosystem or habitat could also be included. For example, much of the unmodified habitat in Liberia could be considered critical habitat under the fourth IFC Performance Standard 6 criterion (highly threatened or unique ecosystems).

3. Overlay a project infrastructure map to indicate the areas lost from direct impacts related to the mine footprint. The direct footprint represents the residual impact after incorporation of mitigation measures that influence direct impacts.

4. Determine the induced or indirect footprint of the project. A pragmatic approach would be to adopt a standard distance. This distance could be based on estimated "avoidance distances" for species of conservation concern, although the effects of infrastructure on bird populations can extend up to 1 kilometer and for mammal populations up to 5 kilometers (Benitez-Lopez, Alkemade, and Verweij 2010). The determination of this distance should be based on scientific methods, taking into account stakeholder input.

5. Calculate loss as measured by habitat hectares based on the direct and induced footprint and conservation significance of the habitat affected. The conservation significance could be a multiplier depending on the value of habitat. These habitat hectares, or multiplier hectares, determine the number of conservation credits that a project developer must offset.

The cost of conservation credits should be established at an upcoming stakeholder workshop, planned for 2015. In general, the cost would be based upon the investment and recurrent costs of properly protecting and managing a habitat hectare within the offset protected area.

In addition, the acceptability of multipliers to stakeholders depends on a high level of transparency in their development and application. This issue would also benefit from further engagement and discussion at the planned workshop in 2015.

### *Ensure That Offset Delivers Like-for-Like or Better*

This element is qualitative and is designed to ensure that the types of habitats or species affected will also be represented at the offset sites. A register of potential offset sites (see example in table 6.2) within the expanded protected areas network would be developed; it would describe all available information on the nature and extent of habitats and species represented. In addition to the list of species present, the register would also include population density estimates for charismatic species (if known). It will be important to ensure that the offset sites support the same types of habitats and species as those being lost. If information is available on the population densities of some of the charismatic species, the population estimates at the offset sites should exceed those estimates within the area directly or indirectly affected by the project. For example, population estimates and confidence limits for chimps for Sapo National Park and Grebo and Gola National Forests were 1,517 (95 percent confidence interval: 1,033–2,228), 352 (95 percent confidence interval: 214–578) and 94 (95 percent confidence interval: 39–225) individuals, respectively (Tweh et al. 2014).

In general, ensuring permanency of an offset beyond the life of a mining project can be very difficult, although for a national offset scheme in Liberia, the offset areas (as part of the protected areas network) would be enshrined in law. With effective financial planning and continued stakeholder support, conservation of the protected areas network should continue in perpetuity.

**TABLE 6.2** Examples of Biodiversity Attributes to Consider to Ensure Like-for-Like or Better

| Biodiversity attributes | Possible offset site (Gola National Forest/PPA) |
|---|---|
| Vegetation type | Moist evergreen forest, semi-deciduous forest, some swamp, riverine habitats, portions of the Mano and Morro River watersheds |
| Quality | Mainly pristine but some areas heavily affected by mining, logging, and farming |
| Plant endemism ratio (if available) | 27 percent of plants in the sample endemic to Upper Guinean Forests (based on relatively small samples) |
| Species of concern | 44, including chimpanzee, pygmy hippo, Jentink's duiker, and western red colobus (Endangered); forest elephant, zebra duiker, Diana monkey, western pied colobus, sooty mangabey, white-breasted guineafowl, and white-necked picathartes (Vulnerable). (Some of these are restricted to the Sierra Leone side) |
| Estimated number of chimpanzees | 94, (95%) estimate based on national chimp survey (Tweh et al. 2014) |
| Pygmy hippopotamus | Distribution maps available (Hillers and Muana 2010, 2011) |
| Forest elephant | Distribution maps available (Hillers et al. 2013) |
| Tourism potential | Yes: Vanjeima Waterfalls and the Elephant Falls on the Mano River in Liberia |
| Threats and issues | Two diamond exploration licenses, patches of artisanal mining, farming, possible opposition from local people whose livelihoods might be affected by the establishment of the protected area. Security issues due to presence of ex- combatants. There are also nationwide data on hunting pressure (snares and cartridges), which would enable intensity of this threat to be assigned to each PPA including Gola (Tweh et al. 2014).<br>To address these threats, the Management Plans would propose a series of priority actions supporting increased on-the-ground protection and management, along with alternative livelihoods assistance to local communities. The offset credits would finance a defined portion of these priority actions. |

*Source:* Author.

## Operational and Management Considerations for a National Offset Scheme

This section considers the institutional roles and responsibilities for establishing a biodiversity offset scheme in Liberia that is linked to the expansion of the protected areas network. It also considers the legal aspects of establishing an offset scheme and governance issues. Although these aspects are relatively straightforward given the explicit and legally prescribed mandate of the FDA for the protected areas network, a number of related issues and challenges are highlighted.

## Institutional Roles and Responsibilities for Implementation of a Biodiversity Offset Scheme

### *Central Role for the FDA and Roles for Other Organizations*

As outlined in chapters 4 and 5, the proposed approach for an offset scheme in Liberia is inextricably tied to the expansion of the protected areas network. Given the central role that the FDA plays in the establishment and ongoing management of newly protected areas (see "Which Institutions Should Be Involved in Support of a Biodiversity Offset Scheme?" and "Process for Creating New Protected Areas" in chapter 5), its mandate is to play a central role in the creation, day-to-day management, and oversight of an offset scheme in Liberia. Clearly, the process of expanding the protected areas network will require in-depth engagement with a wide range of interested stakeholders, including local communities. However, determining and agreeing on how the offset will work in practice and how mining companies (or potentially other developers) can establish their offset requirements—the area and type of habitat to be protected and species of concern—will also require a consultative process to be undertaken, involving resource developers and conservation interests.

The process of establishing a robust information base on the baseline biodiversity within PPAs that would support biodiversity offsets is well underway as a result of work related to the Expansion of Protected Areas Network (EXPAN) Project of the World Bank and other survey work. However, it is by no means complete. Information gaps remain on the status of biodiversity within PPAs that would enable fully informed choices to be made for preferred offset locations, to ensure that the principle of like-for-like or better is respected. Filling these information gaps is an area in which nongovernmental organizations (NGOs) such as the Society for Nature Conservation in Liberia, the Save My Future Foundation, Conservation International, Fauna and Flora International, the Wild Chimpanzee Foundation, and work undertaken by the Max Planck Institute have a potentially important role to play. In addition, further resources made available for a follow-up project to EXPAN, if forthcoming, could provide another source of support to completing the information base on biodiversity in PPAs. It is important that people who conduct biological surveys in Liberia share their data with the FDA, which would then input it into a database.

From an operational perspective, the FDA also has the responsibility to prepare and implement the management plan for each protected area, and to undertake related activities such as demarcating and patrolling the protected area boundaries, removing alien invasive species, and instituting management measures to restore partially degraded areas of habitat in support of species of conservation concern. Although various funding sources could be applied to these activities (including funds provided through an offset scheme), these basic responsibilities currently reside with the FDA. However, the draft National Wildlife Conservation and Protected Areas Management Law 2014 makes provisions for not-for-profit or private organizations to become involved in protected areas management. In addition, there may be scope to involve local communities in aspects of PPA management, in exchange for allowing the controlled harvesting of resources in the park.

The FDA is also responsible for monitoring within protected areas. However, given the proposed role that newly established protected areas would have in providing offset opportunities for mining projects, some enhanced form of monitoring will likely be

required. A range of not-for-profit, conservation-focused organizations (international and domestic) currently active in Liberia have a potentially powerful role to play in developing indicators and collecting and analyzing the data necessary to determine whether the offset is achieving its stated objectives. The FDA and NGOs should create opportunities to ensure the active participation of local communities in monitoring efforts.

As suggested in "Potential for Offsets and Other Forms of Compensatory Mitigation to Address Conservation Challenges" in chapter 4 and elaborated earlier in this chapter, the proposed approach in Liberia relies on establishing biodiversity or conservation credits in advance of project-related impacts taking place. A biodiversity credit is a unit of gain in biodiversity. In existing biodiversity-credit-trading schemes, government typically defines a number of credit types, which may be described as habitat types or in metrics related to particular species (for example, area of land that supports a breeding pair of a species). For the offset scheme, the impacts of mining projects would be expressed as a requirement for a certain number of different credit types on the basis of like-for-like or better. In the context of Liberia, the basis for establishing credits might best be determined through a multistakeholder workshop, which may also consider the question of the price that ought to be applied to credits. In practice, the credit price should reflect the cost of protecting or managing an area that is like-for-like or better.

#### *Dealing with the Challenge of Capacity Constraints*

The challenges relating to capacity constraints at the FDA and the inherent tension between the agency's twin roles of conservation and commercial exploitation of forests are discussed in "Overview of Institutional Strengths and Weaknesses" in chapter 5. To overcome this tension, a project implementation unit could be established in the FDA with a mandate to work solely on establishing an offsets scheme and related activities or the scheme could be included within the REDD implementation unit. This approach would help to address current capacity constraints and ensure that adequate attention is paid to successfully establishing the scheme.

### Legal and Governance Aspects of Establishing an Offset Scheme

The *Biodiversity Offset Implementation Handbook* indicates that it may be an attractive option for the offset activities to take place "within a protected area or form part of the broader protected area system, since the framework of national protected status may help guarantee long term management—especially in the case where funding is assured" (BBOP 2009b, 50). However, it also includes the caveat that such an offset must be able to demonstrate that it will bring about additional conservation outcomes. The question of additionality in Liberia is addressed in "Summary of Findings and Way Forward" in chapter 4. It notes that given the slow rate of progress toward establishing protected areas in Liberia, using a national offset scheme to help strengthen the protected areas network offers the potential for true additionality.

Because the proposed approach to a biodiversity offsets scheme is linked to Liberia's protected areas system, the National Forestry Reform Law (2006), which deals with the establishment and management of protected areas, will provide the legal basis for establishing offset areas (see "Do Legal or Policy Anchors Currently Exist?" in chapter 5).

The challenges and complexities that often arise in establishing offsets due to issues relating to land tenure or usufruct rights are simplified by linking into the protected areas network. In principle, protected areas are public lands that have been designated for nature conservation; therefore, issues relating to land tenure ought not to arise. Any usufruct rights that local communities enjoy would have to be identified and addressed during the gazetting and establishment of management plans as part of the process of granting user and management rights to communities under section 10 of the National Forestry Reform Law of 2006.

However, one area of uncertainty arises if some PPAs are not public lands and are subject to community deeds. The draft Land Rights Policy (2013) provides for the establishment of Customary Protected Areas upon request of the community or on initiative of the government in collaboration with the community. Such areas "may include, but are not limited to: wetlands, major water sources, forest set aside by a community for eco-tourism, areas used by secret societies, and land upon which is located a sacred plant, tree, or other object with special ancestral significance" (Land Commission 2013, 17–18.) As noted in "Summary of Findings and Way Forward" in chapter 5, it is unclear whether the current regulatory provisions in the National Forestry Reform Law of 2006 would cover the establishment of Customary Protected Areas. It is also unclear whether all of the activities that may form the basis for the designation of Customary Protected Areas are compatible with conservation.

With regard to the governance of an offset scheme in Liberia, the role of the FDA is central with oversight from the EPA. In addition, there is merit in establishing an advisory committee of parties that are currently actively involved in conservation activities in Liberia and related scientific research, other line ministries with responsibility for allocating concessions (for example, the Ministry of Lands, Mines and Energy or the Ministry of Agriculture) or with an interest in conservation (for instance, tourism), as well as a number of other individuals who are highly experienced in establishing biodiversity offsets. In addition, community members and resource developers should be represented. The advisory committee could provide scientific and technical advice to the FDA to ensure that the details of the scheme are technically and scientifically sound and are combined with the pragmatism required to ensure implementation proceeds. This approach would help ensure that arrangements for expanding and managing the protected areas network embody the principles of good governance for protected areas (Borrini-Feyerabend et al. 2013) and are responsive to these principles (table 6.3).

## Costs and Long-Term Financing Arrangements for a Biodiversity Offset Scheme

After determining the cost of implementing the offset, offset planners need to determine where the financial resources to meet these costs will come from and how they will be managed. Various means of securing long-term financing for a project-specific biodiversity offset can be pursued. One is to create a conservation trust fund (CTF) designed to provide consistent funding over a specific period to implement offset management activities. Another is to use project finance. The approach to a biodiversity offset scheme proposed for Liberia may either preclude or favor certain options.

**TABLE 6.3** Principles of Good Governance for Protected Areas

| Principles | Examples of considerations related to the principles |
|---|---|
| Legitimacy and voice | ◗ Establishing and maintaining governance institutions that enjoy broad acceptance and appreciation in society<br>◗ Ensuring all rights holders and stakeholders receive appropriate and sufficient information, can be represented, and can have a say in advising and making decisions<br>◗ Fostering the active engagement of social actors in support of protected areas, upholding diversity and gender equity<br>◗ Extending special support to vulnerable groups, women, and youth, and preventing discrimination<br>◗ Maintaining an active dialogue and seeking consensus on solutions that meet, at least in part, the concerns and interests of everyone<br>◗ Honoring agreed-on rules, which are respected because they are "owned" by the people and not only because of fear of repression and punishment |
| Direction | ◗ Developing and following a consistent strategic vision for the protected areas and their conservation objectives<br>◗ Ensuring that governance and management practices for protected areas are consistent with agreed-on values<br>◗ Providing clear policy directions for the main issues of concern (for example, conservation priorities, relationships with commercial interests and extractive industries) and ensuring these are consistent with budgetary allocations and management practices<br>◗ Evaluating and guiding progress on the basis of regular monitoring results and adaptive management approaches |
| Accountability | ◗ Ensuring transparency, with rights holders and stakeholders having timely access to information<br>◗ Ensuring a clear and appropriate sharing of roles for the protected areas, as well as lines of responsibility and reporting<br>◗ Ensuring that financial and human resources allocated to manage the protected areas are properly targeted according to stated objectives and plans<br>◗ Evaluating the performance of the protected area, its decision makers, and staff<br>◗ Encouraging performance feedback from civil society groups and the media<br>◗ Ensuring that one or more independent public institutions have the authority and capacity to oversee and question the actions of the protected areas governing bodies and staff |
| Fairness and rights | ◗ Striving toward an equitable sharing of the costs and benefits of establishing and managing protected areas and fairness in making all relevant decisions<br>◗ Making sure that the livelihoods of vulnerable people are not adversely affected by the protected areas and that compensation or other assistance is appropriate<br>◗ Respecting substantive rights (legal or customary, collective or individual) over land, water, and natural resources related to protected areas<br>◗ Respecting procedural rights on protected area issues, including appropriate information and consultation, fair conflict redress mechanisms, and so on<br>◗ Respecting human rights, including individual and collective rights, and particularly the rights of vulnerable ethnic minorities<br>◗ Engaging rights holders and stakeholders in establishing and governing protected areas |

*Sources:* Based on Borrini-Feyerabend et al. 2013.

## Determining the Costs of Implementing a Biodiversity Offset Scheme

Before determining the preferred funding mechanism, the magnitude of costs to establish the offset scheme must be determined. The establishment of biodiversity offsets results in a range of different costs for regulatory authorities, project developers, and local communities. These typically include the cost elements listed in table 6.4, which includes a description of the cost elements and provides some commentary on the situation in Liberia that has a bearing on either the scale of these costs or on the responsibility for meeting these costs.

The five major cost elements in expanding Liberia's protected areas network comprise the following:

1. *Capacity building:* Staff training.
2. *Establishment costs:* Costs of physical demarcation, protected area infrastructure, baseline biodiversity monitoring, compensation for communities, and so on.
3. *Management and equipment costs:* Ongoing costs of managing the offset area, patrolling, maintaining boundaries, and other activities.
4. *Monitoring costs:* Costs of monitoring the offset to ensure that conservation outcomes are achieved.
5. *Administrative costs:* The costs incurred by the authorities in administering and regulating the offsets scheme.

Because the expansion of the protected areas network was the exclusive responsibility of government, the first three of these cost elements would normally fall on the FDA and are likely to have been quantified under the World Bank's EXPAN project. However, the scheme envisages some form of contribution from resource developers in the form of biodiversity or conservation credits.

As noted in chapter 4, this would fall short of true market-based systems such as those in Australia or the United States where the value of the biodiversity or mitigation credits may vary depending on the quality of the habitat protected as well as the vagaries of supply and demand. However, implementation of such systems in Liberia is unrealistic.

Because of the practical constraints to ensuring the long-term sustainability of biodiversity or conservation credits outside PPAs, it is important that these credits be linked to existing PPAs. Given the rate of progress toward establishing protected areas in Liberia, using aggregated offsets in this manner provides the potential for true additionality. Conservation credits could be applied to the establishment and maintenance of PPAs, and to compensation for losses to communities arising from their establishment. Individual project-related contributions from companies would be tied to specific PPAs that best address the offset requirements for that project.

