

INNOVATING FOR BIODIVERSITY CONSERVATION IN AFRICAN PROTECTED AREAS: A STUDY

**CASE STUDIES FROM CÔTE D'IVOIRE,
SOUTH AFRICA AND SIERRA LEONE**

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1. Introducing the study¹

1-1. Protected areas: FAQs

The International Union for the Conservation of Nature (IUCN) defines a protected area (PA) as « a clearly defined geographical space, recognised, dedicated and managed, through legal or other effective means, to achieve the long-term conservation of nature with associated ecosystem services and cultural values » (Dudley, 2008). Protected areas are characterised based on their primary management objective². Hence 6 categories, including 2 sub-categories, of protected areas are defined (table 1).

Category	Characteristics
Ia: Strict nature reserve	Category Ia protected areas are strictly protected areas set aside to protect biodiversity and also possibly geological/geomorphological features, where human visitation, use and impacts are strictly controlled and limited to ensure protection of the conservation values. Such protected areas can serve as indispensable reference areas for scientific research and monitoring.
Ib: Wilderness area	Category Ib protected areas are usually large unmodified or slightly modified areas, retaining their natural character and influence, without permanent or significant human habitation, which are protected and managed so as to preserve their natural condition.
II: National park	Category II protected areas are large natural or near natural areas set aside to protect large-scale ecological processes, along with the complement of species and ecosystems characteristic of the area, which also provide a foundation for environmentally and culturally compatible spiritual, scientific, educational, recreational and visitor opportunities.
III: Natural monument or feature	Category III protected areas are set aside to protect a specific natural monument, which can be a landform, sea mount, submarine cavern, geological feature such as a cave or even a living feature such as an ancient grove. They are generally quite small protected areas and often have high visitor value.
IV: Habitat/species management area	Category IV protected areas aim to protect particular species or habitats and management reflects this priority. Many category IV protected areas will need regular, active interventions to address the requirements of particular species or to maintain habitats, but this is not a requirement of the category.
V: Protected landscape/seascape	Category V protected areas are protected areas where the interaction of people and nature over time has produced an area of distinct character with significant ecological, biological, cultural and scenic value ; and where safeguarding the integrity of this interaction is vital to protecting and sustaining the area and its associated nature conservation and other values.
VI: Protected area with sustainable use of natural resources	Category VI protected areas conserve ecosystems and habitats, together with associated cultural values and traditional natural resource management systems. They are generally large, with most of the area in a natural condition, where a proportion is under sustainable natural resource management and where low-level non-industrial use of natural resources compatible with nature conservation is seen as one of the main aims of the area.

Table 1. IUCN categories of protected areas, and their characteristics

Source: Dudley, 2008

Protected areas, and their adjacent areas, are further categorized into four different governance arrangement types³, defined on the basis of who holds authority, responsibility and can be held

¹ Authors would like to sincerely thank Marc Magaud (IUCN), Geoffroy Mauvais (IUCN) and Emmanuelle Swynghedauw (MAEDI) for their continuous support to this study, their assistance and expertise.

² Dudley (2008) importantly adds on this : « assignment to a category is not a commentary on management effectiveness; the categories system is international; national names for protected areas may vary; all categories are important; and a gradation of human intervention is implied ».

³ Governance is defined as « the interactions among structures, processes and traditions that determine how power and responsibilities are exercised, how decisions are taken and how citizens or other stakeholders have their say » (Graham et al. 2003).

accountable for key PA decisions. These categories are: A/ governance by government, B/ shared governance, C/ private governance, and finally D/ governance by indigenous peoples and local communities (see table 2).

Governance Type	Sub-types
Type A/ Governance by government	<ul style="list-style-type: none"> ➤ Federal or national ministry or agency in charge ➤ Sub-national ministry or agency in charge (e.g., at regional, provincial, municipal level) ➤ Government-delegated management (e.g., to an NGO)
Type B/ Shared governance	<ul style="list-style-type: none"> ➤ Transboundary governance (formal arrangements between one or more sovereign States or Territories) ➤ Collaborative governance (through various ways in which diverse actors and institutions work together) ➤ Joint governance (pluralist board or other multi-party governing body)
Type C/ Private governance	<ul style="list-style-type: none"> ➤ Conserved areas established and run by: <ul style="list-style-type: none"> • individual landowners • non-profit organisations (e.g., NGOs, universities) • for-profit organisations (e.g., corporate landowners)
Type D/ Governance by indigenous peoples and local communities	<ul style="list-style-type: none"> ➤ Indigenous peoples' conserved territories and areas – established and run by indigenous peoples ➤ Community conserved areas and territories – established and run by local communities

Table 2. IUCN Governance types for protected areas

Source: Borrini-Feyerabend et al. 2013

All protected areas, irrespective of their category and governance type, play a vital role in conserving biodiversity and ensuring environmental protection. Primarily, PAs provide some of the last safe heavens and sanctuaries to preserve exceptional biodiversity, species, and habitats, which are under human threats and pressures, for instance mining, infrastructure development, hydrological and agricultural intensification. In this regard, PAs critically need to conserve the composition, structure, function and evolutionary potential of biodiversity as well as significant landscape features, geomorphology and geology, especially those of national and international significance for cultural, spiritual and scientific purposes (Dudley, 2008; p.12). Besides, PAs remain one of the cornerstones of scientific environmental research activities and ecological monitoring, essential to our understanding of Nature and its future.

At a larger scale PAs also help maintaining the diversity of landscapes, habitats and of associated species, genetic heritage and ecosystems, and thus contribute to more coherent regional conservation strategies to balance both necessary conservation and development needs.

Lastly, PAs can deliver social and economic benefits to resident and local communities and provide the larger society with ecosystem services. They indeed provide regulatory ecosystem services, including buffering against the impacts of climate change, securing clean drinking water, reducing the risks and consequences of extreme events, enhancing food security and allowing for educational as well as recreational opportunities. Considered a nature-based solution, PAs are an integral part of some of the Intended Nationally Determined Contributions (INDCs) made in Paris in December 2015 during UNFCCC COP21.

For all these reasons, international organizations (CBD, IUCN, UNEP), bilateral as well as multilateral Official Development Banks (ODBs, such as AFD, KfW, GEF, The World Bank, among many others) but also individual national States, as well as international and local NGOs (WWF, Conservation International, WCS, Birdlife International, etc.) concentrate their strategies and efforts to expand, safeguard and secure protected areas, both marine and terrestrial.

192 State Parties to the Convention on Biological Diversity (CBD) have embraced this priority and therefore included it in the Strategic Plan Strategic Plan for Biodiversity 2011-2020, including the Aichi Biodiversity Targets, adopted in 2010. Importantly, Aichi Biodiversity Target 11 sets an ambitious goal : « By 2020, at least 17 per cent of terrestrial and inland water, and 10 per cent of coastal and marine areas, especially areas of particular importance for biodiversity and ecosystem services, are conserved through effectively and equitably managed, ecologically representative and well-connected systems of protected areas and other effective area-based conservation measures, and integrated into the wider landscapes and seascapes »⁴.

Progress towards this target has so far been quite positive, although it still remains somehow insufficient (Secretariat of the Convention on Biological Diversity, 2014; Juffe-Bignoli et al., 2014). At the global level, the 2014 World Database on protected areas (WDPA) reports 209,429 protected areas covering a total area of 32,868,673 km². From 10% in 1994, protected area coverage of terrestrial area including inland waters has increased to 15.4%⁵ in 2014, though not much progress has been recorded since 2012. An additional 8.4% of the Earth's marine and coastal waters under national jurisdiction (0-200 nautical miles from the coast) was protected in 2014, from 4.8% in 2010. Yet, looking at the 180 fifth national reports received by the CBD Secretariat by 18 July 2016, 67% indicate that progress is being made towards this target, but not at a rate that will allow it to be met by the deadline⁶.

Furthermore, coverage statistics differ greatly at the regional level. On the one side, Central and South America are the two regions with the highest percentage of protected terrestrial and inland water areas (28.2% and 25% respectively). On the other, African protected areas lag behind progress. With 6,868 terrestrial protected areas recorded in Africa, the continent protects 14.7% of its land. Besides, Africa represents only 3.3% of the total number of sites protected globally (both terrestrial and marine)⁷; this is partly explained by a trend towards protected area downgrading, downsizing, and degazettement (PADDD) on the continent.

Protected areas are also currently inefficiently located. Only 22% of Important Bird and Biodiversity Areas (IBAs)⁸ are completely covered (Juffe-Bignoli et al., 2014) and 23% of Alliance for Zero Extinction sites (AZE)⁹. Besides, the current global PA network is not yet fully ecologically representative as less than half of terrestrial ecoregions (43% of the 823 terrestrial ecoregions of the world) have at least 17% of their extent covered by protected areas.

Most importantly, the management of protected areas remains uncertain and below standards. Where the quality of management has been assessed (for 4,151 PAs in 2010), most protected areas had either only basic management (62%) or major deficiencies (13% PAs are in the 'clearly inadequate' category), while only 24% had sound management in place. In total, management of all PAs assessed is rated just as basic on average (0.53 out of a maximum of 1).

⁴ This target contributes to Strategic Goal C: « To improve the status of biodiversity by safeguarding ecosystems, species and genetic diversity ».

⁵ If Antarctica is excluded from the global statistics coverage.

⁶ Doc UNEP/CBD/COP/COP/COP/ 13 /8/ Add. 2, 20 July 2016 : Updated Analysis of the Contribution of targets established by Parties and progress towards the Aichi Biodiversity targets.

⁷ But it represents 13,8% of the total area covered globally by the protected areas' network (due its PA' sizes).

⁸ Since the late 1970s, the BirdLife Partnership has been working collectively to identify, document and protect all places on earth of greatest significance for the conservation of the world's birds. As a result, over 12,000 Important Bird and Biodiversity Areas (IBAs) have been identified.

⁹ The Alliance for Zero Extinction (AZE), a joint initiative of biodiversity conservation organizations from around the world, aims to prevent extinctions by identifying and safeguarding key sites, each one of which is the last remaining refuge of one or more Endangered or Critically Endangered species. Criteria for designating AZEs are: Endangerment, irreplaceability, discreteness.

Together with the limited level of PAs' connectivity and ecological representativeness as well as their partly inadequate location, unsound management practices jeopardise the integrity of protected areas and question the real de facto level of protection these provide for vital biodiversity, species and habitats. In turn, this clearly calls for new funding and better governance systems in order to expand the PA network, *efficiently and adequately*.

1-2. The need for further funding

Latest estimates for biodiversity conservation financial needs worldwide as well as current investments clearly point to the existence of a large funding gap.

On the one hand, higher estimates for actual current spending for biodiversity conservation interventions *from all sources* (public, private, national and international) range between USD 51.5 and 53.4 billion annually in 2010 (Parker et al., 2012). Waldron et al.'s estimate is fairly below this number, with an average of only USD 23.1 billion¹⁰ (2013) between 2005 and 2008. Out of all these invested funds, bilateral biodiversity-related Official Development Assistance (ODA) by members of the OECD countries amounted to a mere USD 6.5 billion in 2010.

On the other hand, at the lower bound Mc Carthy et al. (2012) estimate that US\$ 76.1 billion are actually needed annually to fund the conservation of all terrestrial sites of global conservation significance¹¹. At the level of the countries eligible to the Global Environmental Fund (GEF), the CBD's financial mechanism, the resources required to achieve the Aichi targets in developing countries alone are also estimated between \$74 and 191 billion for the period 2014-2018 (Fétiveau et al., 2014). More thoroughly, the Report of the High-Level Panel on Global Assessment of Resources for Implementing the Strategic Plan for Biodiversity 2011-2020 (and in particular its 20 Aichi targets) evaluated in 2012 that USD 150 billion were in fact needed annually on the lower bound, USD 440 billion on the upper bound (CBD, 2012).

As a result, at best, current available funding worldwide only covers one third of the lowest needs estimate. In Africa more particularly, little information is known regarding the size of the funding gap, but the available evidence suggests that this is likely to be very large (CBD High-Level Panel, 2014). Against this backdrop, it becomes critical to identify new funding sources.

Conservation interventions that would specifically target protected areas represent the bulk of these funding needs. CBD (2012) indeed estimated that achieving target 11 would necessitate on average spending between USD 9.2 and 85 billion annually over the eight year period 2013 to 2020. Once-off investments needs would require impressive amounts in the range of USD 66.1-626.4 billion whereas recurrent expenditure would amount from US\$ 970 million to US\$ 6.1 billion per annum. In Africa, more precise estimates of the funding requirements for effective management of protected areas range from \$460 to \$2,048/km² (Lindsey *et al.*, 2016). Against these needs, available resources for African protected areas are scarce, though financial assessments are still lacking.

In order to fill the identified funding gap, a broad range of instruments have been proposed to finance and manage biodiversity conservation, including economic and market instruments (Meral, 2015). In a publication for UNEP, Panayotou (1994) proposed seven categories of mechanisms (property rights, market creation, fiscal instruments, charge systems, financial

¹⁰ The estimate of total annual funding to biodiversity between 2005 and 2008 (Waldron et al., 2013) is a compilation of spend by bilateral and multilateral donors, private philanthropy, national in-country spending, and Conservation Trust Funds and debt swaps.

¹¹ This estimate of annual funds needed to protect and effectively manage all terrestrial sites of global conservation significance (McCarthy et al., 2012) focuses on the cost of implementing Aichi Target 11 and Aichi Target 12.

instruments, liability instruments, performance bonds and deposit refund systems) while McNeely (1998), for the IUCN, also distinguished between four types of policy for biodiversity conservation: legislation, institution building, research, and economic instruments.

Focusing more specifically on protected areas, Emerton et al. (2006) proposed a typology of financing mechanisms. The latter were categorized on a spectrum from public to private sources, with a further distinction between mechanisms relying on self-generated revenues and those relying on external funding inflows. These mechanisms include, on the one side, fiscal instruments, benefit sharing mechanisms, cost-sharing agreements including management by private entities (including NGOs), leases and concessions, but also tourism, resource extraction and bioprospecting charges; and on the other side government budgets and foreign assistance, and private voluntary donations.

Building on these works, Parties to the CBD have started to promote economic and market approaches to incentivize and finance biodiversity conservation, within and outside protected areas. At the 8th Conference of Parties in 2006, Parties asked for help from the OECD and IUCN to identify “the development of innovative positive incentive measures”, and of UNEP “to continue supporting the programme of work on incentive measures of the Convention, in particular through its work on the creation of pro-poor markets for ecosystem services” (Meral 2015, p.18). From then on, innovative financial mechanisms and market-based incentives have become an integral part of the CBD’s, as well as its partners’, agenda.

1-3. The call for innovative financial mechanisms

In 2008, Parties to the CBD adopted the Strategy for Resource Mobilization (SRM) in support of the achievement of the Convention’s objectives during the 9th Conference of Parties (CBD Decision IX/11). SRM’s goal 3 calls Parties to “strengthen existing financial institutions and promote replication and scaling-up of successful financial mechanisms and instruments” whereas goal 4 calls to “explore new and innovative financial mechanisms at all levels with a view to increasing funding to support the three objectives of the Convention”. Among others, instruments such as payments for ecosystem services, biodiversity offset mechanisms, environmental fiscal reforms, markets for green products, biodiversity in international development finance and biodiversity in climate change funding were thus promoted by CBD Parties as innovative financial mechanisms. This trend was confirmed in subsequent CBD Conferences of Parties X, XI and XII (decisions X/3, XI/4, XII/3), and further endorsed when IUCN members approved resolution 122 at the Vth World Conservation Congress in Jeju (Korea) in 2012, to promote, and contribute to reflections on, innovative financial mechanisms for biodiversity conservation as complementary fundraising tools.

Although not the focus of this report, the definition, scope and characterization of innovative financial mechanisms have been largely discussed, as were their advantages, disadvantages and applicability. Scientifically, Whitten et al. (2003), Sarker et al. (2008), Jack et al. (2008) but also Vatn et al. (2011) and Vatn et al. (2014), among many others, discussed the comparative strengths and risks of new economic instruments, including financial and market-based mechanisms. Potential advantages include economic incentives being efficient signals, optimal allocation of resources, and filling of the funding gap (Lapeyre and Pirard, 2013) while drawbacks often cited are the volatility and uncertainty of such instruments, and the possible commodification of nature with the associated risk of reducing intrinsic motivations to conserve biodiversity. At the diplomatic level, important debates have also arisen within the CBD arenas. Though innovative conservation tools are now widely called for to incentivize and fund biodiversity (OECD, 2013), several Parties as well as CBD workshops and decisions similarly highlight the limitations associated with these instruments and the important safeguards which are to be put in place

accordingly (for the Quito dialogues see Farooqui and Schultz, 2012 and Ogwal and Schultz, 2014 ; Ituarte-Lima et al., 2014 ; decision XII/3 at COP12, paragraphs 15 and 16 and Annex III).

More generally, the leading group on Innovative Financing for Development, which consists of 66 states and numerous international and non-governmental organizations and whose Permanent Secretariat is held at the French Ministry of Foreign Affairs and International Development, defines innovative financing as mechanisms for raising funds which are complementary to official development assistance, predictable and stable.

The Leading group draws an essential distinction between, on the one side, innovative sources which make new resources available from contributions from various economic sectors, and, on the other, innovative mechanisms which enable the impact of existing public resources to be optimised, particularly by combining them with private funds.

Based on a literature review and interviews with key informants, a study for the French Ministry of Foreign Affairs and International Development (Fétiveau et al., 2014) previously listed 20 financing initiatives that are potentially innovative for biodiversity. These mechanisms were grouped according to five major principles for biodiversity financing. First the tax lever and the reform of harmful subsidies include environmental taxation and taxing financial transactions and CO₂ emissions ; second, responsible investment mechanisms and the debt lever such as green bonds, trust funds and debt-for-nature swaps ; third, direct economic valuation of biodiversity with ecotourism and the development of genetic resources ; fourth, applying the principle of responsibility through offset mechanisms and transferable development rights ; and finally fifth the application of the eco-conditionality principle with certification schemes, payments for ecosystem services and REDD+ projects.

1-4. The need to investigate innovative financial instruments actually at work

Building on this wealth of mentioned literature on innovative financial mechanisms and based on the latest report for the French Ministry of Foreign Affairs and International Development (Fétiveau et al., 2014), this report aims at presenting detailed case studies of some of these innovative financial mechanisms *at work* in and around protected areas in Africa.

Following on the IUCN resolution 122 (WCC-2012-Res-122-EN) to enhance the identification of best practices, this report is set to contribute to the debate by thoroughly describing how these instruments actually work in the field, how these mechanisms emerge, and how these are designed, are implemented and finally monitored. Precisely describing actors, legal conditions, institutions, organizational structures, as well as procedures, contractual arrangements and human relationships, we seek here to disentangle these instruments' historical and institutional context, their reasons and conditions for success but also their drawbacks, risks and decisive moments.

In this regard it is thought to usefully complement previous reports, in particular Fétiveau et al. (2014), by bringing actual practice to theory and concepts, in order to uncover milestones, steps and procedures to be replicated and actual practical challenges to be tackled.

This report focuses attention on terrestrial protected areas in Africa. Building on experts' experience, in particular within the IUCN network, we first screened a number of existing mechanisms that contribute to funding and incentivizing conservation in and around African protected areas, from payments for ecosystem services to fiscal reforms, from conservation

easements to environmental trust funds. Out of this limited list of innovative financial mechanisms implemented in African PAs, we chose case studies to analyse mechanisms which were at the same time:

- representative of a certain category of mechanism mentioned above and promoted within the conservation community;
- implemented at a significant scale in terms of the land cover and biodiversity protected, the number of actors involved (farmers, adjacent communities, public entities, etc.) and the level of funding leveraged;
- innovative regarding both the source of funding *and* the institutional structure ; and finally
- in need of further research.

Following these selection criteria, 3 case studies were chosen in west and southern Africa so as to highlight both interesting differences and commonalities. While the Biodiversity Stewardship Programme in South Africa represents a potentially successful example of fiscal incentives to a number of private landowners (type C governance) to create protected areas within their farms to conserve and utilise biodiversity (IUCN categories IV, V and VI), the Gola Rainforest National Park in Sierra Leone as well as the network of national parks in Côte d'Ivoire are illustrations of mechanisms to fund IUCN category II public protected areas. Whereas in the Gola Rainforest case the instrument implemented, a conservation concession then a REDD+ project in partnership with international and local NGOs (type B governance), funds one single PA, the Foundation for Parks and Reserves in Côte d'Ivoire, a private environmental trust fund, currently funds several PAs within the national network managed by a parastatal entity (type A governance). In all three cases, private as well as public actors have efficiency partnered in order to set up an innovative institutional structure and then significantly fund the protection of biodiversity in and around the concerned PAs. In all three cases also, legal framework and contractual security were necessary to back, implement, enforce and monitor the instruments designed.

Each of these 3 innovative financial mechanisms also shows important specificities, whether geographical, institutional, historical, cultural, ..., which have to be thoroughly explored if one wants to understand their respective strengths and opportunities, weaknesses and challenges, and thereafter draw some general lessons and recommendations regarding the potential benefits and risks associated with innovative financial mechanisms to fund African protected areas in the coming years.

To do so, the report will first successively present each of the three cases studies following a similar template (innovation's context, innovation at work, innovation at scale, innovation at risk) ; it will then conclude with common insights and salient observations.

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2. Innovating together with communities: case study from the Gola Rainforest, Sierra Leone¹²

2-1. Preparing for the innovation: case study context

National Level

After more than 10 years of civil war (1991–2002) and a recent epidemic of Ebola (2013–2015), Sierra Leone, with over 7 million inhabitants (2015 Population and Housing Census), ranks among the poorest countries in the world with a 2014 GDP per capita (PPP) of 1,966 US\$ (160th out of 183)¹³. In 2011, the national poverty headcount ratio (at \$1.90 a day, PPP) was 52,3% while in 2013 only 46% of the population over 15 years old was literate.