**TABLE 6.4** Costs Associated with Establishing and Maintaining Offsets

| Cost element | Description | Situation in Liberia |
|---|---|---|
| Land | Costs of acquiring land on which the offset activity is to take place, compensating for usufruct rights, or of entering into a management agreement to secure a change in land management. | Most of the land within the PPAs should be public land (recognizing that some may be community deeded). However, in establishing protected areas, usufruct rights of communities must be addressed. |
| Assessment costs for area affected | Costs of determining the nature and extent of residual biodiversity losses (either as part of the ESIA process or a stand-alone exercise). | This aspect should be wholly financed by the mining project developer. |
| Establishment costs at offset site | Costs of physical demarcation, protected area infrastructure, baseline biodiversity monitoring, compensation for communities, and so forth. | These costs would normally fall on the FDA and are likely to have been quantified under the World Bank's EXPAN project. In addition, the baseline information on biodiversity is largely complete for a number of PPAs (for example, the Wonegizi PPA). However, the offset scheme also envisages contributions from resource developers. |
| Management costs | Ongoing costs of managing the offset area, patrolling, maintaining boundaries, and so forth. | |
| Monitoring costs | Costs of monitoring the offset to ensure that conservation outcomes are achieved. | |
| Administrative costs | The costs incurred by the authorities in administering and regulating the offsets scheme (for example, receiving, assessing, and granting applications; advising on requirements; conducting site visits; issuing permits). | These costs should be borne by the FDA and EPA but should largely be recoverable from resource developers. |
| Financial costs | Costs of capital to finance the offset. | Will be incurred by FDA if not provided from government revenue or offset payments from mining or other firms. |

*Sources:* Adapted from ICF-GHK 2013; and BBOP 2009a.

*Note:* ESIA = Environmental and Social Impact Assessment; EXPAN = Expanded Protected Areas Network Project of the World Bank; FDA = Forestry Development Authority; PPA = proposed protected area.

The budget for the FDA conservation department in 2013 was US$592,320 and they found it difficult to manage the existing three protected areas (plus some activities in the Gola, Grebo, and Wonegizi PPAs), let alone consider an expanded protected network. FFI (2013) calculates that to support all 14 sites (including the three existing ones) would cost about $6.2 million under a baseline scenario rather than an "ideal" one with more resources. There is clearly a significant shortfall.

## Conservation Trust Funds as a Potential Means of Financing a Biodiversity Offset Scheme

During the past two decades, CTFs have been established in more than 50 developing countries and transition economies (TNC 2012). In most cases, CTFs are nongovernmental, legally independent grant-making institutions whose primary aim is to raise and invest funds, which enables them to grant financial resources for biodiversity conservation and related sustainable development purposes.

Although CTFs are typically independent of government, in many instances government officials sit on (and may chair) the governing boards of CTFs. Representatives of civil society and the private sector also serve on the governing boards and help shape the investment policies of CTFs. Although CTFs are usually not controlled by governments (nor are part of a government ministry or agency), they are often explicitly aimed at promoting and implementing national biodiversity conservation policies and strategies. In Latin America and the Caribbean, for example, 22 CTFs in 15 countries have helped supplement government funding for 660 protected areas, of which 455 are public protected areas, 150 are private, 45 correspond to traditional population areas, and 10 are of other classification (World Bank 2012).

The type of expenditure supported by CTFs has varied between and within countries and has included covering part of recurring operational costs and cost-sharing of the capital investments required to meet the objectives of individual protected areas or the protected areas network as a whole. These expenditures have included investments in equipment and infrastructure, training and community participation programs, and scientific research and biodiversity monitoring. Most CTFs have included fund management plan formulation and institutional strengthening activities for organizations responsible for the management of the protected areas network. The costs of demarcating boundaries, protection, and training of park guards are often covered by these funds.

Most CTFs in Africa (table 6.5) serve as grant-making institutions that provide financing for a broad range of conservation and sustainable development projects linked to ensuring the success of protected areas (or other focal areas of support). The governing boards determine funding priorities and grant allocations. Grants are allocated only to projects that contribute to satisfying the mission of the CTF. Some of the CTFs also provide loans and investment capital to support local businesses.

### *Sources and Management of CTF Funding*

CTFs can receive capital from multiple sources such as multilateral and bilateral donors, governments, foundations, NGOs, individuals, and from revenue-generating activities. Some CTFs have also benefited from the capital raised through debt-for-nature swaps,[1] wherein a creditor country "forgives" part of the public bilateral debt of a debtor nation in exchange for environmental commitments from that country.

The resources managed by CTFs are allocated through different types of financial mechanisms. Many CTFs begin by managing a single endowment or sinking fund to support a given protected area or a network of protected areas, but over time they may evolve into multifund entities that manage a combination of endowments, sinking funds, or revolving funds (Spergel and Mikitin 2013). Endowment funds are intended to preserve capital in perpetuity and only provide grants from the interest or returns earned. Sinking funds allow the front-end capital investment to be used over a long period. The entire principal and investment income is disbursed over a fairly long period (typically 10 to 20 years) until it is completely spent (and sinks to zero). Revolving funds are designed to recover the resources that have been allocated through repayment of grants on established terms (for example, interest rate and period of the loan). The 2012 Conservation Trust Fund Investment Survey (Mathias and Victurine 2013) indicated that the 36 CTFs surveyed managed a total of US$672 million in endowment and sinking funds, ranging from US$1.3 million to more than US$120 million in assets under management. Of the 36 CTFs, 11 were in Africa.

The norms and practices of nearly all CTFs existing as of 2013 have been compiled and published as Practice Standards for Conservation Trust Funds through an initiative of the Conservation Finance Alliance. The Conservation Finance Alliance is a global voluntary network of all CTFs, major donors to CTFs, and many other conservation organizations and experts aimed at addressing the challenge of sustainable financing for biodiversity conservation. The Practice Standards identify six key factors considered essential to designing, managing, and monitoring for CTFs.

- Adequate, documented governance structures and processes that ensure government's participation but not control of the CTF.
- Clearly defined scope of operations that covers grant making, strategic planning, and interactions between the government and other partners including companies, communities, and donors.
- Administration, covering delineation of roles and responsibilities, operational manuals, and financial management procedures including audit.
- Asset management, which encompasses investment strategies, fiduciary responsibilities, and relationships with various types of investment professionals.

- Monitoring and evaluation.
- Resource mobilization, which covers fundraising and managing payments for environmental services, compensation funds, offsets payments, and so on.

## Potential Applicability of Conservation Trust Funds in Liberia

There are several key advantages of establishing a Liberian CTF to support an offset scheme:

- Payments by mining companies to offset their impacts on biodiversity (in return for biodiversity credits) would go to an investment vehicle that is dedicated to the expansion and support of the protected areas network. This would ensure that fees paid by mining firms would not go toward unconsolidated government revenue, but instead would be earmarked for supporting biodiversity offset activities.
- Revenue created from biodiversity credits alone will almost certainly be insufficient to support the expansion and maintenance of the protected areas network; establishing a CTF would enable funding from other sources to be secured.
- Annual payments directly from the developer over the life of the project to support offsets could also be made directly to a CTF.
- CTFs can provide financing aimed at improving the lives of communities local to offsets or protected areas, especially those affected in some way by a protected area.
- A CTF can strengthen stakeholder participation, as well as improve coordination between donor programs and activities with national or regional conservation plans and strategies.

### *A Review of African CTFs*

Even though CTFs offer a number of potential advantages, they can also be administratively costly. Further work is needed to establish whether adequate resources could likely be secured to justify the costs of establishing and administering a CTF in Liberia. As a first step, an initial review of other CTFs in Africa has been undertaken (table 6.5). This review included a preliminary analysis of 12 CTFs established in Africa listed in the 2012 Conservation Trust Fund Investment Survey (Mathias and Victurine 2013), along with the BIOFUND in Mozambique, which is currently being established. On the basis of this initial review, it was evident that the principle of establishing a CTF in support of an expanded protected areas network has a number of precedents in Africa, which have attracted varying degrees of support. Further interviews with CTF personnel and further analysis of the African CTFs that have a significant focus on protected areas was also undertaken, to supplement the limited public disclosure by many of these CTFs. This analysis is summarized below and elaborated on in appendix 3.

**TABLE 6.5** Summary Details of Conservation Trust Funds Established in Other African Countries

| Country (year established), fund name, and focus | Primary sources of funding | Funding levels and allocation | Asset managers |
|---|---|---|---|
| **1. Africa (2006)**<br>African World Heritage Fund<br>http://www.awhf.net/<br>To support the effective conservation and protection of natural and cultural heritage of outstanding universal value in Africa | Members of African Union; governments of China, South Africa, Morocco, Egypt | US$9 million endowment fund | Not known. |
| **2. Botswana (2006)**<br>Forest Conservation Botswana<br>http://www.forest conservation.co.bw/<br>Promote activities designed to conserve, maintain, and restore the forests of Botswana | U.S. Tropical Forest Conservation Act | Unclear, but U.S. government provided debt relief of approximately US$8.3 million over 10 years and contributed US$7 million at start up. Assets are not reported, but 2010 annual income was US$3.1 million. | Not known. Limited disclosure on website. |
| **3. Côte d'Ivoire (2009)**<br>Foundation for Parks and Reserves<br>www.fondationparc.ci<br>Conservation of protected areas in Côte d'Ivoire | Multilateral and bilateral agencies (European Union, GEF, World Bank); international NGOs (IUCN, WWF); debt conversion (bilateral, HIPC, and French debt conversion) | US$22.4 million in capital (2012)<br>US$10.6 million (endowment)<br>US$11.8 million (sinking) | Not known. Limited disclosure and other documents available on request. |
| **4. Central African Republic, Cameroon, Republic of Congo (2007)**<br>Sangha Trinational Foundation<br>Conservation of three contiguous national parks at the boundary of the three countries | At inception, KfW (€5 million), AfD (€3 million), and Regenwald-Stiftung (€3.5 million). | Endowment fund (initial capitalization of US$15.7 million) | Investment manager selected by international tender. No website, so relied on other sources. |

*(continued)*

**TABLE 6.5** *(continued)*

| Country (year established), fund name, and focus | Primary sources of funding | Funding levels and allocation | Asset managers |
|---|---|---|---|
| **5. Madagascar (2005)**<br>Fondation pour les Aires Protégées et la Biodiversité de Madagascar<br>www.madagascarbiodiversityfund.org<br>Conservation of protected areas in Madagascar | Multilateral and bilateral agencies (AfD, GEF, FFEM, KfW, World Bank); international NGOs (Conservation International Global Conservation Foundation, WWF); debt conversion (French and German) | US$50 million in capital (2012)<br>US$40 million (approximate, endowment)<br>US$10 million (approximate, sinking) | JP Morgan; BNI Madagascar<br>Website not working but information gleaned from other sources online. |
| **6. Madagascar (1996)**<br>Fondation Tany Meva http://www.tanymeva.org.mg/<br>Funding for environmental projects undertaken by local organizations and local communities | USAID and government of Madagascar (debt conversion, MacArthur Foundation, Summit Foundation, Conservation International) | Endowment fund of US$16 million (2013) | Not known. Limited disclosure on website. |
| **7. Malawi (2000)**<br>Malawi Environmental Endowment Trust<br>http://www.meet.org.mw/<br>To enable all people to address the environmental challenges in Malawi. Has a strong focus on livelihoods. | Endowment capitalized by a grant under the USAID/government of Malawi Natural Resource Management and Environmental Support Programme cooperative support agreement, which committed the government to allocate US$4.41 million to capitalize the endowment fund | Endowment fund<br>US$4.41 million at inception (2000) | Not known. Limited disclosure on website. |

| Country (year established), fund name, and focus | Primary sources of funding | Funding levels and allocation | Asset managers |
|---|---|---|---|
| **8. Malawi (2004)**<br>Mulanje Mountain Conservation Trust<br>www.mountmulanje.org.mw<br>Provide long-term support for biodiversity research, conservation, and sustainable use of natural resources of the Mulanje Mountain Forest Reserve (protected area) | World Bank, via GEF | Endowment fund<br>US$4.3 million at inception (2004) | Website not working. |
| **9. Mauritania (2010)**<br>Banc d'Arguin, and Coastal and Marine Biodiversity Trust Fund (BaCoMaB)<br>http://www.bacomab.org/<br>The conservation, protection, and improvement of the Banc D'Arguin National Park and other marine protected areas | Bilateral agencies (AfD, BMZ, FFEM); foundations (MAVA); Mauritania government | Endowment fund<br>US$17.3 million (2013) | Not known. Limited disclosure on website. |
| **10. Mozambique (2011)**<br>Foundation for Biodiversity Conservation (BIOFUND)<br>http://www.wwf.org.mz/o_que_fazemos/areas_tematicas/biofund/<br>The conservation and sustainable management of natural resources and the aquatic and terrestrial biodiversity, including the consolidation of the national system of conservation areas | Design phase of the foundation is being funded by the GEF, bilateral agencies (AfD, KfW), and international NGOs (Conservation International's Global Fund for Conservation and WWF). | Foundation's statutes specify an initial capital requirement of US$5.7 million. | Not yet capitalized. |

*(continued)*

**TABLE 6.5** *(continued)*

| Country (year established), fund name, and focus | Primary sources of funding | Funding levels and allocation | Asset managers |
|---|---|---|---|
| **11. Tanzania (2001)**<br>Eastern Arc Mountains Conservation Endowment Fund<br>http://www.easternarc.or.tz/<br>To support community development, biodiversity conservation, and applied research projects, which promote the biological diversity, ecological functions, and sustainable use of natural resources in the Eastern Arc Mountains. | GEF and World Bank (World Bank provided credit facility of $2.4 million to help with set-up costs for first six years, GEF provided funding of $7 million) | Endowment fund<br>US$8.7 million (2013) | Arbor Group, UBS |
| **12. Tanzania (2010)**<br>Tanzania Forest Fund<br>http://www.forestfund.go.tz/<br>To provide long-term reliable and sustainable financial support to forest conservation and sustainable forest management | Levy of 2 percent on fees and 3 percent on royalties payable under the Forest Act; grants, donations, bequests from private individuals, corporate bodies, foundations, or international organizations, or funds; any sums realized by sale of any forest produce confiscated under the act; any income generated by any project financed by the fund | US$1.2 million collected in 2013 | Not applicable. |

| Country (year established), fund name, and focus | Primary sources of funding | Funding levels and allocation | Asset managers |
|---|---|---|---|
| **13. Uganda (1994)**<br>Bwindi Mgahinga Conservation Trust<br>http://www.bwinditrust.ug/<br>To conserve Mgahinga Gorilla and Bwindi Impenetrable National Parks, two critical forest habitats that provide a home to half of the world's remaining population of mountain gorillas in southwestern Uganda | Initial GEF endowment, D. Swarovski KG, CARE International, and Greater Virunga Transboundary Conservation Programme (2010)<br>First conservation trust in Africa established by US$4.3 million GEF grant after the 1992 Rio Earth Summit | Initial endowment of US$4.3 million, with supplementary support from USAID and the Netherlands. Funds had grown to US$7.4 million in 2002, but reduced in value to US$5.4 million after stock market crash. At that stage, some capital was drawn down. Latest report from 2010 does not detail assets under management. | Mercury Asset Management, London |

*Sources:* Individual websites of the conservation trust funds and numerous supplementary sources, such as pages accessed through http://www.cbd.int/financial/environmentfunds/.

*Note:* AfD = French Development Agency; BMZ = Federal Ministry for Economic Cooperation and Development (Germany); FFEM = Le Fonds Français pour l'Environnement Mondial; GEF = Global Environment Facility; HIPC = Heavily Indebted Poor Countries; IUCN = International Union for Conservation of Nature; NGO = nongovernmental organization; USAID = U.S. Agency for International Development; WWF = World Wildlife Fund.

### *Focus on Protected Areas*

Of the 13 CTFs, 9 already have an exclusive or significant focus on protected areas, so the principle of directing CTF resources to protected areas management is well established. Some CTFs, such as Mulanje Mountain in Malawi and the Bwindi Mgahinga Conservation Trust Fund (BMCT) in Uganda, concentrate on one or two areas. BMCT is focused on supporting conservation actions around the Bwindi Impenetrable Forest and Mgahinga Gorilla National Parks. The Sangha Trinational Foundation is a cross-border trust fund that operates in Cameroon, the Central African Republic, and the Republic of Congo. The Madagascar Biodiversity Fund was created to help that country meet its commitment to triple its protected areas.

Given the challenges surrounding alternative livelihoods, several of the CTFs (Tany Meva in Madagascar, BMCT in Uganda, and the Eastern Arc Fund in Tanzania) are strongly focused on communities to help reduce impacts on protected areas. World Heritage is a particular remit of the African World Heritage Fund. All the CTFs conduct a fairly broad spectrum of conservation activities: protected areas management (for example, park management), community economic development (for example, community training, green energy, livelihoods support), and education and applied research (medicinal use of plants, for instance).