The country, a total land surface area of 71,740 km², lies within the Upper Guinean Lowland Forest Ecosystem, an internationally recognised biodiversity hotspot with an abundant richness in ecosystem and species biodiversity (lowland rainforests, mountain forests, savannah woodlands, agricultural, freshwater and wetlands)¹⁴. Forest land represents 38.5% of Sierra Leone's land surface¹⁵, and it is estimated that there are over 2000 species of plants including 74 endemic species, 274 bird species - 14 of global conservation concern - and 170 mammal species, including a total of 15 species of primate, 18 species of antelopes and duikers, and 9 bat species¹⁶.

Sierra Leone is an agricultural country. About half of the surface is agricultural land and 80% of the people are exclusively dependent on farming for their livelihood. Major annual crops are rice (more than 90% of the farming population cultivates it), cassava, sweet potato, groundnut and perennial crops include oil palm, cocoa, coffee, among others. As a result, one of the main drivers of the country's deforestation and biodiversity loss remains slash and burn agriculture whereas fuel wood, charcoal extraction, logging for timber and mineral exploitation are significant threats.

Party to the Convention on Biological Diversity since 1995, Sierra Leone adopted its National Biodiversity Strategy and Action Plan (NBSAP) in 2003 to mitigate such pressures and tackle direct and indirect drivers. Strategic objectives therefore include to establish and properly manage all protected areas (national parks, wildlife sanctuaries, strict nature reserves) in representative ecosystems across the country while creating a fair redistribution of benefits and opportunities arising from the conservation and sustainable utilization of biodiversity. For this, the NBSAP aims at mobilizing adequate financial resources for the purposes of conservation and sustainable use of biodiversity, whereas the country's Intended Nationally Determined Contribution (INDC) within the Paris Agreement framework (2015) stipulates that Sierra Leone would need a cumulative USD 900 million to reduce its carbon footprint and follow green growth pathways in all economic sectors by 2035.

¹² Authors would like to sincerely thank Nicolas Tubbs, Colin Pringle and Pietro Sandini (all from RSPB) for their active support in organizing the field trip to Gola Rainforest National Park as well as for their very useful comments on this chapter. All people interviewed and informally met in Freetown and Kenema are also to be warmly thanked for their support and time.

¹³ "GDP per capita, PPP (current international \$)", World Development Indicators database, World Bank. Database updated on 11 April 2016. Accessed on 14 April 2016.

¹⁴ The Upper Guinean Forest ecosystem is listed on the World Wildlife Fund's (WWF) "Global 200" list of critical regions for conservation and is included as one of Conservation International's 34 global biodiversity hotspots (Myers et al., 2000)

¹⁵ However the GoSL estimates that only 5% of the *original intact* forest remains.

¹⁶ See the Sierra Leone 5th National Report to the Convention on Biological Diversity, October 2014 and the country profile on the website of the Convention of Biological Diversity.

National protected land is 4.1% of the total surface area, with 48 forest reserves and conservation areas. Being in the past under the supervision of the Ministry of Agriculture, Forestry and Food Security (MAFFS) of the Government of Sierra Leone (GoSL) within the Forestry Division (sub-division: Conservation and Wildlife Management Unit), 15 protected areas (PAs) are now overlooked under the National Protected Area Authority (NPAA), newly established by an Act of Parliament in 2012¹⁷ and effectively operational since 2014. Other pieces of legislation related to biodiversity include the Forestry Act of 1988, Forestry Regulations 1989, and the 2010 Forest Policy, as well as the Wildlife Conservation Act of 1972 and its related Conservation and Wildlife policy (2010)¹⁸. Additionally, the Environment Protection Agency Act has established the Environmental Protection Agency (EPA) of Sierra Leone, responsible for implementing and ensuring compliance with national environmental policies, including environmental impact assessments.

Politically, Sierra Leone is a constitutional parliamentary republic with three spheres of government: central government, local councils and chiefdom councils, where the last two hold powers to raise revenue (the Local Government Act 2004) and receive transfers from central government¹⁹. There are 4 provinces, and 19 local councils²⁰ in the country while there are 149 chiefdoms, each headed by a Paramount Chief, supported by section- or sub-chiefs. In total the country operates under a dual system of general law and customary law, of which the latter is the most dominant. Consequently, the vast majority of rural land is subject to customary tenure arrangements, with two main categories, i.e. communal lands and family lands.

The Gola rainforest in Sierra Leone

The Gola rainforest, situated in south-east Sierra Leone along the Liberian border, roughly occupies 70,000 hectares (see below for precisions) within the larger Greater Gola Landscape which, together with the Liberian side, occupies 350,000 ha in total. It constitutes the largest remaining tract of the Upper Guinean tropical forest in the country, and also stretches across Liberia (42% of the Upper Guinean forest), southern Guinea, Côte d'Ivoire Ghana and western Togo.

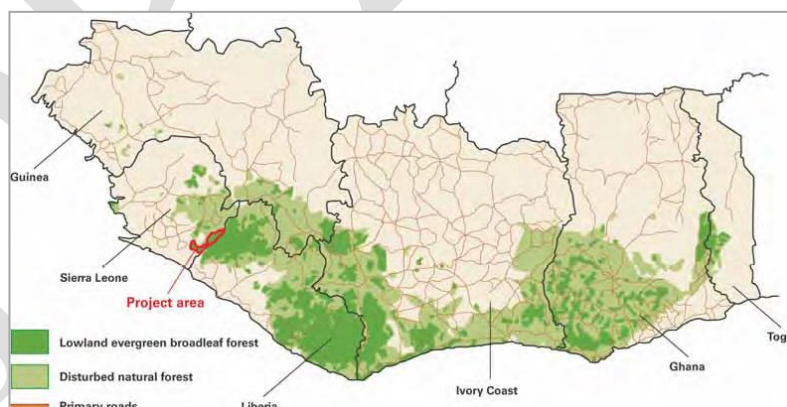


Figure 1. The Upper Guinea rainforest in the region, incl. the Gola rainforest area in Sierra Leone

Source: <http://www.golarainforest.org/>

¹⁷ The National Protected Area Authority and Conservation Trust Fund Act, 2012.

¹⁸ The Wildlife Conservation Act of 1972 is currently being revised and validated by the Cabinet.

¹⁹ See the Commonwealth Local Government Forum, website <http://www.clgf.org.uk/regions/clgf-west-africa/sierra-leone/>

²⁰ Made up of five city councils and one municipal council in the urban areas, and 13 district councils in the predominantly rural areas

The Gola rainforest in Sierra Leone lies in seven chiefdoms²¹ in three districts (Kenema, Kailahun, Pujehun) and two provinces (Eastern, Southern). The local communities within the 7 chiefdoms, an approximate total of 140,000 people residing in 474 villages, are mainly of the Mende tribe²². Communities directly adjacent to the forest are considered poor, and almost all (90%) depend on subsistence agriculture as their primary source of income (Bulte et al., 2013). In most villages, key amenities are absent. Electricity is available in only 5% of villages while public toilets are in 11% of villages (Bulte et al., 2013). Formal education levels are also very low (67% received no education); as a result, only 29% of the local population are able to read and write, especially women (13%).

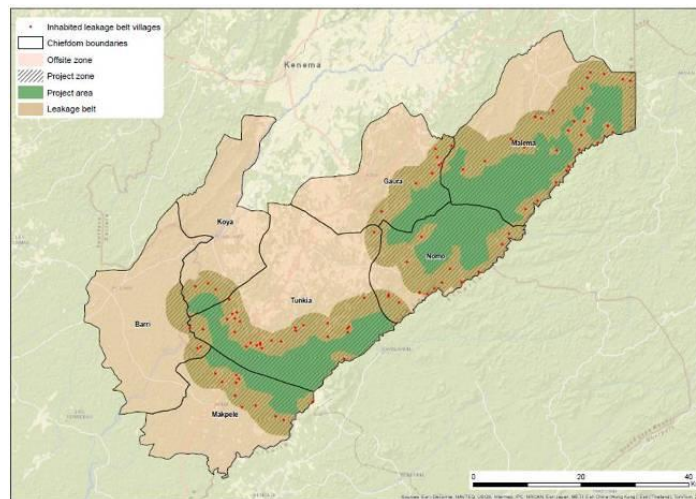


Figure 2. The Gola rainforest National Park (3 blocks) and adjacent communities

Source: Tubbs et al. 2015

Apart from being a global biodiversity hotspot (Conservation International) and one of the WWF Global 200 Ecoregions, the Gola rainforest is recognized as an Important Bird Area (IBA). The forest is host to 327 bird species, including flagship species such as White-necked Picathartes (*Picathartes gymnocephalus*), Rufous Fishing-Owl (*Scotopelia ussheri*), White-breasted Guinea fowl (*Agelastes meleagrides*), 26 species of shrews and rodents, 34 species of bats, several species of ungulates (duikers), as well as 49 species of large mammal, among which the forest elephant and the endangered and endemic pygmy hippopotamus (*Choeropsis liberiensis*). Endangered Chimpanzees are also relatively widespread throughout the forest.

The main threat to the Gola Rainforest and its rich biodiversity, in a post-civil war context, are slash-and-burn agricultural practices. Other threats include bush meat trade, especially cross-border with Liberia, illegal logging, and increasing artisanal mining in the forest. In the latter case for instance the possibility that large deposits of iron ore exist in the forest might pose a direct pressure to the forest. Most recently, palm oil plantations also have begun being established neighbouring the National Park.

Management and conservation status of the Gola Rainforest did evolve in the beginning of this century. Initially in 1926, the Gola Forest Reserve (GFR) was officially established over 29 061 ha (Belvaux, 2012) over two separate blocks (Gola East and West) and was subsequently extended between 1930 and 1963 (including establishing a third block, Gola North) to finally reach a total

²¹ These are: Makpele; Bari; Tunkian; Koya; Gaura; Nomo; Malema.

²² It is important to note that, of course, the initiative described here does not aim at working with all those communities, but rather with those directly adjacent to the forest.

74 903 ha, all under the supervision of the Forestry Division. The GFR was then leased to several logging companies from the 1960's (Forest Industries Corporation-FIC and Sierra Leone Timber Industry and Plantation Company Limited-SILETI) usually for a period of 25 years. Against payment of royalties and fees, the concessionaires obtained permission to enter their respective concession and harvest, utilise, process, transport and market timber (not exceeding a contractually set annual allowable cut). Under this agreement, local and adjacent communities were allowed to continue entering the GFR to hunt and fish and collect non-timber forest products (NTFP).

In the beginning of 1990's however, the status of the concessions progressively changed. Other values from the Gola Rainforest were investigated through a number of biological surveys (Lindsell et. al, 2011). This was triggered in 1989 when a rapid survey indicated the importance and unique value of the biodiversity in the forest, uncovering a particularly high number of bird species and primates endemic to the site (see above).

This resulted in 1990 in a first partnership agreement between the Forestry Division, and two non-governmental organizations (NGOs), the Conservation Society of Sierra Leone (CSSL, Birdlife in Sierra Leone) and the Royal Society for the Protection of Birds (RSPB, Birdlife in the UK) (Box 1). In 1993 an Interim Management Plan for the GFR was thus prepared by these partners and sponsored by the Overseas Development Agency (ODA). Yet, such efforts were stopped during the civil war (1991-2002).

They only resumed thereafter, in 2004 when the partners launched a new initiative, the Gola Forest Conservation Concession Programme, the first of a succession of innovative financial approaches adopted up to now in order to ensure the protection and sustainable development of the Gola Rainforest protected area and its surroundings.

Box 1. Describing NGO partners

The Royal Society for the Protection of Birds (RSPB) is the UK charity working to secure environment for birds and wildlife. It is Europe's largest wildlife conservation charity and operates across the world. The RSPB is the UK partner of Birdlife International. It claims 1.2 million members, including over 200,000 youth members, a staff of over 2,000 people and almost 13,000 volunteers. Resources available for charitable purposes in 2014 were £99 million, supporting 200 nature reserves and covering almost 130,000 hectares in the UK. The RSPB is a non-statutory body incorporated by Royal Charter since 1904, and is run through UK headquarters, three national offices, nine regional offices, as well as a local network of 150 local groups.

The Conservation Society in Sierra Leone (CSSL), established in 1986, is Sierra Leone's most prominent biodiversity conservation NGO. Its main aim is to promote the wise use and management of Sierra Leone's natural resources through education, advocacy and support for research, management activities and sustainable programmes. CSSL is the Sierra Leone partner of Birdlife International. Recent achievements include engagement with thousands of School Nature Clubs in Sierra Leone, contribution to sustainable development around Lake Sonfon, as well as the Sea Turtle Conservation Programme, funded by the U.S. Fish and Wildlife Service.

2-2. Innovation at work: the Gola Forest Conservation Concession Programme, a long-term innovative approach

In 2002, the Forestry Division of the then Ministry of Agriculture, Forestry and Marine Resources, together with RSPB and CSSL signed the “Gola Conservation Concession Framework”. In the latter, the two NGO partners agreed to conserve the integrity of the Gola Forest Reserves (the 3 blocks) in perpetuity and in turn compensate local actors for the loss of logging rights. It was agreed to put in place a community development programme, including capacity building, to ensure alternative and sustainable use by the seven chiefdoms in the Gola area.

In 2003 therefore, a cooperation agreement with local communities was signed, where a 25-year Conservation Concession was deemed the most appropriate way to ensure the conservation of the forest. Commercial logging would not be allowed in the GFR, whereas in return for the loss of revenue, there would be a compensation through a benefit sharing agreement²³.

In 2004, following a formal application to the now Ministry of Agriculture, Forestry and Food Security (MAFFS) for a conservation concession covering the 3 Gola forest’s blocks, MAFFS declared a logging moratorium in the GFR. Funding (US\$ 1Million) was then obtained from the RSPB, the Global Conservation Fund of Conservation International and the UK government’s Defra Darwin Initiative, for a two-year development phase, which culminated in November 2006 with the first full draft management plan for the Gola forest reserves, actively discussed with communities in each of the 7 chiefdoms.

The management plan sets to « maintain, and where appropriate enhance, the existing 74,900 ha of tropical moist lowland high evergreen forest » and simultaneously « ensure the Gola communities benefit from, and participate in, the protection and management of the Gola Forest in perpetuity ». Importantly, critical objectives and management activities in the plan are, among others, to 1/ upgrade the status of the Gola Forest Reserves to that of National Park and 2/ provide the Reserves with adequate and efficient finance.

Building on this first development phase, in 2007 the MAFFS, RSPB and CSSL signed a renewable 5-year partnership agreement to confirm and continue the Gola Forest Conservation Concession Programme. A management committee, to oversee the project and thus efficiently manage the Reserves, was established and comprised of a member from each of the partners and a representative of the 7 Gola Chiefdoms. Operationally, the project was delivered by a team of local staff, seconded and capacitated with international technical support from RSPB.

In parallel, a renewable 5-year agreement (2007-2012) was signed with the seven chiefdoms: the Gola Forests Conservation Concession Community Benefits and Payment Agreement (also called Benefit Sharing Agreement-BSA). The latter clearly defines the Conservation Concession: it stipulates that the Gola Forest Reserves are to be managed for the conservation of the plant and animal diversity, and not for the exploitation of timber or other resources. In return, since the local communities do not receive fees or royalties in respect of timber exploitation, and since other activities within the forest will be restricted, the agreement provides for payments and benefits to be provided.

In the BSA, distribution of payments is twofold, on the one hand to local and traditional authorities, on the other to local communities and historical landowners. First, while the 3 districts councils each receive a US\$ 1,000 yearly, the seven Paramount Chiefs receive an annual amount of US\$ 1,000 as a compensation for foregone royalties that would have been received for

²³ Importantly, this designation as a Conservation Concession was also a requirement before the Gola Rainforest could be gazetted as a National Park (see below).

exploitation of timber or other forest resources. In return traditional chiefs must do all in their power to ensure compliance with the management plan by their people. Second, at the community level, each of the 7 chiefdoms is provided with an annual amount of US\$ 10,000 to support a Community Development Fund assisting development projects in the chiefdom's area (according to a set of agreed priorities, procedures, and criteria), plus a programme of scholarships for the 7 chiefdoms (a total of US\$ 7,500 annually overall). At the individual level also, lawful historical landowners within the GFR, whose recognised historical land rights are inside the reserves, receive a total of US\$ 28,000 to be divided among them.. Finally, a one-off total amount of US\$ 35,000 is granted for all 7 chiefdoms as a start-up kit to support livelihood-related investments. In total, the 2007-2012 BSA was entirely donor-funded and allocates US\$ 155,500 annually plus US\$ 35,000 once-off (an equivalent US\$ 122,500 per year) to local communities and authorities (see Table 1 for summary).

Payment (benefit)	Annual Amount (US\$)*
Authorities	
District Councils	3,000
Paramount Chiefs	7,000
Community members	
<i>Community level</i>	
Community Development Funds	70,000
Scholarships	7,500
Start-up Kits for Chiefdoms (once-off)	35,000
<i>Individual level</i>	
Landowners	28,000
TOTAL (equivalent annual)	122,500

* Unless specified

Table 1. Benefit-sharing with local communities

Source: Author, from appendix 2, in Forest Division (2009)

Innovatively, in the 2007-2012 BSA mentioned above these funds distributed among communities, local and traditional authorities were clearly understood as a conditional « compensation for foregone rights and for respect of management plan » (article 8 in the agreement). On the one hand, Gola communities adjacent to the Gola Forest, highly dependent on forest resources for their livelihoods, act as service providers by accepting to partly refrain from using forest resources. On the other, these payments are conditional to communities' compliance with set regulations (e.g. use restrictions²⁴) and their commitment to arrest activities that are prohibited under the GFR management plan. In turn, in case a conflictual issue (an unlawful activity) is not resolved, partners may temporarily withhold payments to the communities concerned. Though this conditionality was rather soft and was never actually mobilized to suspend benefits' distribution

²⁴ Interestingly, Article 7 on the BSA stipulates : « Under the legal instruments creating the reserves and extensions, the inhabitants of the Chiefdoms surrounding the reserves have enjoyed the right to enter the forest for certain specified purposes, which vary depending on the reserve or extension in question, and may include the following: Hunting, trapping and fishing, in accordance with applicable laws ; Passing through the forest from place to place ; Collecting thatch, binding materials and building poles ; Tapping and collecting of produce from raphia and oil palms ; Harvesting tree crops from plantations established before the creation of the reserves ; etc.

during the period, community members and their leaders were really aware of it, fostering respect of rules among the local population.

From 2007 to 2012, the Gola Forest Conservation Concession Programme, including the BSA, was entirely donor-funded by the European Union (European Commission-Tropical Forest Fund) and the French GEF (Fonds français pour l'environnement mondial-FFEM). It was estimated to cost approximately 6 million Euros in total (plus nearly Euros 3 million for the establishment of an Endowment Fund, the International Eco-fund-IEF; see Hipkiss and Tubbs, 2012), including Euros 1.2 million funded by FFEM. Through a project leader, RSPB coordinated the project (contractor of the grants, responsible for the administrative, financial and technical management) and executed it, though in close collaboration with the other partners, i.e. CSSL and the GoSL (Forest Division of the MAFFS).

The Partners reached a major milestone in delivering their vision with the gazettelement of the Gola Rainforest National Park in 2010, which was formally launched (GRNP) by the President (H.E. Koroma) on the 3rd December 2011. This important milestone, together with the end of the EU and FFEM funding, triggered the start of another breakthrough innovation for financing the Gola rainforest more sustainably²⁵.

2-3. Innovation 2.0? Recent transition towards market mechanisms

In 2012, the donor funded Conservation Concession project was successfully completed. Back in 2007, the Partners had already identified complementary innovative mechanisms by which Gola would avoid the funding 'boom and bust' and be financed sustainably beyond the donor phase, including an endowment fund and a REDD project (Hipkiss and Tubbs, 2012). The decision to implement the latter mechanism was made with the anticipation that the programme's and GRNP's future financial stability would partly rely on the sale of verified carbon credits from the conserved forest (avoided emissions from deforestation and forest degradation) under the newly established Gola REDD Project with the support of the GoSL.

In the absence of a compliance market in Sierra Leone, the Gola REDD Project was developed to sell credits on the voluntary carbon market following two leading international voluntary carbon standards, the Verified Carbon Standard (VCS) and the Climate, Community and Biodiversity Alliance standard (CCBA). This model is entirely result-based, having to demonstrate at the same time the deforestation prevented (VCS) and the direct benefits to biodiversity and local communities (CCBA). The project followed the international principles of free prior informed consent (FPIC), and the project was required to go through a specialised and third party audit to confirm its compliance with the standards. It was then required to go through a verification audit, to establish its delivery against the standards. In total the scale of funds potentially levied for the funding GRNP relies on the number of verified carbon units (VCUs) generated, and the unit price these are sold at, including a premium. Each verified carbon unit is equivalent to one tonne of CO₂ emissions avoided. Verified carbon units result from quantifiable scientific assessments (i.e. carbon stored in forest plots) and benefits to people and wildlife. The project is also required to avoid leakage in the immediate surroundings of the project area (Leakage Belt) over which project partners have no legal authority. Therefore, FPIC requirements translated in over two years' worth of consultation with local communities and chiefs which resulted into the full livelihood

²⁵ Importantly, back in 2007, it was already acknowledged that a long term financial plan was needed. Hence the IEF was capitalized and REDD was identified as the way forward. This means that actors knew about REDD being the next phase, well ahead of the end of the donor-funded first phases described above. The National Park (NP) was even declared on the premise that REDD finances would finance the NP. In total both phases described here are following a logical sequence. (N. Tubbs, personal comment)

programme being delivered today in the National Park's adjacent zones (Tubbs et al., 2015)²⁶. Overall, the entire model translates the partners' desire to achieve scientific integrity and good practice to protected area management, demonstrating benefits to biodiversity and local communities with a sustainable and innovative financial model.