### *Sources of Funding*

The major sources of finance for CTFs in Africa include multilateral agencies, bilateral agencies, not-for-profit organizations with a focus on biodiversity, and others with a broader focus (for example, the MacArthur Foundation). In addition, debt relief is a significant source of funding to African CTFs. However, fewer opportunities for debt-for-nature swaps may be available if debt has already been reduced through previous swap arrangements. Also, the U.S. Congress has limited the U.S. Agency for International Development's (USAID's) ability to provide endowments to funds that use public money (though resources can still be provided to sinking funds).

At least 4 of the 13 CTFs have other sources of finance. The Tanzania Forest Fund raises significant amounts of revenue from a levy on fees applied to forest uses, which provides substantial income to the fund (US$1.2 million in 2013). Such levies might offer one potential revenue stream if a Liberian CTF were to be established. Two other CTFs described efforts to generate tourism income though these schemes were not yet considered successful. One CTF is considering the potential use of biodiversity offsets from extractive industries as a source of income. Two respondents were not very positive about carbon trading, with one CTF business plan describing the probability of any significant financial inflows from carbon as "increasingly remote" because of the insufficient price of carbon on international markets.

### *Type and Amount of Funding*

The 13 CTFs have set up endowment funds, and at least four also have sinking funds to cover operations and activities. The value of the capital held by the African CTFs ranges from US$4.4 million to US$57 million (figure 6.4).[2] Several CTFs have estimated target amounts of capital in their financial forecasting and are working toward these goals. One CTF suggested that an endowment fund should have a minimum of US$10 million to be a viable. Another stated that US$30 million to US$35 million is necessary for a CTF to operate without the need for ongoing fund-raising.

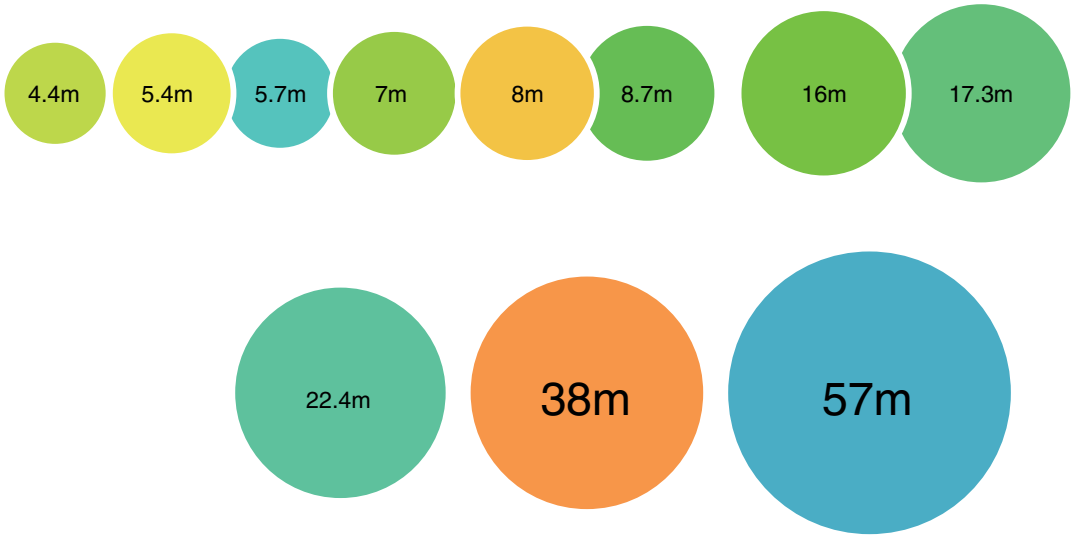
### *Set-Up Costs*

In many cases, costs for the set-up period are funded separately from the endowment fund and are financed by donors (for example, the U.K. Department for International Development, KwF Development Bank, and the Global Environment Facility) (and sometimes with in-kind technical support from others such as World University Service). Five CTFs shared data on their set-up budgets, but they are difficult to compare given that they cover varying time frames and in many cases include the initiation of conservation projects. The lowest figure reported was US$300,000; two CTFs reported US$600,000; the remaining two reported US$1.8 million and US$2.4million. One respondent suggested that set-up costs, not including the initiation of conservation activities, are closer to US$150,00–US$200,000.

### *Management Costs*

A number of CTFs shared information on annual budgets. Although it is difficult to compare budget data between institutions that have different mandates, scopes, and operational structures, it is interesting to note that four CTF interviewees reported administration

**FIGURE 6.4** Wide Variations in the Assets of African Conservation Trust Funds (2014)




*Source:* Anne-Marie Fleury and Sally Johnson (desk research and interviews during 2014).

*Note:* Information was available for eleven of the thirteen funds listed in Table 6.4.

and operations budgets of approximately US$400,000–US$500,000. Five of the CTFs also have budgets for conservation projects and activities of between US$1.35 million and US$2.5 million. Eight CTFs provided data on the proportion of expenditures that go toward administrative and operational costs; this figure ranged between 15 percent and 40 percent of the overall budget. Six of the CTFs spent 25 percent or less. Some interviewees said they aim to spend 20 percent or less.

### *Governance*

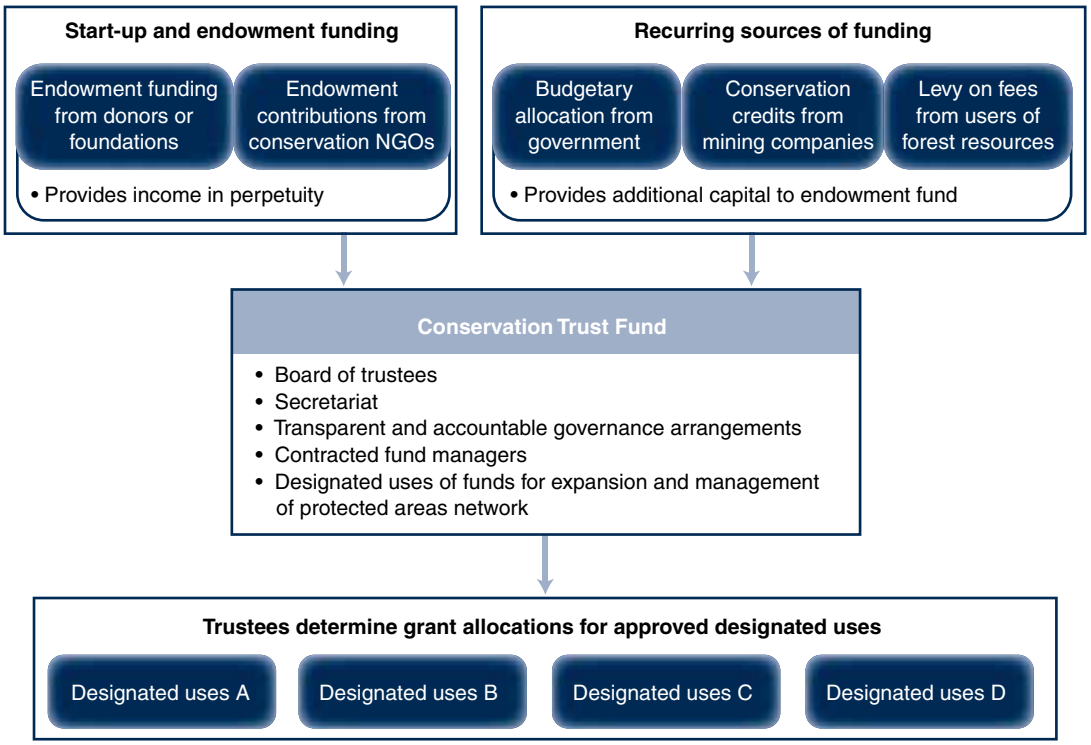
The CTFs interviewed demonstrated a high level of awareness of good practices regarding CTFs. All had a constitution, trust deed, or related documents. Respondents emphasized the need to establish a good constitution. All nine of the CTFs interviewed have independent boards of eight to twelve members. Board members are generally selected for their individual expertise covering legal, juridical, investment and financial, academic, NGO, and community backgrounds. A number of CTF boards have one or two government representatives selected by relevant ministries (such as environment or natural resources). Others also have donor representatives.

Almost all CTFs have governance structures in place to oversee and support the integrity of grant-making activities, but the level of disclosure by CTFs varies considerably. Details on fund managers and related fees are particularly weak. Where disclosure does take place, some annual reports are a number of years out of date. Transparency of the CTFs considered in this report is mixed. Although all interviewees spoke of reporting policies, the public availability of information is not a systematic priority for most of the CTFs. Two of the CTFs in the group of 13 did not have websites and several others did not have up-to-date material.

If the decision is made to establish a Liberian CTF, it is recommended that high standards of governance, transparency, and disclosure be integral to the CTF design from the outset, drawing on available good practice resources (Spergel and Mikitin 2013; BBOP 2009b). According to the CTF Practice Standards published in 2013, it is generally useful to have some government-approved members on the CTF's governing body to ensure sufficient coordination and harmonization of the CTF's activities with government policies and institutions (Spergel and Mikitin 2013).

As a next step, it would be valuable to engage potential providers of funds to explore their willingness, in principle, to consider contributing to a Liberian CTF. Further work is also needed to estimate the funds that could likely be obtained through the sale of biodiversity credits to resource developers in Liberia. Last, the potential to secure additional sources of finance to provide a revenue stream for a Liberian CTF should be explored in more detail. This exploration should include the Tanzanian model of imposing a levy on forest uses in support of conservation as well as the future potential of selling carbon credits from PPAs, recognizing that no legal framework for identification or trade of carbon credits currently exists in Liberia (Forest Carbon Partnership Facility 2012). See figure 6.5 for an example of the potential organization of such a trust fund.

**FIGURE 6.5** Contributions to and Allocations from Conservation Trust Fund




*Source:* Author.

*Note:* NGO = nongovernmental organization.

## The Role of REDD+ and Links to the Biodiversity Offset Scheme and the PPA Network

Reducing Emissions from Deforestation and Forest Degradation (REDD) is a scheme offering incentives to developing countries to reduce emissions from forested lands and invest in low-carbon paths to sustainable development. "REDD+" goes beyond deforestation and forest degradation to include the role of conservation, sustainable management of forests, and enhancement of forest carbon stocks. Liberia is engaging proactively in the REDD agenda. In 2013 the country received a US$3.6 million grant from the World Bank Forest Carbon Partnership Facility to support implementation of the Readiness Preparation Proposal. Liberia has also secured significant additional funding from the government of Norway.

Flora and Fauna International is working with local partners and communities to develop two REDD+ demonstration projects. At the project site in Wonegizi PPA, the project is developing proof of concept of a strategy to implement REDD+ in the context of a protected area. The aim is to demonstrate that REDD finance can provide additional finance to highly resource constrained protected areas, and it is possible that a biodiversity offset scheme and REDD initiatives could be combined in some way to enhance funding.

## Are Non-Trust Fund Alternatives for Financing Biodiversity Offsets Viable?

For project-specific offsets—in which the cost of establishing the offset is borne by the project developer—project finance is a reasonable option for financing the offset as part of the overall project costs. This approach is also viable for an aggregated offsets scheme in which a group of extractives or other companies agree to pool resources to establish an offset. However, for a national biodiversity offset scheme proposed in Liberia, which is linked to the government-led expansion of the protected areas network, project finance is not a viable alternative because the scheme is not directly linked to a single project. However, resource developers may choose to cover the costs of contributing to the scheme as part of a project finance package.

During the establishment of CTFs in Africa, bilateral and multilateral agencies (notably the World Bank, the Global Environment Facility, KfW, the French Development Agency, and USAID) have provided critically important funds to support start-up and establishment costs. The World Bank's Consolidation of Liberia Protected Area Network Project (COPAN) and EXPAN projects have already provided substantial and much-needed support to the expansion of Liberia's protected areas network (through GEF grants). However, it is highly unlikely that bilateral and multilateral agencies would be willing to support the recurring costs of supporting an expanded protected areas network in Liberia through lending instruments in the medium term, much less in perpetuity. Therefore, it is recommended that the option of establishing a CTF to support the expansion of the protected areas network be pursued (as outlined in "Legal and Governance Aspects of Establishing a National Biodiversity Offset Scheme" in this chapter).

## Next Phase

In the next phase of this project, the World Bank in collaboration with the government of Liberia will explore in more detail the feasibility of setting up a CTF and select a possible

pilot site for the offset scheme. In addition, further consideration will need to be given to the question of how delivery risks might be dealt with if the resources allocated by a CTF fail to deliver improved conservation outcomes. Finally, additional thought should be given to the scale and timing of payments to CTFs, to link them to key decision gates for mining projects.

## Summary of Findings and Way Forward

The technical and process feasibility challenges associated with establishing a biodiversity offset scheme are greatly simplified by explicitly linking the approach in Liberia to expanding the protected areas network.

The FDA has the mandate to play the central role in the creation of and the day-to-day management and oversight of an offset scheme in Liberia, and the EPA should have an oversight role. However, the World Bank (or other development partners) can play a key supporting role in the process of determining and agreeing on how the offset will work in practice and how mining companies (or potentially other developers) can establish their offset requirements.

The challenges and complexities that often arise in establishing offsets due to issues relating to land tenure or usufruct rights over land are simplified greatly by linking into the protected areas network. In principle, these areas are public lands that have been designated for nature conservation, so issues relating to land tenure ought not arise. Any usufruct rights that local communities enjoy would have to be identified and addressed as part of the process of gazettement and establishment of Management Plans.

The proposed approach in Liberia relies on establishing biodiversity or conservation credits in advance through the PPAs to support the scheme. The impacts of mining projects would be expressed as a requirement for a certain number of different credit types on the basis of "like-for-like or better."

One area of uncertainty arises if some of the PPAs are not public lands and are subject to community deeds. The draft Land Rights Policy (2013) provides for the establishment of Customary Protected Areas upon request of the community or on initiative of the government in collaboration with the community. It is unclear whether the current regulatory provisions would cover the establishment of Customary Protected Areas, nor whether all the prescribed activities that may form the basis for the designation of Customary Protected Areas are compatible with conservation objectives.

The potential for CTFs to provide a sustainable source of finance for the biodiversity offset scheme has been explored. Most CTFs in Africa serve as grant-making institutions that provide financing for a broad range of conservation and sustainable development projects linked to ensuring the success of protected areas (or other focal areas of support). Some of the CTFs also provide loans and investment capital to support the development of local businesses.

One key advantage of establishing a CTF to financially support the scheme is that payments by mining companies to offset their impacts on biodiversity would be dedicated to the expansion and support of the protected areas network and earmarked for supporting

offsetting activities. Another key advantage is that the revenue created from conservation or biodiversity credits in isolation will almost certainly be insufficient to support the expansion and maintenance of the protected areas network, and establishing a CTF would enable funding from other sources to be secured.

The implications arising from these findings are as follows:

- *Determining the need for an offset:* It is important that the ESIAs being prepared in Liberia include sufficient information on biodiversity to not only assess risks and impacts, but also to determine the need for an offset. Some capacity building within the EPA is essential.

- *A pragmatic methodology for calculating conservation credits required:* The methodology proposed in this chapter has a quantitative component (which takes account of the direct and indirect impacts as measured by hectares) but also a qualitative element that considers "like-for-like or better." A number of suboptions could be discussed at the next workshop in Liberia.

- *Overcoming inherent tension between the FDA's twin roles of conservation and commercial exploitation:* A project implementation unit could be established in the FDA with a mandate to work solely on establishing a biodiversity offsets scheme and related activities (such as gazetting of PPAs). This approach would help address current capacity constraints and ensure that adequate attention is paid to successfully establishing the scheme. In addition, NGOs currently active in Liberia have a potentially powerful role to play in developing indicators and collecting and analyzing the data necessary to determine whether the offset is achieving its stated objectives.

- *Convening a workshop to agree on a basis for establishing biodiversity or conservation credits and price:* Given that a true market-based system is not appropriate for Liberia, the basis for establishing credits would best be done through a multistakeholder workshop, which could also consider the question of the price that ought to be applied to such credits. The government, in collaboration with the World Bank, might be best placed to convene such a workshop.

- *Need for further clarity regarding land tenure in PPAs:* The status of land ownership within some PPAs has been called into question and clarification should be a priority. In addition, further clarification should be sought on whether (1) current regulatory provisions would cover the establishment of Customary Protected Areas and (2) all the prescribed activities that may form the basis for their designation are compatible with conservation objectives.

- *Establish an advisory committee in support of a national biodiversity offset scheme:* Although the FDA must play the central role, there is merit in establishing an advisory committee representing organizations actively involved in conservation activities in Liberia, the scientific research community, individuals experienced in establishing biodiversity offsets, communities, and resource developers. The committee could provide scientific and technical advice to the FDA to engender technical and scientific efficacy combined with the pragmatism required to ensure implementation proceeds.

- ***Further work needed on establishing a Liberian CTF:*** The principle of establishing a CTF in support of an expanded protected areas network has a number of precedents in Africa, which have attracted varying degrees of support. Further interviews with and analysis of the African CTFs was undertaken, given that public disclosure by many CTFs is limited. Outreach to potential providers of funds to explore their willingness, in principle, to contribute to a Liberian CTF and the potential to secure additional sources of finance to provide a revenue stream should be explored in more detail.

- ***Further work to understand the scale of the fees that might be raised through the sale of biodiversity or conservation credits:*** Further work is also needed to estimate the funds that could likely be obtained through the sale of conservation or biodiversity credits to resource developers in Liberia.

## Notes

1. For example, the U.S. Tropical Forest Conservation Act of 1998 offers eligible developing countries options to relieve certain official debt owed to the U.S. government while at the same time generating funds in local currency to support tropical forest conservation activities. Although mostly directed to countries in Latin America, it may be worth exploring eligibility for Liberia.
2. These figures are not entirely comparable because some are from 2014 interviews while others are from alternative sources and different years.

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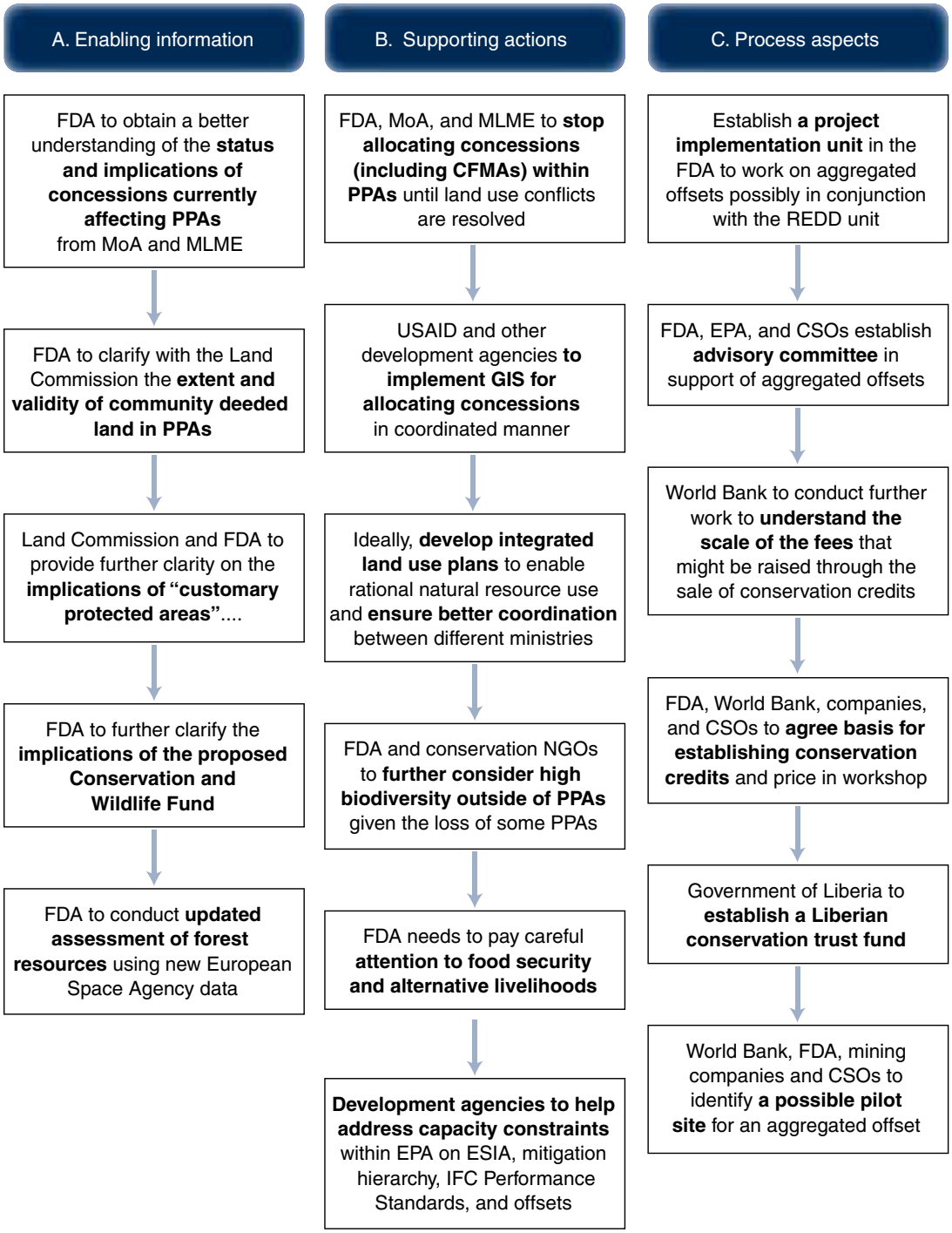
# 7. A Road Map for Liberia: Summary of Ways Forward

This chapter presents a first-approximation road map for Liberia to implement a national biodiversity offset scheme, if the government chooses to do so. Figure 7.1 groups the various actions required to implement the road map into three interrelated categories: (1) actions that generate information to enable the development of a biodiversity offset scheme; (2) actions that support the scheme through, for example, prohibiting certain activities or enhancing rational allocation of concessions; and (3) actions that are central to establishing the offset scheme.

## Conclusion

Implementing a national biodiversity offset scheme in Liberia will be challenging, and a number of different elements need to come together for it to happen. However, some of those elements are already present. Liberia supports extraordinary biodiversity and has identified a representative network of proposed protected areas over a period of many years. The challenges associated with establishing the scheme are greatly simplified by explicitly linking the approach to expanding the protected areas network. Liberia also has a legislative framework that supports this process. The more significant challenges relate to the capacity of the Forestry Development Authority and the Environmental Protection Agency to support such a scheme and the issue of land tenure and the fact that alternative livelihoods and food security are not easily solved and need to be addressed as part of the process of gazetting new protected areas. However some of these issues will be addressed as part of the Liberia REDD+ Investment Program. The World Bank (or other development partners) and civil society organizations play a key role in supporting this process. A workshop will be organized in conjunction with the government of Liberia and other stakeholders in 2015 to update progress on some of the issues highlighted in the report.

**FIGURE 7.1** Elements of a Road Map for a National Biodiversity Offset Scheme in Liberia




*Source:* Author.

*Notes:* CFMA = Community Forestry Management Agreement; CSO = civil society organization; EPA = Environmental Protection Agency; ESIA = Environmental and Social Impact Assessment; FDA = Forestry Development Authority; GIS = geographic information system; IFC = International Finance Corporation; MLME = Ministry of Lands, Mines and Energy; MoA = Ministry of Agriculture; NGO = nongovernmental organization; PPA = proposed protected area; REDD = Reducing Emission from Deforestation and Forest Degradation; USAID = United States Agency for International Development.

# Appendix 1: Summary Details and Main Features of Proposed Protected Areas

| Name | Counties | Area (ha) | Last sureyed | Main features | Threats | Date |
|---|---|---|---|---|---|---|
| Gola | Gbapolu and Grand Cape Mount | 97,975 | Between 2010–2013, RSPB/ Hillers 2013 *Across the River—a Transboundary Peace Park for Sierra Leone and Liberia project* | Northwestern highlands, portions of the Mano and Morro River watersheds, and open and closed dense forest, along the Sierra Leone border—outstanding species richness and endemism. Moist evergreen forest and moist semi-deciduous forests. 206 bird species, 109 mammal species, (11 primates, 31 bats, 31 rodents and shrews, 17 large mammals), 451 butterfly species, 145 species of damsel- and dragonflies, 19 reptiles and 35 amphibian species in the studied area. 19 were found in Liberia for the first time and 12/13 species are new to science. 22 mammals, 14 birds, six dragonflies and damselflies, 13 amphibians, and four reptiles are species of global conservation concern.<br><br>Notable species include: Gola Malimbe *Malimbus ballmanni* (EN), Ringed River Frog *Phrynobatrachus annulatus* (EN), *Hylarana occidentalis* (EN), Western chimpanzee *Pan troglodytes verus* (EN) (94 individuals Tweh et al (2014), Pygmy Hippopotamus *Choeropsis* | Increased hunting and bush-meat trade, artisanal mining, pit sawing activities higher hunting pressure in Liberia than Sierra Leone. | August 2014 |

| | | | | | | |
|---|---|---|---|---|---|---|
| | | | | *liberiensis* (EN), Jentink's duiker *Cephalophus jentinki,* African Forest Elephant *Loxodonta cyclotis* (VU) *Leopard Panthera pardus* (NT), White-necked Picathartes *Picathartes gymnocephalus* (VU), and White-breasted Guineafowl *Agelastes meleagrides* and first Liberian sighting of the Chattering Cisticola *Cisticola anonymus.* | | |
| Foya | Lofa and Gbapolu | 164,628 | ? | Northwestern highlands, including the southwest extension of the Wonegizi Mountains, the headwaters of the Mano River, and approximately 40 kilometers of Lofa River frontage. Foya is the largest of the PPAs.<br>Moist evergreen forest and moist semi-deciduous forests. Foya is an important area for the vulnerable (VU) zebra duiker (*Cephalophus zebra*). | ? Not enough is known about this PPA | |
| Wologezi Mountain Range and Wonegizi | Lofa | 137,427 | SADS work has focus on promoting environmental conservation, sustainable forest management and alternative livelihood provision, as means of generating incomes to support their life style.<br>2013/14 Surveys as part of REDD | The main features of this area are the Wologezi Mountain Range and Wonegizi Mountains, (the Wonegizi Mountains form a transboundary conservation corridor between Liberia and the republic of Guinea and the biosphere reserve of Ziama) within two separate large blocks of largely uninhabited closed dense forest with rich biodiversity. The area is an Important Bird Area (IBA), and includes important portions of the upper Lofa, Lawa, and Gbaye River watersheds. It is an important site for the endangered (EN) amphibian (*Phrynobatrachus annulatus*). It is also the only known site in Liberia for the vulnerable (VU) amphibian (*Phrynobatrachus villiersii*). Additionally, it is 1 of 2 sites in Liberia that contain the vulnerable (VU) birds the Nimba flycatcher (*Melaenornis annamarulae*) and the white-necked picathartes (*Picathartes gymnocephalus*), also present is the zebra duiker (*Cephalophus zebra*), pygmy hippopotamus (*Hexaprotodon liberiensis*), Leopard Panthera pardus and Forest elephant | 2015? Wologizi appears to have removed from the PPA network | |

| Name | Counties | Area (ha) | Last sureyed | Main features | Threats | Date |
|---|---|---|---|---|---|---|
| Kpo | Gbapolu | 83,709 | ? | This area encompasses the Kpo Mountain range, Bulubala Mountain, an important section of the Ba Creek watershed, and surrounding closed dense forest lowlands which connect these otherwise steep and relatively narrow mountain ranges. A site of intermediate importance for the vulnerable (VU) zebra duiker (*Cephalophus zebra*) and pygmy hippopotamus (*Hexaprotodon liberiensis*), and the endangered (EN) Diana monkey (*Cercopithecus diana*). | ? Not enough is known about this site | |
| Bong Mountain | Bong | 24,813 | ? | Bong Mountain has a core of steep land with a narrow zone of closed dense forest, but also has existing roads, a moderate population density on the margins, and a potential for iron ore production. Part of its value lies in its proximity to and potential to serve the population of Monrovia for recreation. | Bong Mines/ Iron Ore | |
| Margibi Mangrove Proposed Protected | Margibi/Grand Bassa | 23,813 | | An important mangrove area and estuary of the Junk and Farmington Rivers, Margibi Mangrove is home to the Liberia Chimpanzee Colony. The area has approximately 35 kilometers of Atlantic coastline. | | |
| Cestos-Senkwehn | Sinoe and River Cess | 80,348 hectares | Last surveys in 2003 | The Cestos-Senkwehn forest area has been fragmented into several forests. The Senkwehn area straddles the Senkwehn River in an Important Bird Area (IBA). It includes 30 kilometers of coastline, and incorporates estuary systems for three major rivers.<br><br>There are 6 primate species including the endangered (EN) Diana monkey (*Cercopithecus diana*) and western chimpanzee. The endangered Gola Malimbe occurs here and is only known from 3 sites across Liberia. This is the best site—highest density—for the Jentink's Duiker. Zebra, black and Maxwell duiker are also present. Additionally it is the second best site for the endangered (EN) western red colobus (*Procolobus badius*). Other species include the pygmy hippo, the forest elephant, the Ringed River Frog, three species of hornbill and the leopard. | Logging, hunting<br><br>OTC has been logging most of the northern portion since 2001. Some of the north and the entire southern area was logged by Ital Timber Incorporated before the war, and by ILC since 1997 | |

| | | | | | | |
|---|---|---|---|---|---|---|
| Gbi Proposed Protected Area | Grand Gedeh and Sinoe | 88,409 | ? 2003 and 2012/13 | Gbi is an area of largely undeveloped closed dense forest and is unique in that it remains the largest area most distant from settlements in all of Liberia. This is one of the best sites for the western red colobus, the pygmy hippopotamus and zebra duiker. National Chimpanzee survey and subsequent data analysis indicates that this supports large population of Chimpanzees and is very important for mammals. | Not enough is known | |
| Grand Kru | Sinoe, River Gee, Grand Kru, and Maryland | 135,100 | ? | This area preserves the only remaining location in Liberia that preserves an undeveloped corridor connecting the coastal environment with the interior wet evergreen forest (mix of primary and secondary forest and coastal marshes). It contains an important section of the upper Dugbe River watershed and tributaries (Yaza and Sinoe Creeks). The area contaisns approximately 40 kilometers of Atlantic Ocean coastline, and estuaries. It is known to support important populations of the western chimpanzee, forest elephant zebra duiker, pygmy hippopotamus, and red colobus. | Not enough is known | |
| Grebo | Grand Gedeh and River Gee | 97,136 | 2007 (CI) | Wet evergreen closed forest and mature secondary forest contiguous with the Forêt Classée du Cavally and very close to Taï National Park, Côte d'Ivoire. Forest habitat is broken by a narrow strip of dense human settlement and farming on the Ivorian side next to the latter 40 animal species of conservation concern. Many of the bird and amphibian species recorded here have restricted ranges. Grebo is a priority site for the endangered (EN) Liberian mongoose (*Liberiictis kuhni*) known only from Sapo and Grebo, and the endangered (EN) amphibian *Amnirana occidentalis* and *Phrynobatrachus annulatus*. All only occur in only 3 sites across Liberia. Grebo contains the highest density for the Diana monkey. Additionally, it is 1 of only 2 sites in Liberia for the vulnerable (VU) Allen's Goliath Frog (*Conraua alleni*). There are also nine primate species occurring, at least equals that of nearby Sapo National Park (Waitkuwait 2001). It supports, forest elephant, western chimpanzee, pygmy hippo and is also an Important Bird Area. | | |