In order to comply with both standards and thus be able to start selling verified carbon credits on the voluntary market (at a premium price), historical partners innovatively modified the project institutional structure and associated contractual arrangements.

First, the BSA was revised to capture the much broader set of livelihood activities being delivered to directly benefit adjacent communities' livelihoods. While most of the previous BSA's conditions (see above) were reconducted to conditionally²⁷ compensate all communities in the 7 chiefdoms, new additional attention and support was paid to communities located closest to the GRNP. Hence a « REDD BSA » was signed. To reduce leakages in the buffer area around the GRNP (the core project zone), the project started working specifically with villages situated in the Leakage Belt (4km radius adjacent to the park, see Figure 2 above). A « Conservation and Cooperation Agreement » was consequently signed with each of these 122 Forest Edge Communities (FEC) situated in the Leakage Belt, represented by their Paramount Chief, Section Chief and Village Chief. In this 6-year agreement, each FEC agrees to continue protecting the GRNP and abiding by its laws and regulations, and commits to work with the project to introduce alternative livelihood activities so as to reduce deforestation outside the GRNP. In return, each FEC, in addition to the ongoing BSA (see above) is to be provided with 4 support packages : 1/ agricultural assistance to increase yields in subsistence crops (rice and vegetables), 2/ cocoa rehabilitation to increase productivity and quality, 3/ helping developing saving and lending schemes (village savings and loans' associations -VSLA-), and 4/ two annual scholarships (a boy and a girl) for secondary school studies and 5/development of co-management and land use planning.

In December 2015 the Gola REDD project was successfully verified by independent auditors to the two leading standards on the voluntary carbon market (VCS and CCBA, see above). Arguably, it avoided the emission of 1.2 million tonnes of CO₂ equivalent between August 2012 and December 2014, generating 975,000 verified carbon units. The project was awarded a gold level for exceptional climate change adaptation and biodiversity benefits and has a life span of 30 years. Importantly, it will need to go through regular verification audits to acquire further VCUs.

Second, a non-profit company limited by guarantee (CLG), the Gola Rainforest Conservation LG, was set up in 2015 (and incorporated in 2016) under the law of Sierra Leone (The Companies Act, 2009) in order to act as a legal entity to lawfully receive proceeds from the sale of verified carbon credits. Importantly, the CLG status protects the members running the company (which contribute with a nominal amount, typically small) from personal liability for the company's debts, mitigating

²⁶ Important is also to note that in addition, following FPIC requirements, each traditional landowner (holding recognised rights inside the GRNP, the core project area generating carbon credits) was also to sign, after adequate advice and consultation in the local language, an individual agreement with the GoSL and the concerned Paramount Chief for the « assignment of carbon credits for the Gola Rainforest National Park ». In this Memorandum of Understanding (MoU), the landowner agrees « to fully and irrevocably transfer to the [GoSL] all rights, title, interest, benefit, allowance or other claims whatsoever it may have to any carbon credits under any customary or other domestic law (...) generated through the protection, conservation, management (...) of any forest or other vegetation on the land », and this applies retroactively. In addition, the landowner must refrain from undertaking or encouraging any activity that might contribute to deforestation or forest degradation. In return and compensation, the GoSL must ensure that the proceeds from the sell of carbon credits will be used for benefits to landowners through the mentioned REDD BSA (see below).

²⁷ Note that the new REDD BSA clearly stipulates : « If any stakeholders engage in any forest-damaging activities in the Project area, (...) the GRNP Management will endeavour to (...) negotiate a solution. (...) If a solution is not reached, steps may be taken to withhold payments from stakeholders deemed responsible ».

their risks. In addition, non-profit CLGs are prohibited from distributing their profits to their members. Gola Rainforest Conservation LG's three founding members include NPAA (on behalf of MAFFS), RSPB and CSSL, which all nominate one representative on the members' board. At the management level, a board of 4 appointed directors include one NPAA representative, one from RSPB, one from CSSL and finally one representative from the 7 Paramount Chiefdoms on behalf of the 7 chiefdoms. As such, without being formal members, communities around GRNP are well represented in the way the Gola Rainforest Conservation LG is run, and how it manages the GRNP and distributes benefits from the carbon proceeds.

Operationally, the Company signed a joint venture agreement with MAFFS, responsible for the management of national parks and protected areas, to manage the project area as a REDD project for the lifetime of the project. The agreement includes the transfer of carbon rights from GoSL to the CLG in order to enable the sale of carbon credits. On the ground the project is being implemented by the 'GRNP management', now a department of the Gola Rainforest Conservation LG (see Figure 3), while RSPB was designated as the technical lead (including for the marketing and sale of VCU) and thus signed a service agreement with the latter for the next five years. Financially, the CLG bank account is located in the United Kingdom (UK), as it was felt many investors and carbon credit buyers would feel more secure this way.

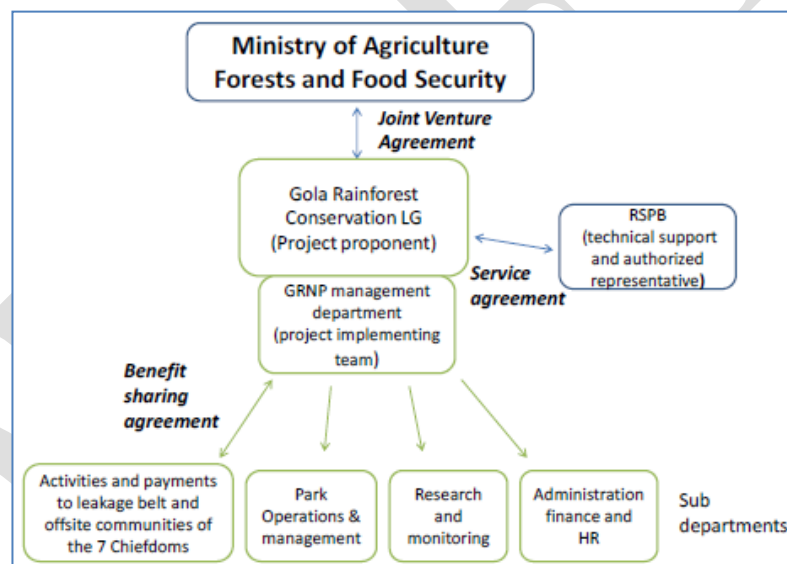


Figure 3. Structure of the Gola Rainforest Conservation LG

Source : RSPB, 2013

Once the first carbon proceeds are paid to its account, the Gola rainforest conservation LG will eventually distribute these as follows: first, the GRNP operational costs will be covered, then 50% of any excess remaining would then be disbursed on a Conservation Trust Fund to be administered by NPAA and spent on any other protected area in the country (not necessarily in Gola), 40% would be distributed to a Community Trust Fund (endowment fund) managed by RSPB and dedicated to Gola, while the final 10% would be used for national capacity building.

2-4. Innovation at scale: socio-economic and environmental results

Contrary to most cases in Africa PAs so far, such successive innovative approaches for the Gola Rainforest (from the logging concession to the Conservation Concession and then to the Company Limited by Guarantee) actually encompass a significant tract of forested land and concern a large number of adjacent communities and landowners. This in turn allows conservation land-use at an optimal ecological scale.

To date, the Gola REDD project consists of a project area covering 69,714 hectares (of which 68,515 hectares is forested) inside the GRNP plus a leakage belt containing 62,932 hectares of forest, where livelihood activities have managed to prevent deforestation to date. In total then, this is more than 132,000 hectare of land falling under this efficient protection approach at the landscape level, approximately 2% of Sierra Leone total territory.

The Project's annual budget is approximately US\$ 1.6 million, including all department expenses and activities (figure 3): Park Operations and Management, Finance, Administration & Human Resources, Research & Monitoring, and finally Community Development & Outreach. In total, the project permanently employs 170 local staff members, including 49 park rangers fully working for the park's integrity.

Based on agreed and recognised borders, the latter patrol the GRNP in different separate sub-units of 6 to 8 rangers²⁸. The area is divided into 10 sections which are each patrolled in turn. In addition, a permanent team is present where illegal activities are more frequent. Each sub-unit team is provided with a patrol plan defined by the supervisor and assisted by a GIS specialist who determines target coordinates to be reached by the team during their patrol. During the latter, park rangers record, on an incidence book, animal signs, encroachment and other illegal activities, as well as look for any heritage sites. Although park rangers are not armed, they are allowed to arrest intruders and community members undertaking illegal activities within the National Park and hand them to the police for prosecution. If necessary, a Rapid Response Unit from the local Police is called to join the rangers to assist with the arrests. In 2015-2016 (up to now) park rangers patrolled a total of 6,363 kms and arrested several poachers and illegal miners. Patrols in themselves serve as a strong deterrent. Although such evidence remains qualitative, the Ebola outbreak clearly also proved the efficiency of park rangers ; indeed, patrols were not allowed then as part of the Ebola response efforts, particularly quarantine; illegal mining and logging as well poaching as a result increased inside the National Park²⁹. It then again decreased to very small incidences since the Project activities resumed in 2015. In total, as shown in figure 4 below, the GRNP is really efficiently protected and deforestation inside it is kept to a minimal, if not zero, level.

At the community development level, results also look impressive when it comes to their scale and contribution to reducing resentment and gaining local support for the GRNP and conservation in general (Tubbs et al., 2015)³⁰. Thanks to the BSA the Project has extensively supported communities in the 7 chiefdoms since 2007. As shown above, US\$ 122,500 have since 2007 been spent annually for community development in the larger area while around 30 staff employed in the Community Development & Outreach department provide critical support to communities around the GRNP. Funded community projects, among many others, include a satellite hospital in the Makpele chiefdom, bridge construction or rehabilitation in Tunkia and Malema chiefdoms, a Mosque, a primary school, etc. Besides, environmental education is widely provided in the area

²⁸ Park rangers are divided in 2 units, which themselves are divided into 3 sub-units of 6-8 people.

²⁹ However, the REDD Auditors confirmed that this did not lead to any significant deforestation.

³⁰ For alternative views on this, see also Wilebore et al. (2015), who (on UCTs) tend to show that payments to FECs) outside the National Park (unconditional cash transfers-UCTs) might not really promote conservation.

with around 40 school clubs set up and 2,000 people annually attending road shows all over the 7 chiefdoms. More specifically even, the 122 forest edge communities, hence approximately 24,000 people living in the immediate surroundings of the GRNP, have been supported so far (this started recently) with additional cocoa and agricultural assistance (benefitting several thousand farmers), 244 scholarships, as well as village savings and loan schemes (for 750 women in 34 FECs).