# Appendix 2: Aggregated Offsets Workshop Details

**TABLE A2.1** Attendees at the Aggregated Offsets Workshop in Monrovia, April 1st, 2014

| Name | Title | Organization/Company |
|---|---|---|
| Government of Liberia | | |
| 1. Anyaa Vohiri | Executive Director | EPA |
| 2. Stephen Neufville | Deputy Execituve Director | EPA |
| 3. Johnathon Davies | Project Coordinator | EPA |
| 4. Cecelia Kollie | Assistant Manager Conservation Unit | EPA |
| 5. Zinnah Mulbah | SESA Coordinator | EPA |
| 6. Johansen Voker | Coordinator | EPA |
| 7. Ben Karmorh | Coordinator Climate Change | EPA |
| 8. Harrison Karnwea | Managing Director | FDA |
| 9. Theo Freeman | Technical Manager Conservation Department | FDA |
| 10. Saah A. David, Jr. | REDD Coordinator | FDA |
| 11. Jerry Yonmah | Protected Area Manager | FDA |
| 12. Myer K. Jargbah | Manager Strategic Planning Unit | FDA |
| 13. Darlington Tuagben | Deputy Managing Director for Operations | FDA |
| 14. Blamah Goll | Biodiversity Coordinator | FDA |
| 15. Mitchell Kimberley | Tech. Manager | FDA |
| 16. Konika Nimely | EIA Manager | FDA |
| 17. Edward Gbeinter | Wildlife Manager | FDA |
| 18. Boiyan Kpakolo | Assistant Minister | MMLE |
| 19. Sam Russ | Deputy Minister | MMLE |
| 20. Nyada Baldeh | | MOA |
| 21. Kumeh Assaf | Project Manager | Ministry of Transport |
| 22. Victor Helb | Commissioner | Land Commission |
| 23. Jeremiah Solkan | Deputy Minister | Sectoral & Regional Planning |
| 24. Wilfred Baryou | Admin. Assistant | LISGIS |
| 25. Thomas Davis | Director General | LISGIS |
| Private Companies | | |
| 26. John Howell | Environmental Adviser | Arcelor Mittal |
| 27. Wing-Yunn Crawley | Coordinator Biodiversity Conservation Programme | Arcelor Mittal |

| Name | Title | Organization/Company |
|---|---|---|
| 28. Hilary Byrne | Resettlement Coordinator | Arcelor Mittal |
| 29. Forkpayea Gbelee | Environmental Officer | Arcelor Mittal |
| 30. Charles Cleghorn | Environmental Manager | Arcelor Mittal |
| 31. Vaanii Kiazolu | Communities Manager | Arceor Mittal |
| 32. David Hebditch | SHEC Manager | Hummingbird Resources |
| 33. William Cook | Operations Director | |
| 34. Darren Kelly | Country Manager | Hummingbird Resources |
| 35. Graham Hill | Project Manager | Hummingbird Resources |
| 36. Robin Sirlief | ESIA Assistant | Hummingbird Resources |
| 37. Debar Allen | GM | Aureus |
| 38. Roeland de Greef | Technical Services Manager | Aureus |
| 39. Clara Cassell | Biodiversity Manager | Aureus |
| 40. Catfish Brownell | Environmental Manager | BHP |
| 41. Guy Parker | Biodiversity Manager | SMFG |
| 42. Nabil Massin | Consultant | Earthtime |
| 43. Nassim Hamdan | Consultant | Earthtime |
| 44. Jain Akshit | Associate Manager—Project (HSEC) | Western Cluster/Vedanta |
| 45. Ansu Konneh | Communication/Public Relations | Western Cluster/Vedanta |
| 46. Einar Rossman | COO | PIOM |
| 47. Chris Masurenko | CEO | PIOM |
| 48. Joseph Hjuma | Manager | PIOM |
| 49. Tony Isles | Director | Atkins on behalf of PIOM |
| 50. Mayango Borzie | Environmental Manager | China Union |
| 51. Nathaniel Jallah | Public Affairs Manager | Exxon Mobil |
| 52. David Rothschild | Director | Golden Veroleum |
| 53. Peter Lowe | Senior Specialist—Forestry | Golden Veroleum |
| Civil Society Organisations | | |
| 54. Helena Hallowangor | Project Manager | LACE |
| 55. Michael F. Garbo | Exec. Director | SNCL |
| 56. Michael Taire | Project Manager | SNCL |
| 57. Jonathan Yiah | Project Leader | SDI |
| 58. Andrew Gialiguee | Program Officer | SADS |
| 59. Peter Mulbah | Coordinator | SADS |
| 60. Andrew Tokpa | Program Officer | SAMFU |

*(continued)*

| Name | Title | Organization/Company |
|---|---|---|
| 61. Renee Gibson | Assistant Manager Conservation | RICCE |
| 62. Salome Giofan | | RICCE |
| 63. Gordon Sambola | Field Coordinator | FACE |
| 64. Ms Jessica Donovan | Country Director | CI |
| 65. Jens Lund | Country Director | FFI |
| 66. Shadrach Kerwillain | Capacity Building Adv. | FFI |
| 67. Josh Kempinski | REDD Projects Advisor | FFI |
| 68. Henry Smith | | SEC |
| 69. Francis Jallah | Program Officer | SEC |
| 70. Paul Boe | IT | National Traditional Council of Liberia (NTCL) |
| 71. Dervla Dowd | Country Director | Wild Chimpanzee Foundation |
| Multilateral and Bilateral Organizations | | |
| 72. Shawna Hirsh | Environmental Officer | USAID |
| 73. Daniel Gross | Consultant | UNDP |
| 74. Hartileb Euler | Country Director ENDEV | GIZ |
| 75. Mark Mattner | Project Manager | GIZ |
| 76. Nina Inamahoro | | World Bank |
| 77. Daniele la Porta | Senior Mining Specialist | World Bank |
| 78. George Ledec | Lead Ecologist | World Bank |
| 79. Sally Johnson | Consultant | Fairfields |
| 80. Paola Agostini | Senior Environmental Economist | World Bank |
| 81. Neeta Hooda | Senior Carbon Finance Specialist | World Bank |
| 82. Sachiko Kondo | Natural Resources Management Specialist | World Bank |
| 83. Anna Burzykowska | Earth Observation Specialist | World Bank/ESA |
| 84. Nikolas Soikan | Social Development Specialist, | World Bank |
| 85. Paulina Upla | Civil Affairs Expert | UNMIL |

**TABLE A2.2** Themes Emerging from the Workshop Discussions

| Theme | Issues | Solutions |
|---|---|---|
| Land Use Strategy | No coordination between ministries to ensure effective land use planning | Ministries should coordinate and exchange information on concessions |
| | Overlap of mining concession, forestry concessions and palm oil with PPAs | Each ministry needs to have an up-to-date map of all the concessions |
| | | Need a "live" GIS mapping system |
| | No land use plan or strategy | Need land use plan to balance economic needs with conservation and to direct development to the right place, e.g., Palm oil to low value sites |
| Communities | Disenfranchised communities/ Violation of community rights | More stakeholder participation/FPIC/ community management |
| | What about livelihoods? | Need to address affected communities livelihoods, SMEs, literacy, agricultural skills |
| | Land tenure complex and poorly understood | Implement Land rights policy |
| | Food security/Unemployment | Local level pressures mean that conservation strategy needs to be flexible to allow small scale zoning. |
| | How will Ecosystem Services be dealt with? | Good ESIAs |
| Conservation and Economic Development | How does conservation fit in with the national development strategy? Liberia needs development. | |
| Political Will | GoL does not care about natural capital | Need a champion in Government |
| Implementation | No capacity to manage an aggregated offset system | |
| | FDA has conflicting institutional mandates | |
| | Who will manage this system? | FDA? |
| | Who monitors this system? | EPA? |

*(continued)*

| Theme | Issues | Solutions |
|---|---|---|
| Data | Lack of good baseline information on biodiversity | |
| | Data integrity issue in Liberia | |
| | ESIAs weak, mitigation hierarchy | Strengthen EPA's ability to review ESIAs |
| | Need better forestry and geological data | European Space Agency project for Liberia |
| Trust funds | Sustainability of a national trust fund, compared to individual project offsets | Need enough in there to get a revenue stream |
| | How do different sectors pay in? Also biodiversity is not priority for private sector | MDA requirements, change law to include other sectors |
| | Conservation fees—FDA not been able to access that yet | Gain access to Conservation fees |
| | Management body, both financial skills and technical skills | Gov., private sector, Board of trustees civil soc., development agencies and community |
| | How to avoid political influence on fund or offsets management | Transparent, IFC could provide secretariat (or AFDB) offshore |
| | Who monitors the activities? | EPA? |
| Education | Inadequate awareness on the importance and benefits of biodiversity | |
| Methodology | Will they just pay into the PPAs or can there be open proposal? | |
| | Is calculation done by area of impacts, % of investment revenue? | |
| | Complexity and costs of doing metrics | |
| | Flexibility with like for like | |
| | | |
| Legislative framework | Lack of clear policy on biodiversity | |
| | Is there a legal framework? | |
| Drivers | Not all companies follow the same standards; some follow PS 6 other's don't | |
| Commercial agriculture | Why are they awarded such large concessions? | |
| REDD | Harmonise with biodiversity credits | |

# Appendix 3: Additional Details to Support the Establishment of a Conservation Trust Fund in Liberia

## A3.1 Comparative Review of Existing Conservation Trust Funds in Africa

### A3.1.1 Background

This overview is prepared as part of a broader study on using a Conservation Trust Fund (CTF) as a potential means of financing aggregated biodiversity offsets in Liberia. An initial review of publicly accessible sources of information on CTFs in Africa indicate that the principle of establishing a CTF to support a protected area network has a number of precedents. However, the public sources of information are limited and a series of interviews were carried out with representatives from the African Conservation Trust Fund in order to identify lessons learned and explore good practice examples.

Thirteen CTFs were considered, twelve established, and one is currently being established. Interviews were carried out with respondents from nine of these CTFs using a questionnaire broadly based on good practice standards as outlined by the Conservation Finance Alliance (CFA).[1] The resulting data and recommendations presented in this report cover:

- Overview information;
- Funding;
- Fund-raising;
- Governance and operations;
- Investment management; and
- Partnerships and transparency.

### A3.1.2 Overview

#### *Date Established and Legal Framework*

All of the thirteen CTFs considered in this report were established between 1994 and 2011, only two before 2000, with most of them (seven) in the period between 2000 and 2010. The nine CTFs for which interviews were carried out are all legally created entities within their countries of operation with the exception of one (the Tri-National Sangha Foundation) which is registered in the UK. These CTFs described are registered as a variety of organizations: foundations, trusts, charitable entities, and not-for-profit groups.

#### *Purpose*

Nine of the thirteen CTFs have an exclusive or significant focus on one or more protected areas, either a single reserve (such as Mulanje Mountain (MMCT) in Malawi) or a number of Parks or Reserves, and sometimes across borders (such as the Trin-National Sangha Foundation). Many of the CTFs are playing a very significant role in the conservation of

Protected Areas in their countries (such as the Madagascar Biodiversity Fund which was created to help the country meet its commitment to triple its protected areas). Several of the CTFs have a strong focus on communities (Tany Meva in Madagascar, Bwindi Mhahinga (BMCT) in Uganda and the Eastern Arc Fund (EAMCEF) in Tanzania) and one, the African World Heritage Fund (AWHF) has a particular remit on World Heritage. All the CTFs have a fairly broad spectrum of conservation activities: protected area management (e.g., park management), community economic development (e.g., community training, green energy, livelihoods support), education and applied research (e.g., medicinal use of plants).

### A3.1.3 Funding

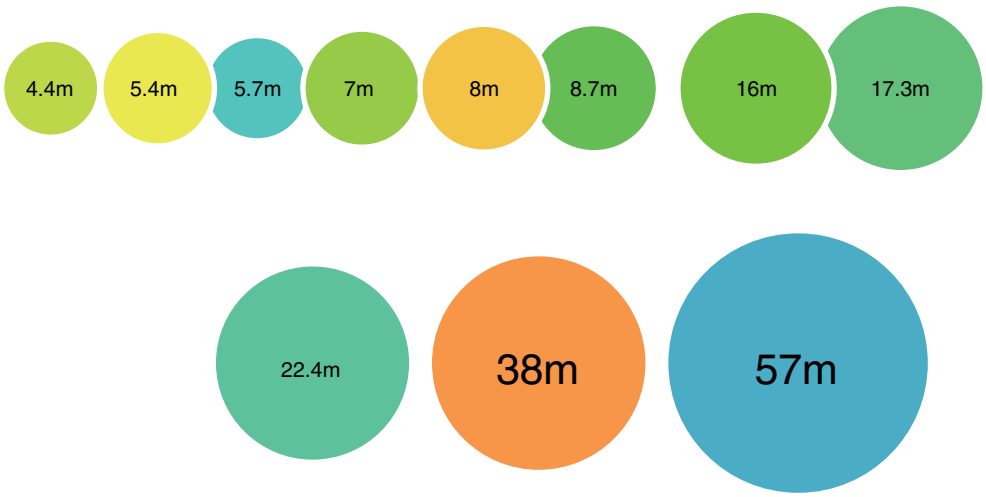
#### *Type of Fund and Capitalization*

The thirteen CTFs have set up Endowment Funds, and at least four also have Sinking Funds to cover operations and/or activities. All but one of the nine interviewed CTFs have received capital from multiple sources, including multilateral and bilateral donors, governments, foundations, non-governmental organizations and from debt-for-nature swaps.

The value of the capital held by the CTFs that were reviewed varies from USD$4.4m to USD$57m.[2] Several CTFs have estimated target amounts of capital in their financial forecasting and are working towards these goals. In a general way, one suggested that an Endowment Fund should have a minimum of $10m to be a viable. Another stated that $30–35m is necessary for a CTF to operate without the need for ongoing fund-raising.

#### *Annual Budget Information*

A number of CTFs shared information on annual budgets. Although it is difficult to compare budget data between institutions that have different mandates, scopes and operational structures, it is surprising to note that four CTF interviewees reported similar administration




Value of Capital held by CTFs in USD millions[3]

and operations budgets of approximately $400–500k. Five of the CTFs also have budgets for conservation projects/activities that are within a similar range, between $1.35m–$2.5m. Eight CTFs provided data on the proportion spent on administrative and operational costs; this figure spanned a range between 15%–33% of overall budget with one outlier at 40%. Most of the CTFs (six) spent 25% or less. Some interviewees said they aim to spend 20% or less.

**Admin & Operations costs are 25% or less of annual budgets for half the CTFs interviewed.**

### *Setup and Fund-Raising*

Information was gathered on the setup phase for CTFs; this typically involves planning, institutional and legal establishment, financial forecasting and administrative setup. In many cases, costs for the setup period are funded separately to the Endowment Fund and provided by donors (e.g., by DfID, KwF, GEF) (sometimes with in-kind technical support from others such as the World University Services). Five CTFs shared data on their setup budgets; these are difficult to compare as they cover varying timeframes and in many cases include the initiation of conservation projects. The figures were $300k, $600k for two of the CTFs, $1.8m and $2.4m. One respondent suggested that setup costs—not including the initiation of conservation activities—are closer to $150k–200k.

**Many respondents strongly emphasized the need for funding which is separate from the endowment capital to cover expenses related to setup.**

### *Fund-Raising*

All respondents discussed the need for fund-raising in relation to raising capital and in relation to operating and project costs. The latter becomes necessary when annual income from the Fund is insufficient to cover costs, for example before the Fund reaches target capital, or when performance of the Fund is poor. The majority of CTFs interviewed for this paper included fund-raising as a permanent part of their programmes, in most cases, primarily for funding projects.

Three respondents discussed the need for different approaches to fund-raising, particularly when establishing a new CTF. For example, there may be fewer opportunities for debt-for-nature swaps if debt has already been reduced through previous swap arrangements. Also, the American Congress has limited USAID ability to provide endowments to funds using public money (though funds can still be provided to sinking funds).

- Several CTFs recommended against seeking Endowment Fund capital at the cost of delaying conservation activities. Project funding can be easier to obtain than endowment capital (as project outcomes are time bound and can be readily credited to donors). In addition, conservation outcomes on the ground help build a profile for the CTF, which in turn helps with fund-raising.

- Partnering with donors also carries costs, with respect to reporting and complying with requirements, which can be higher than expected. These requirements should be

understood and—to the extent possible—CTFs should design reporting systems which consider efficiency while still meeting donor needs.

At least four of the thirteen CTFs considered have other sources of finance. The most developed system is a levy fee for forest uses. Two others described efforts to generate tourism income though these schemes were not yet considered successful. One CTF is considering the potential use of biodiversity offsets from extractive industries as a source of income. Two respondents were not very positive about carbon trading with one CTF business plan outlining the probability of any significant financial inflows from carbon as "increasingly remote" due to the insufficient price of carbon on international markets.

### A3.1.4 Governance and Operations Overview

All the CTFs interviewed had a Constitution, Trust Deed and/or related document.
All nine of the CTFs interviewed have independent Boards made up of eight to twelve members; two CTFs have a Board of Trustees as well as a separate Board of Governors where the five Trustees hold legal representation of the Fund and the Governors (between seven and twenty) play an advisory role. There is also an example of a larger General Assembly (36 members) to provide oversight to the Board.

**Respondents emphasized the need to establish a good constitution. One recommended keeping guidance and procedure documents separate from the Constitution for flexibility and for enabling easy updates.**

#### *Role of the Board*

All CTF respondents described similar responsibilities for the Board: establishing policies, guiding and approving the strategic plan, budget and annual working plans, approving the grant process and playing a role in the selection of grants and reviewing financial statements. Five of the nine CTFs interviewed reported that the Board had fiduciary duty with respect to the Fund. One respondent said the Board did not have this responsibility.

**Respondents emphasized the need for the Board to be truly independent, and perceived as such.**

#### *Selecting Board Members*

Board members are generally selected for their individual expertise covering legal, juridical, investment/financial, academic, NGO and community backgrounds. A number of CTF Boards have one or two government representatives selected by relevant Ministries (e.g., Environment, Natural Resources). Others also have donor representatives. One CTF outlined a process whereby community Board members are selected by the communities. Another CTF has a requirement for an international Board member based outside the country in order to ensure alignment with international trends. This approach is in contrast with another CTF whose representative suggested that foreign board members should be replaced by local people when possible. One CTF respondent described an approach of bringing in external members to the Board on an as-needed basis (e.g., investment or technical experts).

| Board Information[4] | |
|---|---|
| Number of people | 8–12 members. Or 5 Trustees & 7–20 Governors. |
| Fixed term | Half CTFs have 2, 3, or 4 year terms extendable once. |
| Staggered Terms | Half CTFs stagger membership. |
| N Board meetings a year | 3–4 formal meetings a year. |

### *Board Term*

At least half the CTFs interviewed have defined fixed terms for their Board members; this varies from two to four years usually renewable for one term. Only one CTF reported no formal requirements in this regard. All CTFs reported regular formal Board meetings every three to four months; in two examples this is only every six months. Approximately half of the CTFs have a policy of staggering Board members.

**Several CTFs stressed the importance of an engaged and committed Board. Some recommended selecting Board members who have a dedicated interest in the CTF, others emphasized the need to make sure there is Board engagement in between meetings. One CTF has an Executive Committee to ensure more continuous engagement.**

All the CTFs interviewees described approaches for avoiding conflicts of interest for Board members (e.g., Board members cannot put forward grant applications). Clearly, there is a high level of awareness on this issue; however, the individual policies of the CTFs were not assessed for their level of formality and completeness. In the case of the African World Heritage Fund, the unique nature of the World Heritage system means that one party, IUCN, is both a Board member (as a World Heritage advisor) and an executing partner (providing training to grantees on how to put forward World Heritage site bids).

### *Operations*

All the CTFs interviewed appeared to have strategic plans, usually for a period of five years, as well as annual work plans. At least one CTF uses a broad consultative process for developing the strategic plan. Another suggested that a three year planning cycle would be better suited for capturing new priorities when working across a broad geographic remit.

All the CTFs interviewed (bar one that is not yet established) have between eight and 28 staff members fulfilling functions such as communications, administration, monitoring, technical staff (conservation expertise and/or management), financial management and support staff, with at least two reported field based staff members outside the main office. One CTF has witnessed a drastic reduction in staff members (from eleven to two) as a result of the Fund's poor performance.

**Some of the respondents spoke positively of secondment programmes, either with donor agencies or with other CTFs in Africa. The latter was particularly recommended as an effective way to share experiences.**

Different opinions were voiced regarding the ideal profile of the CEO/director of the CTF. One respondent strongly recommended knowledge of financial markets and fund management over and above conservation expertise. Others considered that financial expertise could be outsourced and that it is more important to focus on a dynamic leader. One respondent suggested that having easy access to a diversity of expertise (legal, financial, conservation) was the most important thing.

#### *Grants*

All nine CTFs interviewed have criteria for allocating grants and referenced more detailed guidelines; however these were not reviewed in detail. One CTF employs a participatory selection process with local community representatives.

**The capacity of grantees to use resources, deliver on projects and monitor and report on results needs to be evaluated and understood, particularly when working with communities. Capacity building may be a necessary part of grant allocation. Some CTFs have requirements for communities receiving grants to work with partners such as NGOs who can support this.**

#### *Measuring Outcomes*

In many cases, CTFs have in-house capacity to monitor and evaluate outcomes from activities. That is supplemented by monitoring of outcomes carried out by grantees (with various levels of systematism). Many considered that monitoring needs could not be met by grantees alone. At least one CTF is developing an electronic data system for compiling data from monitoring.

### A3.1.5 Investment Management Overview

At least 4 of the CTFs have a policy of maintaining and growing the Fund, with several aiming to recapitalize income when separate funds are available for projects and operations. However, poor financial performance of the Fund has undermined those efforts with at least two CTFs having had to draw down capital at different times. The financial crisis of 2008 affected most CTFs and, at times, returns have not always been as high as anticipated.

**Almost all the CTF respondents emphasized the importance of understanding financial investments. Some stressed the need for informative and frequent communication with the Asset Manager. There are also examples of CTFs jointly seeking advice from financial consultants as an efficient way to gain insights and provide cross-institutional learning.**

There was at least one example of an effort to stabilize income from the variability of fund performance. This CTF has a formal policy of only spending each year the equivalent of the average return over the last five years. For example, this year's spend from the Fund's income will be the equivalent of a 4% return with any surplus in actual return recapitalized.

Some of the CTFs have formal investment policies for their Funds. One has a policy of in-country investment; unfortunately the fund has suffered greatly from the instability of

the local investment market. Another has a requirement for investments to be in offshore markets which are considered the most stable (in this case in the U.S.), and another has a policy of mixing in-country and offshore investments. At least two CTF respondents described a policy that included ethical investment considerations.

Many of the CTFs have independent reviews of the investment performance on a periodic (though not necessarily systematic) basis. These reviews provide advice from third party financial managers. In some cases they are designed to raise awareness/build capacity within CTFs on investment strategies and risks.

Most of the CTF interviewees reported carrying out financial auditing, in some cases communicated through annual reports. Very few of the CTFs have the most current annual reports available (e.g., on their websites), though most were quite willing to share them when asked. In a similar way, details about asset managers are rarely disclosed on websites, but freely shared by most in interviews (these included UBS, Standard Bank, JPMorgan, Schroder and Vanguard).

### A3.1.6 Partnerships and Transparency

All the CTFs have different partnerships at the local and international level. The interviewees all spoke positively of partnerships; many were particularly positive about the Consortium of African Environmental Funds (CAFÉ) as a valued network for CTFs and a useful way to learn from each other. Many of the respondents knew each other, and a spirit of collaboration and willingness to help seems to prevail between the CTFs.

Transparency is mixed with the CTFs considered in this report. Although all interviewees spoke of reporting policies, the public availability of information is not a systematic priority for most of the CTFs. Two of the CTFs in the group of thirteen did not have websites and several others did not have up-to-date material. That said, the nine interviewees were forthcoming with information and mostly easy to contact. Only three of the CTFs did not respond at all.

### A3.1.7 Some Possible Lessons for a Liberian CTF

Overall, interviewees were positive about the use of CTFs for conservation purposes. They had a number of lessons to share and also demonstrated a high level of awareness of good practices regarding CTFs.

- The financial performance of the Fund is extremely important. Accordingly, there should be someone with investment and financial expertise on the staff at a senior level as well as on the Board. There should also be regular financial investment reviews with third party advice to CTF staff and Board.
- Fund raising is important and there should be this expertise within Staff and Board.
- The Board members should be selected for personal commitment and drive as well as expertise. There should be outside expertise brought to advise the Board at times as needed (on conservation, fund raising, investments, etc).

- Separate funding for the setup phase is needed (200k+).
- Guidance documents and manuals should be developed outside the Constitution so that they can be updated.
- There needs to be a robust business plan which explores possible sources of income, estimates them as realistically as possible and sets target amounts for the Endowment Fund, recapitalization, and project spending.
- There should be a policy for stabilization of income from the Fund (e.g., setting annual budget depending on an average income over a 5 year period).
- A Secondment with a successful CTF would be useful for learning how CTFs operate, are governed, fund raise, and market themselves.
- The Liberian Fund should demonstrate high levels of transparency.

## A3.2 Legal Review of Enabling Environment and Any Constraints for Establishing a Conservation Trust Fund in Liberia

### A3.2.1 Overview of Liberia Conservation Imperative and History of CTFs in Africa

**The need for biodiversity conservation in Liberia is urgent and compelling.** Liberia's huge forest of approximately four (4) million hectares (accounting for about half of the total landmass of the country) has been a subject of many reports and studies, detailing its rich biodiversity and the attendant need for its conservation. The World Bank recently conducted and concluded one of such studies/reports. In its forthcoming report titled **Aggregated Biodiversity Offsets: A Roadmap for Liberia's Mining Sector** (**"Aggregated Offsets Report"**), the World Bank study notes the "exceptionally diverse ecological communities and distinctive flora and fauna" in Liberia, and detailed the "priority areas for conservation" and "key biodiversity areas (KBAs)" within Liberia that need but currently receive little or no protection.

**Liberia has a history of over 30 years of biodiversity conservations efforts, but with little to show as success.** The Aggregated Offset Report traced the Liberian Government's efforts on biodiversity conservation, beginning with the establishment of a department of wildlife in the 1970s and the subsequent establishment in 1983 of the Sapo National Park, up to the establishment of the East Nimba Nature Reserve in 2003 and Lake Piso Multiple Sustainable Use Reserve in 2011. The above-mentioned three (3) protected areas account for 3% of the landmass of Liberia, although the **Act for the Establishment of a Protected Forest Areas Network (2003)** obliged the Government of Liberia to establish a protected area network covering at least 30% of the total forest area of Liberia.

**Inadequate budgetary support coupled with significant pressure to generate revenue from logging, mining and large-scale agriculture hamper the creation and management of protected areas and put at risk the remarkable biodiversity in Liberia.** It requires financial resources to cover the cost of conservation, and this cost rises as the total areas under

protection increases. Yet, the statutory agent responsible for forest conservation in Liberia—FDA—is chronically underfunded.

**The Aggregated Offsets Report acknowledges the Liberian law requirements that extractive companies implement biodiversity offsets, but argues that individual, project-specific conservation is likely to be inefficient in Liberia for a number of technical reasons.** What it recommends as an effective means of promoting higher conservation outcome is the establishment of some form of aggregated biodiversity offsets along with a conservation trust fund (CTF) whereby mining companies co-fund the CTF to ensure effective management of PPAs and generate greater conservation outcomes, which then could be in lieu of all or some of the biodiversity conservation obligations under the mining and environmental laws of Liberia as well as applicable concession agreements.

**The establishment and use of a conservation trust fund offers great potential of securing long-term, sustainable financing for the PPAs in Liberia.** A Conservation Trust Fund (CTF) is generally a non-governmental, legally independent grant-making institution whose objective is to raise and manage funds for biodiversity conservation. CTFs are supported by USAID, the World Bank and many other institutions and governments.

**The use of CTFs as a funding mechanism for biodiversity has increased dramatically over the past two decades following critical acceptance by many conservation experts, bilateral and multilateral donors, the private sector and civil society.** There are over 50 CTFs currently in existence, while many more are being established in diverse countries in nearly all regions of the world. There are about twelve CTFs in Africa. For example, in Madagascar, a CTF was established in January 2005 with the stated objective of "securing the finances of the Malagasy national park system" of more than 40 national parks "through financial endowment of an environment fund." With a diverse, large number of donors that include the Madagascar government, the World Bank, GEF, AFD/FFEM, WWF, CI and KFWT, the Madagascar CTF raised about USD11.0 Million during its first two year period of existence between 2005–2007. A similar trust fund, Fondation Parcs Nationalux et Reserves (FPNR), was established in the Ivory Coast in 2002 "to finance recurrent costs of the national parks and reserves." Another CTF is the KILIMANJARO ENVIRONMENTAL CONSERVATION MANAGEMENT TRUST FUND established by the Government of Tanzania in partnership with the people of Kilimanjaro.

The work and experiences of the various CTFs have been documented and shared through CTFs networks such as the Latin American and Caribbean Network of Environmental Trust Funds (RedLAC) and the Consortium of African Funds for the Environment (CAFE). Also, the norms and practices of nearly all CTFs existing as at 2013 have been compiled and published as Practice Standards for Conservation Trust Funds through an initiative of the Conservation Finance Alliance (CFA), which is a global voluntary network of all CTFs, major donors to CTFs, as well as many other conservation organizations and experts aimed at addressing the challenge of sustainable financing for biodiversity conservation. The Practice Guides identifies six (6) key factors "that are considered essential" to designing, managing and monitoring every CTF to be fit for purpose. The six factors are (i) adequate, documented governance structures and processes that ensure government's participation but not control of the CTF; (ii) clearly defined scope of operations that covers grant-making, strategic planning and interactions between the government and other partners including companies, communities

and donors; (iii) administration, covering delineation of roles and responsibilities, operational manuals and financial management procedures including audits; (iv) asset management, which encompasses investment strategies and fiduciary responsibilities and relationships with various types of investments professionals; (v) monitoring and evaluation; and (vi) resource mobilization which covers fundraising and managing payments for environmental services (PES), compensation funds, offsets payments, etc.

**The principles of directing CTF resources to protected areas management is therefore fairly established, especially in the African region.** At least eight of the CTFs are dedicated entirely or substantially to protected areas. A CTF in Liberia can certainly benefit from the experiences of the eight CTFs focused on funding and managing PPAs.

### A3.2.2 Current Legal and Policy Environment for Establishing a CTF in Liberia

**The legal framework and Policy environment in Liberia individually and collectively support the establishment and sound management of a conservation trust in Liberia.** Liberian laws recognize a trust as a contractual relationship enforceable when validly established; it also has a dedicated statute on the creation and management of private foundations. There is a dedicated chapter of the Tax Code of Liberia on taxation of trusts, which provisions offer clear and predictable rules on taxation on determination and taxation of trust income. No Liberian law or policy precludes the Government of Liberia or any of its agencies from establishing or contributing to a trust fund. There is also a clearly noticeable strong public policy on the part of the Liberian government for (i) biodiversity conservation generally, (ii) the creation, protection and monitoring of protected areas (PAs), (iii) the effective involvement and participation of communities and civil society generally in forest management and conservation; and (iv) the building of public private partnership (PPP) for conservation in Liberia.

**The legal concept of "trust" is one well established under Liberian laws.** It is true that Liberia, like many common law jurisdictions (meaning countries whose laws are based on English and/or American laws), have no specific statute on trusts. The nature of a trust and how it is created to become enforceable are therefore decided in Liberia by reference to the Common law. This adoption of the Common law principles and rules on trust is pursuant to Section 40 of the General Construction Statute of Liberia (also referred to as the Reception Statute), which provides that "the rules adopted for chancery proceedings in England, and the common law and usages of the courts of England and of the United States of America, as set forth in case law and in Blackstone's and Kent's Commentaries" shall, "when applicable, be considered Liberian law." Hence, relying on the Reception Statute, the Supreme Court of Liberia held in a 2009 decision that "**in the law of trusts,** an Inter Vivos Trust takes effect during the life time of the Settlor/Trustor and it remains in existence until revoked during the life time of the trustor, or until a condition in said trust is broken." The Supreme Court has also held that a trust instrument is sufficient to establish a valid, enforceable trust when it (i) establishes an identifiable trust res; (ii) appoints a trustee, which may be natural or legal person(s); and (iii) names a beneficiary or group of beneficiaries, adding that **"the issue of ascertainable beneficiaries can be clearly established by an examination of the trust instrument."**

**A trust may be created by any contractual instrument and by whoever is capable of making or entering into an enforceable contract.** This is because a trust under Liberian law is a legal relationship whereby an asset or resource is given or set aside by one or more persons to a custodian who holds/manages it for the benefit of another person(s) generally referred to as the beneficiary or beneficiaries.

**A CTF may be created by (i) one or more extractive companies; (ii) one or more agencies of the Government of Liberia; or (iii) by a combination of extractive companies and agencies of the government.** Any legal person under Liberian law has the capacity to enter into and perform any and all lawful contracts. Each extractive company and agency of the government is therefore capable of entering into contract, and of creating a trust. Neither the Government of Liberia nor any of its agencies is precluded from entering into contract with private legal entities. In fact, private companies and public agencies and authorities enter into contract rather frequently. Any extractive company or agency of the government may therefore lawfully create a CTF through contract, by acting alone or in conjunction with other(s). The management of the trust fund and the activities that it may fund may also be stipulated in the relevant trust instrument.

**A trust may be a private trust (i.e., created for the benefit of a certain designated individual or individuals, or class of persons) or it may be a public trust (i.e., created for the benefit of public at large).** A public trust is generally considered a charitable trust because it is for the benefit of the entire public as opposed to private interests. A conservation trust fund dedicated to funding the protection of protected areas (PAs) is definitely for the benefit of the public and therefore qualifies as a charitable trust.

**A charitable conservation trust Fund is generally tax exempt under Liberia law.** Section (9) of the Consolidated tax Code of Liberia provides that the "Government of the Republic of Liberia, government agencies, **and charitable organizations that are approved by and registered with the Ministry of Finance, Republic of Liberia are referred to as "Exempt persons" and are exempt from tax** to the extent provided in this Code." Importantly, Section 9(f) states that a private charitable or not-for profit organization is not eligible for registration as a registered charity if it engages in political activities or "the revenue or property of the organization is used in a way inconsistent with the charitable purposes for which the organization was established."

**While Liberia has no specific trust statute, the country is one of a few common law jurisdictions with a dedicated statute on foundations.** A foundation is substantially similar to, but slightly different from, a trust. The two are similar in that in either case the donor irrevocably transfers ownership of the endowment asset or fund for use/application towards the indicated purpose of the trust or foundation. They are different by the method of creation and also by the fact that while title to a trust property is in the trustee, the same is not true about the founder or manager of the foundation. The private Foundations statute is called An Act to Further Amend the Associations Law as Amended, Title 5 of the Liberian Code of Laws Revised, by Adding Thereto a New Part VI, chapter 60, Providing for the Establishment of Private Foundations. It contains detailed provisions on the registration, purpose, management and audit of foundations.