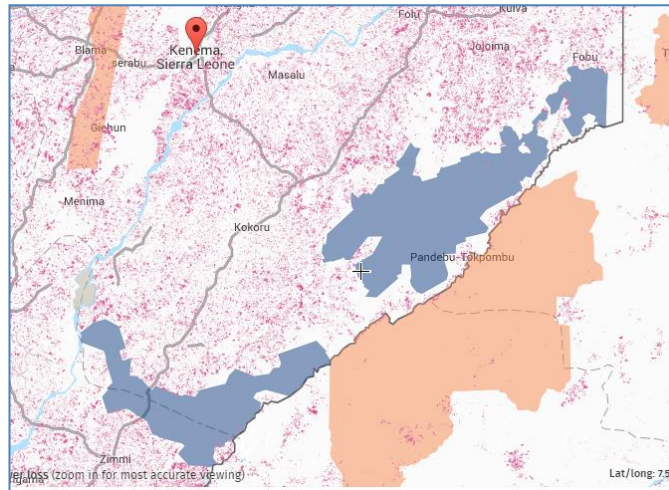


Figure 4. Deforestation in the GRNP : kept minimal

Note: blue (and green) areas are designated protected areas (the GRNP 3 blocks) while red points are deforestation since 2000

Source: Global Forest Watch, accessed July 2016

Research activities finally assist such efficient and fair conservation & development approaches cited above. Surveys are indeed regularly conducted to monitor and count chimpanzees, birds, especially the *Picathartes*, amphibians but also pigmy hippos. In the latter case, community volunteers, also called « citizen researchers », are locally recruited to do monitoring and evaluation of pigmy hippos and sensitize community members about the risks, habits and the environmental value of these animals in the area.

2-5. Innovation at risk: challenges and the way ahead

As evidenced above, successive innovative approaches for conserving the Gola Rainforest have so far been successful in preserving the integrity of the GRNP and, importantly, work together with adjacent communities to comply with regulations as well as keep deforestation outside the GRNP.

However, in a State which have faced violent civil war and a recent Ebola outbreak, currently with weak economy, quite limited capacity and governance³¹, such innovations do not come with some level of uncertainty and challenges. This may jeopardize the scheme's sustainability, if not checked and tackled properly.

³¹ The Fragile States Index 2016, by the Fund For Peace (FFP), ranks Sierra Leone 34th out of 178 countries for its level of fragility. It is assessed as being on « Alert ». See <http://fsi.fundforpeace.org/>

Previous analysis has shown the existence of a complex institutional architecture. Whether for the Conservation Concession agreement or for the REDD Project, several national or international, public, private (NGO) or community partners needed to coordinate between them. CSSL, the national Birdlife partner in Sierra Leone, RSPB, the UK Birdlife partner, but also the GoSL, through several divisions (Forestry) or agencies (NPAA or EPA), as well as the representatives from 7 chiefdoms, all had to be included in the scheme. As a result, a significant number of MoUs, framework documents, agreements, have been signed since 2004 so as to define stakeholders' and parties' responsibilities, rights and entitlements. This in turn entails a lot of efforts and time to write, finalize and fine-tune, and finally negotiate and monitor these contracts; hence this incurs significant transaction costs for the project as a whole³². While in the longer-term these complexities and transaction costs in the start-up phase will certainly smooth the operational phase and represent a small share of total costs, in the short-to-mid-term important transaction costs might be a burden for the scheme's governance.

The very recent establishment and entry into force of the Gola Rainforest Conservation Company Limited by Guarantee (CLG) is even reinforcing this uncertainty in the institutional set-up (rules of the games), as new contractual arrangements under the REDD Project and the CLG are still not fully implemented while some old agreements still hold. Command lines remain so far unchanged³³. Legal transition of all liabilities and responsibilities from the Project entity to the CLG entity is still unclear at this point, and the supervision and decision role of the CLG's Board of Directors has yet to be set in more details and be better understood by all stakeholders (see below).

Institutional uncertainty also lies in the relationship between the GoSL which hold exclusive rights over the GRNP (and the Gola forest reserves before), and the area management unit (be it the Project entity or more recently the CLG). Though this has seemingly been recently solved with the signing of the REDD Project joint-venture agreement (2015) between GoSL and Gola Rainforest Conservation LG, the management status of the area (de jure rights over the forest) remains quite fuzzy. Hence a complex institutional situation, where the innovative scheme highly depends on current political will and personal connections to ensure its de facto management rights over the Gola forest. Whereas the current GoSL is certainly highly committed to conserve the Gola rainforest, this legal uncertainty needs to be reduced to support the emergence of such an innovative approach.

In this context of relative uncertainty, the process tends to be driven, for now, by international actors. First, at the strategic level the scheme's complexity and innovative nature, especially with the new CLG set up, does not allow all stakeholders, especially local ones, to fully understand the procedures, rights and responsibilities. At the operational level also, international technical assistance is still crucial in GRNP management operations and decisions being taken. Of course, such innovative approach and reliance on international (carbon) markets indeed needs time and training for local partners; yet, capacity building is critical to make sure all stakeholders are capacitated enough to understand the scheme and be able to influence and co-drive the process.

Lack of strengthened community involvement, capacity building, communication and sensitization will on the contrary lead to increased resentment by local populations and their representatives. Adjacent communities, through the Paramount Chiefs, need to be even further capacitated, in order

³² So far these transaction costs have been supported by the GRNP management Unit, then by the CLG.

³³ All Gola employees are under the Project entity's contractual supervision and hierarchy (work contracts signed with the project) while RSPB is providing technical assistance (through technical assistants directly employed by RSPB)

to have their voice heard and taken into account³⁴. Beyond distributional equity (distributing actual benefits from carbon to communities), procedural equity (broad stakeholders' participation) also matters in order for the Gola innovative approach to be locally legitimate and acceptable. This process is of great importance to ensure sustainability, especially in the current context where human-wildlife conflicts are felt in the vicinity of the GRNP. Local communities indeed, especially FEC, perceive a significant rise in crop raiding (including cocoa) from monkeys and birds³⁵. Mitigating those costs of human-wildlife conflicts generated by the GRNP is, in fine, a critical success factor and condition for the innovative scheme's stability and efficiency.

2-6. Conclusion

The analysis of conservation in the Gola Rainforest conservation in Sierra Leone provides an excellent illustration of good practices for innovative financial mechanisms (IFMs) financing biodiversity conservation in and around protected areas in Africa. From a Conservation Concession arrangement funded by donors, the institutional set up has successfully moved toward a REDD market mechanism supported by a private company selling verified carbon units on the carbon voluntary market. In the process, all stakeholders, both public and private, national and international, have efficiently and fairly partnered to design the successive innovative institutional arrangements. With the strong support of the Government of Sierra Leone, in particular in ensuring a clear legal framework and the rule of law, partners have agreed on, and signed, a number of agreements, memorandums of understanding and contracts in order to clarify roles and responsibilities, rights and duties. This has allowed the innovative scheme to be clear, strong and complied with by all stakeholders, despite its overall complexity.

Thanks to this innovation, the integrity of the Gola Rainforest has been efficiently preserved, while the area was subsequently gazetted as a National Park. Infrastructure and patrolling operations have been fully funded (approximately US\$ 1.6 million annual budget) to successfully prevent slash-and-burn agriculture inside the National Park as well as illegal poaching and mining. Adjacent communities have also importantly been largely supported with livelihood activities so as to foster development and generate synergies with biodiversity conservation. Significantly, Park operations and community support were undertaken at scale with around 2% of Sierra Leone total territory being protected in Gola (the National Park and its buffer zone) and 24,000 people being involved and assisted in the direct surroundings.

Yet, such innovative financial mechanisms come with some complexity and uncertainty. The negotiation, signing and monitoring of numerous agreements and contracts involve transaction costs for the scheme and the stakeholders involved. As a result, legal and State backing has to be ensured, local actors' capacity has to be built and their active participation need to be further fostered.

Importantly, the current and future viability of the carbon voluntary market is critical to deliver conservation and development in the and around the Gola rainforest. Indeed the long term success of this IFM lies with verified credit units being sold. Innovation at the local level also needs behaviour change at the broader level.

³⁴ Of course, we showed above that the REDD project is the result of over 2 years worth of consultations with communities. A grievance mechanism is also in place. Yet, all this should be well maintained and strengthened also during the current implementation phase.

³⁵ Ongoing research is aiming at lining up scientific results on this with community perceptions.

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3. Innovating in public and private combination for conservation: South Africa's Biodiversity Stewardship and Fiscal Benefits approach³⁶

3-1. Preparing for the innovation: case study context

Dealing with a strong demography, the need for development, and the need to maintain an outstanding natural capital

South Africa is more than 1.2 million square kilometres in area, which makes it a large country such as many other African countries such as Chad, Niger, Angola and Mali; it is twice the surface area of France and nearly five times that of UK. With about 54 million inhabitants, its population density is moderate (approx. 45 inhabitants / km², equivalent to the population density in e.g. Madagascar, Colombia and slightly more than in the USA). However, half of its current population lives on less than \$2/day, and its demographic growth is more than 2 % per year, to be compared to usual population growth rates in OECD countries, 5 or 10 times less with rates from 2 to 5 ‰.

A vast 86 % of the land of Republic of South Africa (RSA) is devoted to agriculture, mainly for breeding (crops amount to 13% of agricultural land), thus mostly to grasslands or savannahs (South African Ministry of Environment & Tourism 2005). RSA's biodiversity conservation therefore depends extensively on preserving varied land uses, including natural forests and grassland, outside of the formal protected area estate.

As many analyses have pointed out for the whole planet (Nelson et al. 2010; Secretariat of the Convention on Biological Diversity and United Nations Environment Programme 2014), land-use and land-use management are therefore paramount for the conservation of South Africa's natural resources and biodiversity conservation, in a context where both the need of and the pressure on natural resources will inevitably increase. The South African Important Birds and Biodiversity Areas Status Report, (Marnewick et al. 2015), also notes this as a key objective to biodiversity conservation as a result of mismanagement of land, one of the top two threats to birds and biodiversity at national scale.

Indeed, pressure to convert grasslands and other open environments to crops, mining and infrastructures is observed everywhere in RSA.

Private property is key to reaching conservation objectives in South Africa

Enrolling private properties in land-use management and conservation has therefore lately been identified by South African authorities as a key condition to reaching the country's objectives with respect to biodiversity and natural resources. As of 2014, 36 % of terrestrial protected areas in RSA are "nature reserves" (which can be State owned and managed, or privately owned and

³⁶ Authors would like to warmly thank Candice Stevens and Daniel Marnewick, from Birdlife South Africa, for their active support in patiently explaining their projects, preparing and organizing the field trip to South Africa as well as for their very useful comments on this chapter. All people interviewed in South Africa (environmental NGOs, South African administration, farmers, businesses, etc.) are also to be warmly thanked for their support and time.

contractually managed for conservation) or “protected environments” (which are only privately owned and contractually managed).

Meeting the country’s national targets (as per Government of South Africa (2010)) would mean increasing the surface area of terrestrial protected areas by 10.8 million ha (baseline = 2010) before 2030, that is 2.7 million ha every five years. Current expansion of protected areas is only a rough 15 % of this objective, with 416,000 ha added from 2010 to 2015. However modest compared to the national objectives, this expansion is now primarily based on private voluntary conservation, which accounts for 72 % of this past annual mean increase (60,000 ha every year out of 83,000 ha).