**With appropriate drafting, a CTF may be established in Liberia under the Private Foundations statute or by way of the usual deed of trust executed by the original donor(s).** The procedures for the formation of a Foundation are detailed in the Private Foundations statute. The statute first defines a private foundation as (i) an entity established by a Memorandum of Endowment; (ii) holds assets irrevocably transferred to it by one or more donors; and (iii) registered and is a legal entity which can sue and be sued. The statute states that management of the assets of a private foundation should be in accordance with the Memorandum of Endowment, and that assets can be realized, applied, administered, invested and disbursed. Further, the statute lists activities or objectives that are not permitted for private foundations, and they include:

a. Trade; manufacturing, adventure or concern in nature of trade;

b. Being or becoming a member of a partnership, except limited partner in a limited partnership;

c. A shareholder or a member in a company, except limited company;

d. A director of a company;

e. Carrying out activity to which Banking or Insurance Laws apply; and

f. Activity prohibited in or from within Liberia.

**The statute further provides that** that a private foundation may, but need not be charitable. It also prescribes the modes of establishment of Private Foundations, and the mandatory optional provisions of a Memorandum of Endowment. The Statute further requires **an initial asset of a foundation to be of a value not less than US$10,000.00.** If the value is not currency, there should be filed with the Registrar a certified statement by a person named in the Memorandum of Endowment as an officer that the assets satisfies the required value of US$10,000.00.

A CTF may be established in Liberia under the Private Foundation statute as was done in Madagascar where the Madagascar CTF (called "Madagascar Foundation for Protected Areas and Biodiversity") was established on January 6, 2005, under the Malagasy Foundation Law, and has received donation from the World Bank, GEF, WWF, CI, KFW and others, with the administrative costs for the first two years covered by USAID, WWF and KFW. **See, Madagascar trust fund for sustainable protection of nature reserves, Dr. Ralf Kadel (KFW) and Noemie Burkl (BMZ (2007)).**

**Many trusts and foundations do exist in Liberia, and are known to varying degrees.** A well-known trust is the Joseph Jenkins Robert Educational Trust Fund. This trust was created more than a century ago by the first president of Liberia for the purpose of promoting education, and it still exists today. Its trustee is the Methodist Church of Liberia and the beneficiaries are the children of Liberia.

**There is no provision or interpretation of Liberian law that hinders or could hinder the establishment of a conservation trust fund.** In fact, the laws of Liberia on trust, contract,

and taxation provide a clear and predictable framework for the establishment of a conservation trust fund or any other trust.

**A CTF established under Liberian laws can have and manage many funds from various sources and, in respect of any such multi-fund, it is perfectly legal and without any restriction whatsoever for such fund to receive an endowment or fund from one or more sources that is ear-marked for a particular purpose or project within the general purpose/ objective of the CTF.** A Liberian CTF may commence with one fund and then evolve over time to managing more funds, or may in fact start as a multi-fund to the extent possible and/or provided in the trust deed. Further, while a Liberian CTF can be a multi-fund, there is no restriction whatsoever to stop it from receiving contribution of any asset that is ear-marked for a particular purpose or area such as biodiversity offsets, wildlife conservation, etc. In fact, Section 60.6(b)(vii) of the Private Foundation statute expressly provides for endowment of supplemental assets to a foundation.

**The Government of Liberia's long-standing commitment to the designation and policing of certain biodiversity-rich areas as protected areas and its knowledge of the chronic funding problem that faces conservation efforts makes the government more amendable to consider CTF and other creative mechanism for financing conservation.** The records show that efforts to establish national parks, nature reserves and protected areas started more than thirty years ago, and continue to this date. While there are many factors responsible for the little progress made this far, one major cause for the slow progress is inadequate funding.

The **"Conservation and Wildlife Fund" proposed in a draft bill (Wildlife Law of 2014) recently submitted by the President of Liberia** to the Legislature represents concrete evidence of a major policy shift towards finding creative financing mechanisms for conservation in Liberia. According to the draft Wildlife Law 2014, the **"Conservation and Wildlife Fund"** is "for the administration of protected areas, wildlife conservation and management activities" in Liberia.

**The Government has a positive history of public private partnerships.** Governments in some countries, especially those of civil law traditions, are generally reluctant to accept mixed management of legal entities when the Government does not hold majority share or voting powers. This situation does not pertain in Liberia. Rather, the Government has a history of joint venture with private entities to develop extractive resources or further some public cause. Hence, the Government accepted a joint venture with a number of companies for operation of the Lamco Mines, and is also currently in a joint venture (where it has a minority position/voting power) with ArcelorMittal for operation of the Nimba Mountain. Also the Government of Liberia established the Liberia Extractive Industries Transparency Initiative (LEITI), which is governed by a supervisory board (called Multi-stakeholders Group) that comprises nearly equal representations of three (3) major stakeholders groups, namely, the Government, private sector, and civil society. Significantly, the Government continues to fund LEITI through the national budget (last year allocation was a little over a Million USD), although it has less than half of the membership of the LEITI Board and correspondingly co-controlling vote on the board.

**The existence of social development funds and the mechanism/principles under which extractive companies currently contribute to these county social development funds speak to an accommodating policy framework for CTF or similar funding arrangement that encourages or requires extractive companies to contribute to a socially beneficial cause in lieu of meeting another contractual or statutory obligation.** The basis for extractive companies to contribute to county development funds is contained in Mineral Development Agreements (MDAs). Indeed, many of the MDAs contain a provision requiring extractive companies to contribute adjustable specified sums of money to social contribution/social development funds under the condition that such contribution is in lieu of the company's obligations under Section 9(3) of the Exploration Regulations. For example, Section 8.2(a) of the MDA between Putu Iron Ore, Inc. and the Government of Liberia provides that Putu Iron Ore Mines, Inc. "shall pay an annual social contribution" beginning with the initial amount of US$500,000 in 2011, US$1.25 million in 2012, US$3 million in each of 2014, 2015 and 2016 and upwards, and that such **"Annual Social Contribution shall be in lieu of any obligation of the Company pursuant to Section 9.3(b) of the Exploration Regulations."** Section 9.3 of the Exploration Regulations imposes "local community enhancement obligations" on each mining company and requires them to, among other things, "expend each year during the License Term an amount equal to at least 2% of its approved budget for each year on the construction, maintenance or rehabilitation of schools, clinics within its License Area or within other local communities affected by the Licensee's operations."

Incidentally, all the MDAs also contain requirements for environmental protection and management, including the submission and updating of EIA and EMP as well as the updating of the EIA and EMP. The MDAs and the Exploration Regulations also impose an Environmental Restoration Obligations and require a funding guarantee or security in respect of such obligation. Although a Restoration order may not necessarily be a typical biodiversity conservation intervention, it is possible and herein suggested that the idea in the case of social contribution is adaptable, and that extractive companies may be required to contribute to a CTF under an appropriate arrangement where a contribution made may be in lieu of some of the project-specific Environmental Restoration Obligation of the company.

**There is also strong public policy for the involvement of civil society and communities in forest management and conservation.** The Forestry law is quite specific about the requirement for effective participation and voice of communities in forest management. The Government also recognizes the principle that communities and forest dependent people who bear the cost for protection of the forest (by way of foregoing having forest resources forming their sources of livelihood) should be provided adequate alternative sources of food and/or income. The involvement of communities in a CTF is encouraged, favored and supported by the legal and policy frameworks in Liberia.

### A3.2.3 Financial Opportunities/Constraints for CTF in Liberia

The explicit Tax Treatment of Trust (including deductibility of contribution to charitable trust); the liberal currency regime, including no restriction on expatriation of funds; and the existing financial obligations of extractive companies under their concessions agreements

as well as the recognition of CTFs as proven financial mechanisms for funding conservation programs all constitute good financial opportunities for successful establishment and operation of a CTF in Liberia. Also serving as an independent opportunity is the fact that neither the Government of Liberia nor any of its agencies have statutory restriction on allocating for or contributing to a charitable trust.

**Chapter 5 of the Liberian Tax Code titled "taxation of trusts and estates" contains detailed provisions on properties and liabilities of trust, the determination of trust income, foreign income tax, taxation of beneficiaries, etc.** It also provides, inter alia, that "transactions between a trust and its trustee and beneficiaries shall be respected" and also that "separate calculations of the taxable income of a trust shall be made for separate trusts regardless of whether they have the same trustees." Section 500 (a) of the Code states that "a Trust is liable to pay tax separate from its beneficiaries on its income for a tax year."

**A Charitable CTF is and will be entitled to tax exemption.** Section 9(a) of the Tax Code provides that "charitable organizations that are approved by and registered are referred to as "Exempt Persons" and are exempt from tax to the extent provided in this Code." This means that where a charitable trust is established, it is entitled to tax exemption upon its registration with the relevant authorities, although Section 9(f) says that such a charitable trust or a similar not-for-profit organization may lose its tax exemption if it engages in political activities or "the revenues or property of the organization is used in a away inconsistent with the charitable purpose for which the organization was established."

Section 205 (b) of the Tax Code (Charitable Contribution Deduction) states that a "deduction is allowed a tax to a taxpayer filing a tax return under Section 900 or 901 for the amount of a contribution made to a qualifying organization." Subsection (2) of Section 205(c) further states that "when the contribution is in the form of noncash property, the amount of the contribution is the property's adjusted tax cost or its fair market value, whichever is lower."

The foregoing clearly shows that the tax code presents good financial incentives for successful establishment and operation of a CTF as a charitable trust in Liberia.

**The Financial laws of Liberia implements a liberal currency regime and unrestricted current and capital accounts, which are all favorable to mobilizing and investing assets of a CTF established in Liberia.** The United States Dollars is legal tender in Liberia along with the Liberian Dollar, and the rate of exchange between the two and other currencies is market-determined. There are no foreign exchange controls of any kind. Any person, legal or natural, may repatriate any sum of money from Liberia to wherever, although a regulation of the Central bank requires that amounts beyond a certain threshold be transferred only through banking channels.

**Extractive companies may be willing or lawfully required to contribute to a CTF in Liberia.** The internal corporate conservation policies of many extractive companies should generally make them more amendable to consider funding a well-structured CTF that promises value for money.

Additionally, the **Environmental Restoration Obligation Funding Agreement** required in a number of MDAs and/or the Remediation and **Restoration security** required by Section 103 of the Exploration Regulations can be creatively structured to provide incentives for extractive companies to contribute to a CTF in Liberia. For example, Section 5.5(c) of the Putu Iron Ore MDA state "upon approval of the feasibility, (i) the Company and the Government shall enter into an **Environmental Restoration Obligation Funding Agreement** or (ii) the Company shall provide the Government, as a beneficiary, a funding guarantee from an Acceptable Third Party Financial Institution guaranteeing the restoration obligation . . . for each five-year period." It further provides that **"for the purpose of this Agreement, an Environmental Restoration Obligation Funding Agreement" means an agreement between the Company and the Government that (i) requires the establishment of an escrow account with an Accepted Third Party Financial Institution pursuant to an escrow agreement to be entered into among the Company, the Government and such Accepted Third Party Financial Institution; (ii) requires the Company to fund such escrow accounts in advance of the applicable five year period such that at all times such escrow contains at minimum an amount equal to (x) the aggregate estimate for closure cost. . . ."**

Similar to the mechanism of treating contributions to county development funds as being in lieu of their obligations under Section 9.3 of the Exploration Regulations, it is suggested that extractive companies may be incentivized to contribute to a CTF and the contribution counted towards any agreed portion of their total EMP obligations.

**Many donor institutions, international organizations and foreign governments are likely to support the establishment and funding of a CTF in Liberia.** A USAID publication describes a CTF as a conservation financing mechanism involving a partnership between government and extractive industries for financing biodiversity. The USAID publication also says that one of such "systems for organizing biodiversity payments is a USAID-supported business and biodiversity Offset Program (BBOP), which is a partnership between companies, governments and conservation experts to explore biodiversity offsets." The World Bank also recognizes the practical values of CTFs, and has tracked their performances, which it published as **Practice Standards for Conservation Trust Funds** (hereinafter referred to as CTF Guide). The funding sources of many other existing donors show a number of other institutions and foreign governments that have supported them. A fair conclusion therefore is that many donor institutions and foreign governments who endorse CTF as a efficient financing mechanism for biodiversity conservation are actively working in Liberia and have contributed and/or are contributing to forest governance, management and conservation generally in Liberia. Notable among these organizations are the World Bank, USAID, Norwegian Governments, and other foreign governments. Their familiarity with and support for CTF should be a good opportunity to convince them to contribute to CTF in Liberia.

### A.3.2.4 Need and Possibility of Establishing the Liberian CTF as a Non-Governmental Organization

**It is essential for the effectiveness and financial viability of a Liberian CTF that it is established as an inclusive public private partnership that optimizes available tax procedures and also promotes the participation and interest of communities and all other relevant stakeholders.** Effective and sustainable biodiversity conservation is more than a

law or government policy. It has substantial impact on many lives and therefore requires the collective involvement of society, including forest dependent communities, donors and others to ensure success. This advises or requires that a CTF be established not as another government agency, but as an independent legal entity established by and through an effective partnership between the Government and civil society inclusive of communities as well as extractive companies. This ensures true public private partnership that inspires the confidence of both the communities and donors.

The Practice Guides reflecting the experiences of nearly all CTFs state that "conservation Trust Funds are private, legally independent institutions." Accordingly, a key practice standard under governance of CTF is stated as follows:

> A CTF is established under the laws of a country that effectively ensures the CTF's independence from government, that has clear and well enforced laws concerning private non-governmental organizations (including Foundations or trusts), and that does not subject the CTF to paying substantial taxes.

The foregoing CTF norm of practice along with other governance standards under the Practice Guides, requires the following with respect to a CTF established under Liberian law:

1. That the CTF is established through written instrument (a trust deed or memorandum of endowment, as the case may be) in keeping with the procedures established under Liberian law;

2. That the purposes/objectives of the trust are clearly stated to enable its registration and operation as a charitable trust or foundation, which would therefore make it tax exempt;

3. That the Government of Liberia is one of several parties responsible for the governance of the Trust; and

4. That there are clear provision in the CTF's instrument of creation relative to governing body (or bodies), including their selection and responsibilities, ensuring that the trust is neither a government entity or controlled by the Government.

**As an international practice standard, Governance Standard 10 is the norm in nearly all successful CTFs.** The following trust funds in Africa are all private legal entities, although with Government's participation: (1) Mgahinga and Bwindi Impenetrable Forest Conservation Trust (MBIFCT) which was set up in 1994 under the Uganda Trust Act to provide long-term funding for the conservation of the Mgahinga National park (MGNP) and the Bwindi Impenetrable National Park in Uganda; (2) The Madagascar Foundation for Protected Foundation established under Malagasy Foundation law for securing finances of the Malagasy national park system of over forty (40) national parks; (3) Kilimanjaro National Park; (4) Fondation Parcs Nationalux et Reserves (FPNR).

**Having the Government of Liberia participate as one of several partners with rights for the governance of the Liberian CTF is not prohibited by Liberian laws, but in fact has fact has a precedent.** Under Liberian corporate laws, anyone can serve as a director or officer

of a Liberian legal entity irrespective of shareholding, nationality or residence. There is also no Liberian law that requires the government to have a majority position or controlling vote as a condition for the government or any of its agencies to serve as member of the board of a legal entity or contribute to the entity's budget/funding needs. An instrument creating a Liberian CTF or bylaws adopted thereunder may therefore lawfully name relevant agencies of the government as some director(s) of many directors of the CTF, the eligibility requirements and selection procedures for directors, and the number of votes required to make a binding decision. There is ample evidence of the Government of Liberia accepting as members of the board of some legal entities including extractive companies although it has minority shares and non-controlling votes.

**The statutorily established governance structure of the LEITI—which is working excellently and has led Liberia to becoming a world leader in EITI implementation—provides both a good precedent and model for the governance of the Liberian CTF.** In 2007 Liberia joined the Extractive Industries Transparency Initiative (EITI), which is a global standard for transparency over payments and revenues from oil, gas and mining companies. The EITI Criteria requires that a national EITI program be led by the Government but under the ultimate management and oversight of a multi-stakeholders group (MSG) comprising representatives from the Government, extractive companies and civil society. In compliance with the EITI Criteria, Liberia established its EITI program and also established an MSG that comprises the entire named three stakeholders group, pursuant to a memorandum of understanding executed by the three stakeholders groups. The MOU was later replaced by an executive order, then an act of the legislature. Section 6.1 of the LEITI Act states that "the governing body of the LEITI shall be the Multi-Stakeholders Steering Committee ("MSG")." Section 6.2 also states that "the management of the LEITI along with the implementation of all activities and programs of the LEITI shall be done by or under the authority and supervision of the MSG," and Section 6.3 then details the specific authority and responsibilities of the MSG. Section 6.4 then addresses the composition of the MSG as follows: "The MSG shall comprise of at least fifteen (15) members to be drawn from the Government, civil society, and the private sector as follows:

a. Government: Seven representatives to include the Minister of Finance; the Minister of Lands, Mines & Energy; the managing Director of the Forestry Development Authority; and the President/CEO of the national Oil Company of Liberia (NOCAL) or its successors as permanent members;

b. Civil Society: Four (4) representatives to include (1) Publish What You Pay—Liberia or a successor organization; and (2) a representative of a recognized association or union of workers in the extractive sectors as permanent members; and

c. Private Sector: Four (4) representatives to include at least one representative from the mining, forestry and oil sectors as permanent representatives.

The LEITI governance mechanism is an example of what has worked in Liberia and can be built on to comply with the governance standards of CTFs, except that there should be an express provision for inclusion of communities and donors, and the exclusion of the oil sectors.

### A.3.2.5 Advice on Initial Documents and Action for the Establishment, Governance and Operation of a Liberian CTF

**In order to establish the Liberian CTF and ensure its effective operation as a charitable trust, several key documents need to be prepared and carefully vetted by stakeholders to ensure broad inputs and ownership. Also key is procurement of a competent and experienced person or firm to serve as the chief administrator of the fund during the first years of the Fund when strategic plans need to be developed and investment policy and procedures established.** The key initial documents that need to be developed for the establishment and commencement of operations of the Liberian CTF are (1) the trust instrument; (2) the bylaws or a comparable document of internal governance; (3) conflict of interest policy; (4) a compliance list or schedule of statutory and regulatory obligations; and (5) a **Definite-term Funds Management Contract with a consultant firm** in lieu of employment contracts for senior officers of the trust. These documents are all normal requirements for effective corporate governance in Liberia and under Liberian laws.

**The instrument by which the trust is created (a trust's primary, governing document) needs to provide a clear statement of the purpose/objectives of the CTF, its status as a private, non-governmental organization and composition, powers and responsibilities of its governing body (or bodies).** As stated herein above, the Liberian CTF can be created under **EITHER** the trust laws of Liberia (in which case the trust instrument will normally be a "deed of trust") or under the Private Foundations statute of Liberia (in which case, the primary governing instrument will be the **"memorandum of endowment"**).

By whatever means the CTF is created, the key requirement is that its primary governing instrument clearly sets forth the following:

1. The purpose or objectives of the CTF;

2. The status of the CTF as a charitable or not-for-profit organization to continue in perpetuity;

3. The composition, powers, responsibilities governing body (or bodies) of the CTF, ensuring that the composition reflects a fair mix of representation of relevant agencies of government, extractive companies, civil society and international donors/partners that ensure a high level of independence; and

4. The initial assets/endowment irrevocably transferred to the CTF by the donors/trustors of the trust.

**The purpose/objective of the Liberian CTF should embrace the full complement of activities (including responses to challenges) identified by the Aggregated Offsets Report and/or Liberian stakeholders as necessary for effective and sustainable management of protected areas.** The purpose and objectives of the Liberian CTF may therefore include, but not be limited to (i) grant making to fund the cost managing all PAs by the FDA and other relevant agencies; (ii) making of grants to fund community-based socioeconomic development projects for the communities adjacent to each PA, including projects related to alternative sources of food and occupational activities; (iii) funding of research activities,

including study of the effectiveness of biodiversity offsets; (iv) handling of biodiversity payments under the aggregated offsets contemplated or proposed to be implemented in Liberia; and (v) the effective and prudent management of the financial assets of the Trust, including the priorities (or percentage of funding to be allocated across the key activities).

**The trust instrument should of necessity state the status of the CTF as a charitable organization that does not contemplate the making of profit and will not make a distribution of its assets irretrievably transferred to it.** The clear statement of the charitable status is essential for easy registration of the Liberian CTF as a tax-exempt charitable organization covered by Section (9) of the Tax Code. The irretrievable transfer of assets is also necessary to satisfy the existential requirements of a trust, and also to ensure full tax-exemption coverage of all assets of the trust. The express statement also provides continuing notice to all directors and officers of the trust of their obligation to conduct the activities of the CTF in such a way that maintains its tax-exempt status. For example, the Kilimanjaro CTF is established as a not-for-profit organization by these words: "From this sequential realisation, we, the people of Kilimanjaro, have decided to form a Non-Governmental Organisation (NGO) called KILIMANJARO ENVIRONMENTAL CONSERVATION MANAGEMENT TRUST FUND. This organisation shall be executed under the guidance of the Government, shall involve Government and non-Government organizations; the Regional Administrative Secretary shall be the Chief Executive Officer."

**The Trust deed or memorandum of endowment of the Liberian CTF should clearly define the composition, powers and responsibilities of its governing body, making sure that the membership of such governing body is carefully structured to promote high levels of independence and for representation of all relevant stakeholders.** The rule of Liberian law is that all corporate powers are exercised by or under the aegis of the board of directors or trustees. It is also the rule of Liberian corporate law that unless otherwise stated in the articles of incorporation or a trust, the board of directors or trustees of has statutory authority to take any action, including removing and/or replacing any of its members if determined necessary for the effective governance of the legal entity. The foregoing rules emphasize the importance of stating fundamental principles, and rules of a trust in its primary, governing document. Given the statutory authority of a board as the body with ultimate responsibility for the governance of any corporation, including a CTF, it is important that provisions relating to the scope of authority of the board, its membership and means of selecting members are clearly set forth in the primary governing document. Otherwise, such matters may be stated in subsequent bylaws, which may be amended rather frequently, thereby leading to situation(s) tending to undermine the requisite stakeholders' relationships.

Another reason why it is important for the Trust instrument to state the composition, powers and responsibilities of the governing body is to ensure an inclusive, multi-stakeholders board with carefully defined rules for selection and removal of members. This inspires confidence of all segments of society including opposition politicians and other critics of any government, thereby helping to prevent the CTF from being seen from political lenses that leads to reluctance of communities to comply, poor support from civil society and attempted repeal or funding cuts in case of change of political leadership. It also helps with satisfying the policies of many donors for contributing to only CTFs or Funds that are not controlled by Government.

Based on a scan of stakeholders relevant to the work of a Liberian CTF, it is suggested that the composition of its governing board be patterned after that of the Liberian EITI (LEITI), but to have its membership comprise the following four (4) broad stakeholders groups: (1) Agencies of the Government; (2) Private Sectors; (3) Communities/Civil Society; and (4) Donor groups. Like the LEITI where the Ministry of Lands, Mines & Energy and the Ministry of Finance are co-chairs of the LEITI MSGs, it may also be beneficial to have the FDA and the EPA serve as co-chairs of the Governing board of a Liberian CTF. Having a government agency chairing the board offers a lot of advantages, which may ensure needed sync between the CTF work and that of the government and also helps fund-raising as a number of donors will see such active involvement and leadership of the government as demonstrated policy commitment to biodiversity conservation in Liberia. Regarding the civil society stakeholder group, Leading civil society organizations such as SDI, Green Advocates and SAMFUL could also form (on a rotational basis or otherwise) portions of the representation from communities and CSOs, while existing county community forest bodies may be organized to provide effective representation of communities. The selection of the private sector representation could be basically patterned after the LEITI model but with little or less representation from the oil and gas sector. The World Bank, USAID and one or two bilateral donors could also serve on the board to ensure active participation of the donor community, even if their representation could be gradually scaled down after a few decades when the Fund had been fairly established.

It is very important, and is also a practice norm, that members of the governing board have a range of competencies and experiences relevant to the work of the CTF. A good board selection process will therefore include first defining the competencies/eligibility requirements of members of the board.

**It is essential that the Governing Body of the Liberian CTF promptly prepare and adopt necessary bylaws to elaborate detail rules about governance of the Trust.** The Bylaws should and will cover quorum, frequency of meetings, notices for meeting; Board sub-committees and other advisory/technical committees; Minutes Book and recordation of minutes, number and appointment/removal of officers. Under Liberian laws, unless otherwise stated in the articles or bylaws corporate decisions are taken based on simple majority. Further, directors are required to meet at least four (4) times a year, and a meeting of the Board may be held in or out of Liberia. The Board may hold a meeting by conference call once all directors can hear one another simultaneously. Further, The Board can make any decision without a meeting once a written consent in lieu of meeting is signed by all directors setting forth the decision.

Some of the foregoing very flexible rules of normal corporate governance are not quite amendable to the governance of a trust. Hence, there is a need to modify to default corporate rules of Liberian laws by carefully drafted bylaws. It is important to have the number of directors agreed based on the need to have fair representation of stakeholders but with an objective of also avoiding difficulty in achieving quorum. The minimum of 15 members established by the LEITI Act is a useful point of reference. The Bylaws should also provide, among others, for the holding of at least four (4) meetings a year, at least two of which should be face-to-face meetings of director; adequate recordation of all deliberations of the board or any subcommittees; and that at least two meetings be held in Liberia.

The Bylaws also need to clearly elaborate the responsibilities of the management body headed by the chief executive of the Fund. The usual provision in every bylaw is that the Board will observe the line between oversight and executive functions relating to implementation of activities.

**Under Liberian laws, all directors and corporate officers owe the corporation fiduciary duties that include the duty of care (reasonable management of all property of the corporation); and duty of loyalty (honesty in fact and in deed, not putting self-interest over that of the corporation).** Although the scope and consequences for these duties are well established under the Common law, the practice is to provide specific guidance relative to the key content of the duties through the bylaws and by way of a conflict of interest policy. It is therefore essential that the board of the Liberian CTF promptly prepare and adopt a concise conflict of interest policy that provides for the definition, identification, avoidance and management of potential and actual conflicts of interest to reduce exposure of the CTF to opportunism, legal and reputational risks. The Conflict of Interest Policy will, of necessity provide for the disclosure of all material, financial and investment interest (including regular updates of such disclosure); and the recusal procedures applicable when a situation of conflict of interest arises.

It is of absolute importance that each director, officer and member of the staff of the CTF make a sworn declaration that they read and understood the CTF's Conflict of Interest Policy and undertake to faithfully abide by same. Thankfully, the adoption of conflict of interest policies has achieved increased prevalence since the passage of the Liberian Code of Conduct act.

**The Stakeholders and/or the Governing Board of the Liberian CTF needs to engage a professional consultant firm to provide fund management services for the first five or more years to ensure a solid foundation for the CTF.** The management of a CTF requires specialized skills and good years of experience, especially in these times of market volatility. Most of the skills sets are not readily available in country. Hiring a professional firm to manage the fund may therefore be an economically efficient means of obtaining all the needed skills set through one institutional consultant firm, which may be one of the international conservation NGOs or a fund management firm. This approach of addressing the administration and management of the fund will not only inspire confidence, but will help build the capacity of Liberian nationals to take over management of the CTF, thereby laying a solid foundation for the long-term success of the CTF.

Significantly, a similar challenge was faced in designing the chain of custody system currently being implemented in Liberia. Then, a decision was made to hire a Swiss company called SGS to manage the COCS under a management contract for some defined period during which they would train Liberians and ultimately transfer implementation to them. That precedent is worth following.

### A.3.2.6 Conclusion/Next Steps

**The necessary legal framework, policy environment and financial conditions for establishing a CTF are present in Liberia.** In keeping with this engagement to consider both possible opportunities and hindrances to establishing a Liberian CTF, I have carefully

searched the laws, polices and financial conditions in Liberia, but failed to see any material factor that could hinder the establishment of a CTF in Liberia. Instead, the research finds that the laws of Liberia along with the attending policy and financial conditions are very conducive for establishing a CTF in Liberia. Even where a CTF is for any reason established in another country, Liberian laws permits it to apply for and be granted authority to operate in Liberia under its original instrument of creation. Upon the granting of such authority by the Registrar of Companies, the Trust may fully operate in Liberia as if it had been established in Liberia. The procedures for original establishment and application for authority are quite straight forward, and can take not more than ten (10) working days maximum.

The next natural steps towards establishing a Liberian CTF may include the following:

1. S*ubmission of report to FDA:* This is necessary to have a focused discussion with FDA, as the statutory agency responsible for forest management, to obtain its buy-into the idea of a Liberian CTF.

2. *Engagement with other relevant agencies:* The FDA should then engage other relevant agencies of the Government to agree on a position on CTF, which the agencies could sell to the President of Liberia for announcement as a Government policy on CTFs.

3. *Announcement of a CTF Policy:* This policy should expressly provide for the design and governance of the CTF through a multi-stakeholders process.

4. *Convening of a Stakeholders Meeting:* The FDA along with other agencies then convene a meeting of relevant Liberian stakeholders to discuss and hopefully agree to the principle of a CTF, along with a timeline for its establishment. Also they agree to technical committees to prepare legal documentation; financial plans, and fund-raising strategies. Membership in each committee could be on the basis of individuals volunteering or appointment by the lead agency of the Government.

5. *Submission of Reports of Technical Committees:* The Reports of the technical Committees are vetted through meetings of stakeholders who then agree on the next course of actions.

6. Follow-up meetings and actions, as agreed.

## Notes

1. Spergel, B., & Mikitin, K., 2013, "Practice Standards for Conservation Trust Funds."
2. These figures are not entirely comparable as some are from 2014 interviews, while others are from alternative sources and different years.
3. This data was available for eleven CTFs out of the thirteen considered.
4. Information from interviewed CTFs.

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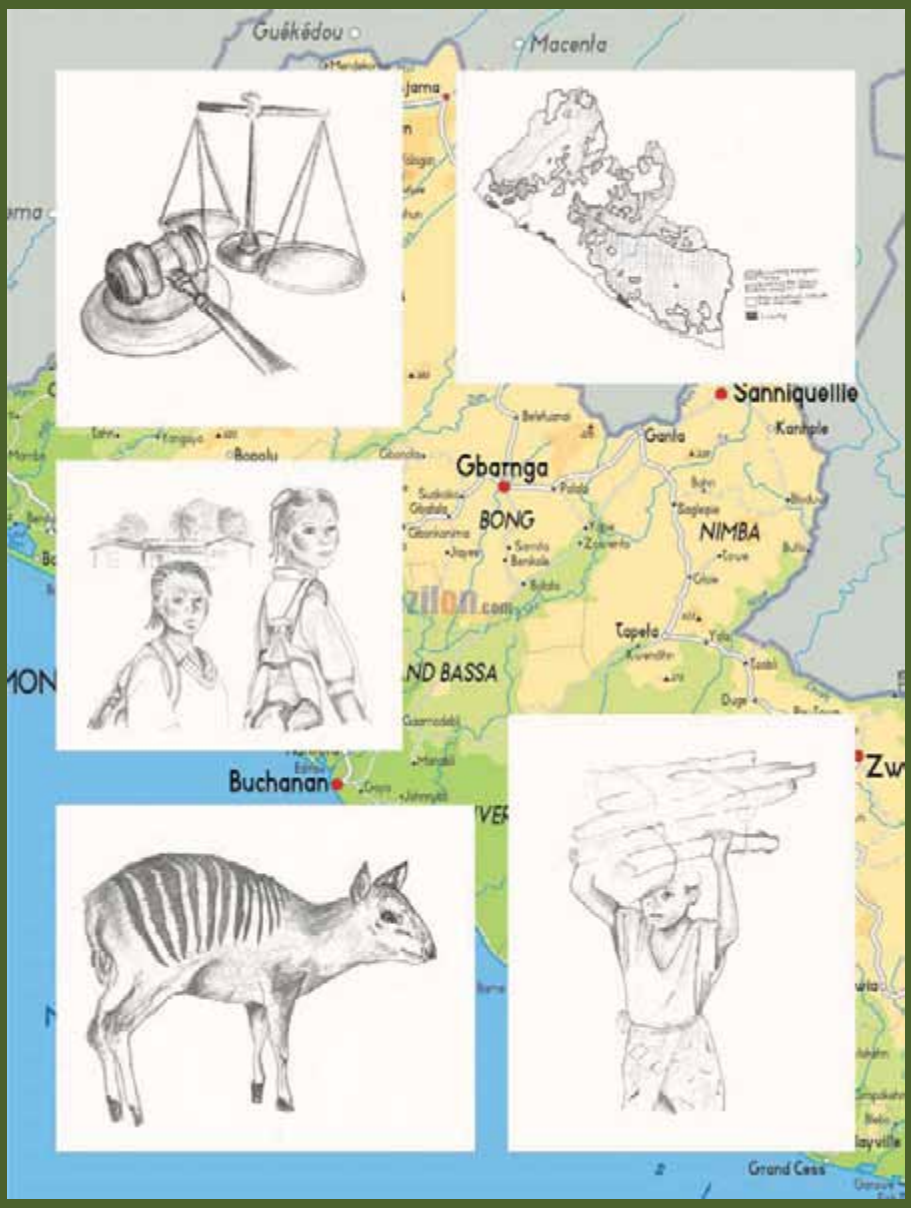


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