Protected and Conservation Area Types in S.A.			
Date: 20-06-2016		 environmental affairs Department: Environmental Affairs REPUBLIC OF SOUTH AFRICA	
No.	Type of Protected/Conservation Area	Number of Sites	Total Area in Ha.
1.	Biosphere Reserve	8	8 348 171
2.	Botanical Garden	6	7 020
3.	Forest Nature Reserve	51	172 511
4.	Forest Wilderness Area	12	274 489
5.	Marine Protected Area	25	18 595 360
6.	Mountain Catchment Area	16	624 566
7.	National Park	21	3 975 509
8.	Nature Reserve	1305	3 653 073
9.	Protected Environment	22	558 474
10.	Ramsar Site	23	569 149
11.	Special Nature Reserve	2	33 603
12.	World Heritage Site	31	2 487 882
Totals		1522	39 299 806

Table 1. Types and area of protected and conservation areas in R.S.A.

3-2. Innovation at work: a combination of private and public conservation, with help from fiscal benefits

The South African regulation provides for a combination of private and public conservation

In the early years of this millennium, the importance of private land with respect of conservation objectives in South Africa led conservation NGOs to try and renew their approach to farmers.

Biodiversity stewardship as a concept started to be thought about in South Africa in about 2000. At that stage, a lot of NGOs were dealing with private landowners, mainly farmers and farming communities that had important biodiversity on their properties, and most of the mechanisms that non-governmental organisations were using were quite ‘soft’ approaches, they were things like ‘it’s the right thing to do’. So there was very little in the way of incentivising people to ‘do

the right thing'. (...) At that stage there was quite a lot of bumping heads, it was 'NGOs are stopping agricultural development, stopping grasslands being ploughed'. There was quite an animosity between agriculture and NGOs. The first development of what is now called the Biodiversity Stewardship Programme, around 2001, was actually called the Conservation Incentives Programme, and it was about "let us develop incentives for people to put their land aside for conservation". (...) We were working to give people recognition for what they were doing, to elevate them as examples of people doing the right thing. But that gets to 2 to 3% of people; the other 97 % of people want money in the bank. [ITV #1 (NGO)].

While South African conservation NGOs were reflecting over approaches to better incentivise private landowners (mostly farmers) to set aside their land (mostly grassland), South African authorities engaged in re-drafting the country's biodiversity legislation.

This gave birth to the Biodiversity Act and the Protected Areas Act, issued in 2004.

These pieces of legislation brought the possibility for private land to be officially and perennially acknowledged and registered as protected areas.

- The *National Environmental Management: Biodiversity Act N°10 of 2004* or "NEMBA" (Republic of South Africa 2004, sec. Vol. 467 Cape Town) establishes a biodiversity institute (SANBI, for South African National Biodiversity Institute), in charge of biodiversity knowledge support, management, advise and national standards with respect to biodiversity policy and management plans. It provides for the general equipment of the governmental biodiversity policy (lists, authorities, consultation process, access and benefit-sharing, permits and assessments, offenses and penalties). It institutes regional biodiversity planning, but also, and this is particularly noteworthy, allows anyone interested in conserving biodiversity to submit their management plan to the ministry in charge of environment. The ministry publishes the management plan after recognition of a "suitable person" who is willing to be responsible for the implementation of the plan, and conclusion of a "biodiversity management agreement" between the ministry and this 'suitable person'. It establishes the obligation of a national biodiversity planning and more specifically a "national biodiversity framework", which must "*provide for an integrated, co-ordinated and uniform approach to biodiversity management by organs of state in all spheres of government, non-governmental organisations, the private sector, local communities, other stakeholders and the public*" (art. 39-1 a). It is then in itself offering a way to integrate voluntary and private initiatives within the national biodiversity framework. The government retains the right to agree on management plans and on the definition of management authorities, and it may officially integrate any kind of private property within the biodiversity conservation framework through official recognition of a given conservation status ("national botanical garden") and of an official agreement over a management plan.
- The *National Environmental Management: Protected Areas Act N°57 of 2003* or "NEMPA" (Republic of South Africa 2004, vol. 463 Cape Town) defines the system of protected areas, with a list of kinds of protected areas, a register, and the definition of norms by the ministry. It first integrates the pre-existing regimes of provincial protected areas, world heritage sites, protected forest areas, and mountain catchment areas, which each had been the subject of separate acts in 1970, 1998 and 1999. It then defines a hierarchical list of three protected areas status, from the "special nature reserves", which are meant to protect highly sensitive and valuable biodiversity, to "protected environment", agreed for 30 years, where the protection rationale is based on ecosystem services, buffer zones of other more stringent protection areas, and supporting voluntary collective organisation for protection. In between these two statuses, "nature reserves"

are meant to protect important biodiversity assets and services. All three kinds of protected areas may be declared on any kind of property, “(...) *if the owner has consented to the declaration by way of a written agreement with the Minister*”. All registrations as protected areas of any kind are subject to prior public participation.

These Acts can therefore be considered as decisive cornerstones of the country’s conservation framework, in that they provide for an original combination of state regulation system and voluntary conservation within a common but hierarchized biodiversity framework, while assuring the consistency of the general conservation approach through national and regional planning, for which it provides for the necessary technical and regulatory institutions. The role of NGOs in this framework is not specified, although their action is key to the actual functioning of the mechanism, as it will appear below. Besides, the mechanism as per the two major Acts does not yet incentivise voluntary conservation. Incentives have been subsequently developed as a complementary element.

This policy organisation thus gave rise to a “biodiversity stewardship” approach (BDS), whereby everyone in the country is potentially called to steward the natural assets that sit in their properties, in view of collectively forming a network and a framework of conservation through varied individual contributions. This approach however focuses on the two less stringent statuses, the “protected environments” and the “nature reserves”.

BDS sites differ from state-owned reserves in that the latter are protected with fences, target wildlife, scenery and tourism, with no land and resources exploitation, although BDS conservation sites are most often used for all kinds of economic activities when compatible with conservation, such as cattle ranching, dairy, citrus or timber, within sustainability limits. Conservation targets are therefore very different and rather complementary.

Importantly, it must be noticed that the resulting selection of conserved sites that of the BDS is based on a combination of the willingness of landowners and the priorities established by NGOs and the government. The resulting random quality of the enlisting process (i.e. when opportunities appear) is to be counterweighed by the national and provincial planning, which define priorities and objectives and affect conservation objectives at provincial and sub-provincial scale, so that a voluntary conservation proposal can be assessed in terms of conservation priorities. At first the programme rested on the NGOs being rather proactive in enrolling landowners; but the delays in administrative process (see below) and the growing reputation of the programme today creates a backlog of proposals that are not yet processed in.

To signal the importance of conservation, South African Treasury and NGOs co-operated and created a fiscal abatement regime for voluntary landowners

After the NEMBA and NEMPA organised conservation based on a hierarchical list of kinds of reserves, the following step was introducing tax abatement provisions in the fiscal laws, so as to reduce one’s tax base with the expenses they have incurred for biodiversity protection. Conservationist Mark Botha, from a South African conservation NGO, was commissioned to propose provisions that would enable conservation incentives by the (national) Department of Environmental Affairs.

At that stage, the philosophy was identical to many existing tax deductions for environmental expenses (such as energy efficiency expenses in houses). They were based on deducting expenses from the taxable income. But it must be noted that these first stages of the incitement process were very slow and rather ineffective, probably due to the fact that the process was still primarily led by conservation NGOs, who are not commonly keen on digging into economic and even more fiscal issues.

“That took a long time to actually get off the ground, because, to be quite honest, we didn’t have any “tax people”; we kind of avoided those tax people, we were a bunch of conservation-minded people that didn’t quite know how to approach and look into our income tax Act and thought ‘let somebody else do it’. (...) You have to really understand the context of it, what it is trying to achieve, and have practice in that, to be able to know where things can work and where they can’t work”. [ITV #1 (NGO)]

Besides, it seems that National Treasury representatives also attempted to provide the main framework for the first incentives without adequate context of BDS with regard to practical implementation. They have subsequently acknowledged that the technical framework for the incentives was not adequate.

Since they operated in a developing country, South African environmental NGOs did not really consider advocating for mechanisms where farmers or other businesses would be paid for not developing and not producing, as they saw was happening in the EU and USA. The alternative, that was given a growing attention since 2004, was then to build, into the legislation, the ability to pay lower taxes so that there however would be a fiscal reward for landowners to put their land aside development, as it was now made possible through the Biodiversity and the Protected Area Acts.

One of the first specialists who were involved in developing a specific approach was Tracey Cumming, appointed as the Biodiversity Stewardship Policy adviser by the South African National Biodiversity Institute. Being in charge of understanding and developing the economics of the BDS mechanism in the country, Tracey Cumming engaged negotiations with the National Treasury³⁷, to provide for clauses into the Income Tax Act. These negotiations yielded a proposal from the Treasury to the Minister of Finances, to integrate such clauses in the income tax legislation, and this was accepted in two successive amendments gazetted in 2008 and 2009.

But the tax incentives were not worded in a sufficiently practical way, giving the functioning of the tax system, to allow landowners to take advantage of it and provide them a genuine benefit. They were drafted in ways that gave way to differing interpretations. Consequently, during subsequent years, hardly any³⁸ landowner actually used these provisions. This did not really discourage landowners to enrol in private-based conservation, however: *“they understood how much it was difficult to deal with these issues and we didn’t loose any serious relationship with them as a result of that”* [ITV #1 (NGO)].

This however brought NGOs to renew their efforts and their approach, and to appoint an environmental tax specialist, coming from tax management in the corporate sector, Ms Candice Stevens, to take up the negotiation from where it had been brought to by Tracey Cumming and, in close cooperation with SANBI, to re-word the tax legal provisions in order to rejuvenate them and make them more straightforward as well as more practical. Treasury accepted the proposed amendment draft and gazetted them in January 2015, and it became effective from 1 March 2015. The present provisions are said to be worded in a far more efficient and effective manner allowing for a more direct and practical application of the incentive, thus reducing the room for interpretation.

³⁷ Treasury is responsible for defining the tax legislation; tax collection is the remit of South African Revenue Service (SARS), a different although complementary public body.

³⁸ One landowner attempted to access the incentive for NRs but ended up in a four year battle with SARS and no incentive (Candice Stevens, personal communication).

3-3. Innovation at scale: national *per se*

The South African protected areas incentives system, in its actual design, is designed to allow landowners to deduct the costs of voluntary reserves from their revenue basis. More specifically, it is allowed to calculate the value of the land surface that has been set aside normal farming for conservation, and to subtract annually up to 4 % of this total value from the revenue tax basis (hence the total value of the land has been deducted after 25 years (100 / 4)). Since the value of the land is then considered as a specific investment, it is therefore a kind of “amortisation” of the capital devoted to conservation. In order to limit the potential effect of this measure on the national fiscal resources, the South African Treasury has however maintained the benefit at a low rate, compared to normal farming revenues.

There is a balance between being able to provide a reward for conservation commitment, and at the same time you are also able to potentially offset management costs for those conservation areas, and then potentially reduce a loss of production income. But it will never completely balance the scales in loss of production income. [ITV #4 (NGO)]

As of today however, the tax incentives system has not been actually applied yet. First, the reform of the legislative drafting, which simplification now enables to apply it, is rather recent (March 2015). Second, the whole administrative and legislative process has to be fully completed, down to the “gazetting” of the agreement between the landowner and the State, to then be eligible to tax rebates (see process diagram in annex). No landowner has yet come to this stage since the adoption of the new fiscal provisions. Birdlife South Africa is therefore conducting a pilot project, assisting a series of various types of landowners.

In total, the BDS approach has been successful, in terms of protected area expansion at least (see point [1] and [2] above). Most new protected areas in the country have been secured through the biodiversity stewardship approach and long term agreements between landowners and provincial authorities³⁹. It is however too early to evaluate the contribution of the fiscal benefits to this success, the reform of the system being too recent.

3-4. Innovation at risk: challenges and the way ahead

An uneven public involvement

At first Biodiversity Stewardship was developed mostly in the Western Cape Province, followed later by the KwaZulu-Natal Province, around 2006. And then over the following five years the other Provinces progressively joined the movement. Biodiversity Stewardship appeared and developed at the very moment when conservation budgets in Provinces started declining, with decreasing means to acquire land as well as a general decrease in ability from the conservation sector as a whole. However it is not possible to know whether this decline was encouraged by the rising alternative brought by BDS, or whether BDS development was favoured due to this decline, nevertheless this uneven engagement is still reflected today in very unequal capacities devoted to the BDS approach by the different provinces. In the Western Cape, Cape Nature has a large staff contingent devoted to conservation and up to 25 dedicated to BDS alone. In many other provinces however, only one or two officers are more or less fully devoted to this task. Since local authorities are needed at key stages of the process, this then creates a heterogeneous development of conservation throughout the country. It is paradoxical that this unevenness is less due to the private and “opportunistic” nature of the approach than to the differences in local governments’

³⁹ It is said for example that more than 100,000 hectares of land have been declared as protected areas under the biodiversity stewardship regime lately in the KwaZulu-Natal Province, where only about 1,000 hectares have been protected based on land acquisition by the government.

involvement. In other words, whereas conservation in South Africa combines private initiative with public administration, the limits of the system rather comes from a patchy public involvement.

Handling innovative transactions with a fiscal revenue service: a (universal) risk...

One difficulty of the tax incentive is the typical reluctance that arises from having to attract the Revenue service's attention, and being vulnerable to varied interpretations of the law by different services.

It hasn't been done before [actual tax rebated for voluntary conservation hasn't yet been allowed] and I have to be a guinea pig. (...) I'm afraid they might ask a lot of questions, once they start auditing someone, I've got nothing to hide, but there's a lot of work, it's a lot of preparation in order to get the documentation they require, so I'm a bit wary of this. [ITV #3 (farmer)]

Internal rather than external resistance

One of the most important difficulties the conservation sector had to overcome was "internal" resistance from NGO conservationists, and, to a lesser extent, from some of the governmental environmental workforce. Some "traditional" conservation actors in both groups felt doubtful about relying on private stakeholders and mechanisms, and having to work without the alleged stability that public ownership and status confer to conservation in public reserves. They were wary of losing control over conservation, and sceptical about the ability of private reserves to actually provide a management the performance of which would equal that of state-owned natural reserves. Resistance or opposition however mostly originated from individuals, in various positions in the system (NGOs as well as government), rather than from organised groups. Therefore the early stages of the process were devoted to internal negotiations within the group of "conservation people", in parallel with coming to terms "externally" with the Treasury and the Department of Environmental Affairs. Although it was not possible to produce evidence about this, it might be said that the "conservation milieu" is made of a fairly limited number of people, considering the size of the country and of its natural resources⁴⁰. In the case of South Africa and the Biodiversity Stewardship approach, this factor seems to have played positively, in that it allowed a relative stable and limited group of people to progressively convey their ideas, to argue and to bring evidence, and eventually to gain confidence over years.

The stewardship sort of fraternity has always been very open to sharing lessons and working together and supporting each other. The NGOs that have played in this space have been incredibly supportive, and most of them have been very good at working with Provinces and deciding what was needed to be led by governments. That has been personalities, the right personalities in the right positions. (...) It was ten to twelve people at the time we met; it has grown a little now, with NGOs coming into the space. [ITV #8 (governmental agency)]

The Achilles' heel of the mechanism: political acceptance

The main constraint the BDS mechanism has to face, and therefore the main hurdles for the fiscal benefits that are attached to it is the need of high-level political support. As mentioned above, and necessarily so since the national fiscus is involved, a political decision has to be taken. And RSA's decentralised organisation places this responsibility on the Provincial Member of Executive Council (MEC⁴¹), who has to personally sign a preliminary and then a definitive agreement.

⁴⁰ Across interviews, not more than half a dozen people are repeatedly mentioned as key actors of the process, from 2000 on. Kerry Purnell, Mark Botha, Kevin McCann, Angus Burns, Tracey Cumming are the most often mentioned names that spontaneously are dropped during interviews, in addition to Candice Stevens and Daniel Marnewick who also organised the field trip.

⁴¹ Provinces of South Africa are governed by provincial governments. The heads of provincial Departments of Environment are the MEC, who are legally entitled to sign off the final declaration of a new protected area. They are advised by their Department administration and the conservation authorities (e.g. Ezemvelo KZN Wildlife), but their actual signature is needed. This declaration legally creates the agreement between the

Therefore the Achilles' heel of the mechanism is in the final stage of the administrative process, between stages 7 and 9 in the process diagram displayed in the appendix (**Figure 2**) that entails (1) an agreement being signed by the provincial government representative, and (2) inscription of the agreement in the property registration. However, the MEC being the head of the Provincial authorities, his or her responsibilities are of all types of public matters, in a country with many development urgent issues such as poverty and jobs, justice and security, education... Biodiversity conservation is naturally not a top priority in MECs occupation. Moreover, signing off an agreement between the authorities and private landowners to allow for an extensive land use and a fiscal reward is a rather unusual approach, about which MECs are generally not very well informed. This often produces more than one-year delays in getting the signature on the documents.

The rather heated political life of South Africa, with frequent elections at all levels, results in frequent turnover of regional political and therefore administrative leaders. These leaders may have different mindsets with respect to conservation and economic priorities in the face of pressure from the mining and the agribusiness industries. This is obviously a major hurdle for biodiversity stewardship and fiscal benefits.

The landowner and the MEC are so far removed from each other; they are not going to meet or whatsoever. So that was the challenge. (...) The conservation sector is kind of facilitating this process and has to get the landowner and the MEC to agree to this declaration. A little bit cumbersome. So it is not exactly a challenge, because you can't do it any other way, it's the reality of our system that is cumbersome. A lot of people have struggled to deal with that cumbersome system, where people would rather go "ah, I can't get the MEC to sign off", rather than go and do the hard work to get the MEC to sign it. And it's hard, because the MECs do not always understand their own legislation, and they are very wary of signing the agreement: are they getting into trouble for signing it? That's the reality of the political system, if you put your head up and you're not doing the right thing you're suddenly no longer an MEC. [ITV #1 (NGO)].

For instance, now in [Province N°x], there is a new MEC. So you can do a lot of work in engaging with the MEC who in the end understands [biodiversity] stewardship, and he gets to a point where he is supportive and he signs off on the various sites. And then you get a new MEC that does not understand and for who it is not a priority and you have to start from scratch. (...) And quite often there is this perception, in political circles, that it is, you know, rich white landowners trying to make money through tax; although the tax incentives can obviously benefit communal land, there are a lot of communal sites that are in [biodiversity] stewardship as well, and a lot of funding has been leveraged to support those communities. [ITV #2 (NGO)]

In other words, on the one hand the conservation sector is a relatively compact and specialised milieu, which is effective in facilitating the process, and this is counterbalanced by the administrative and political part of the process, which imposes delays and repeatedly force the facilitators to re-launch the process, find energy to advance the files in the bureaucratic procedure and engage in new juridical and administrative justification. This is even more the case since conservation NGOs generally do not have access to high-level officials and policy-makers. They have to rely on mid-range officials, however high-level political support is a necessary condition to finalise the process and bring the agreement, the long-term sustainability and the fiscal benefits effective.

NGOs then consider that two things will make a difference, in the future. The first is addressing a number of organisational hurdles and challenges, and finding a way to rely less on government for the advancement of the processes. The second is finding more governmental support.

landowner and the authorities, and therefore is a preliminary condition for the fiscal benefits to be processed and allowed.

Our main piece of advice? I could get rather sceptical and say “never lose hope” [laughing]. But no, on a practical level, I think getting government buying and supporting this kind of work is critical. I think that on paper they might be supportive, but in practice it isn’t necessarily up to the task. So, finding political champions would be key to really giving the momentum we need for stewardship. (...) when I say the lack of political will, I mean, across a number of variables, ensuring that there is sufficient budget, putting the provincial agencies to roll stewardship out, of whether it is ensuring there is the political will to proceed with the declarations that are pending. [ITV #5 (NGO)]

3-5. Conclusion

Opportunistic versus strategically defined conservation?

One potential drawback of private- and voluntary-based conservation is of course its piecemeal nature, since reserves are defined according to exogenous individual motivations from landowners.

However this drawback seems to be limited in this case. First, it is well-known that important state reserves themselves have always been set up based on opportunities (hunting reserves in many African cases, for instance). Second, national and provincial planning provide for a general consistency framework that allows for prioritising the enrolling of landowners. However RSA is characterised by a very vast array of different ecosystem types and landscapes. Therefore, in the mind of many conservationists, the strategic complementarity of land to be conserved is less a matter of location than of types of management. This leads them to actually take in the opportunities that voluntarily and rather randomly appear, and then count on the variety of situations and management modes to allow for a proper representation of ecosystems and species in the resulting distribution of protected areas.

A mechanism potentially up to the scale

The heightening number of payments for conservation, incitation and market-based instruments has sometimes been questioned for the ability of these mechanisms to match the large-scale action that is needed to face and compensate biodiversity erosion (Pirard, Billé, and Sembrès 2009). In the case of RSA’s biodiversity stewardship and the corresponding tax incentive, the mechanism seems up to the task. Private and communal lands are indeed crucial to achieve the country’s conservation objectives, in a context where protection from agronomical intensification, mining as well as infrastructure development is a pressing matter. As documented above, the potential for voluntary reserves is significant and far from being exhausted. Granted, the growth rate of secured land by way of voluntary conservation is far too small to match the country’s target (see above), and it is too early to assess the effectiveness of the tax incentive mechanism. However, this relative slowness doesn’t seem to be attributable to the mechanism itself, but rather to an insufficient political involvement of some provincial leaders. If and when this hurdle is eventually overcome, there seems to be no specific reasons why the mechanism should find specific difficulties due to its growth. The tax incentive has been set at rather low rates, so that the expected expansion of its scale should not alter the national fiscus.

3-6. Appendix

Schematic description of the mechanism

Main players in the biodiversity stewardship process and general organisation scheme

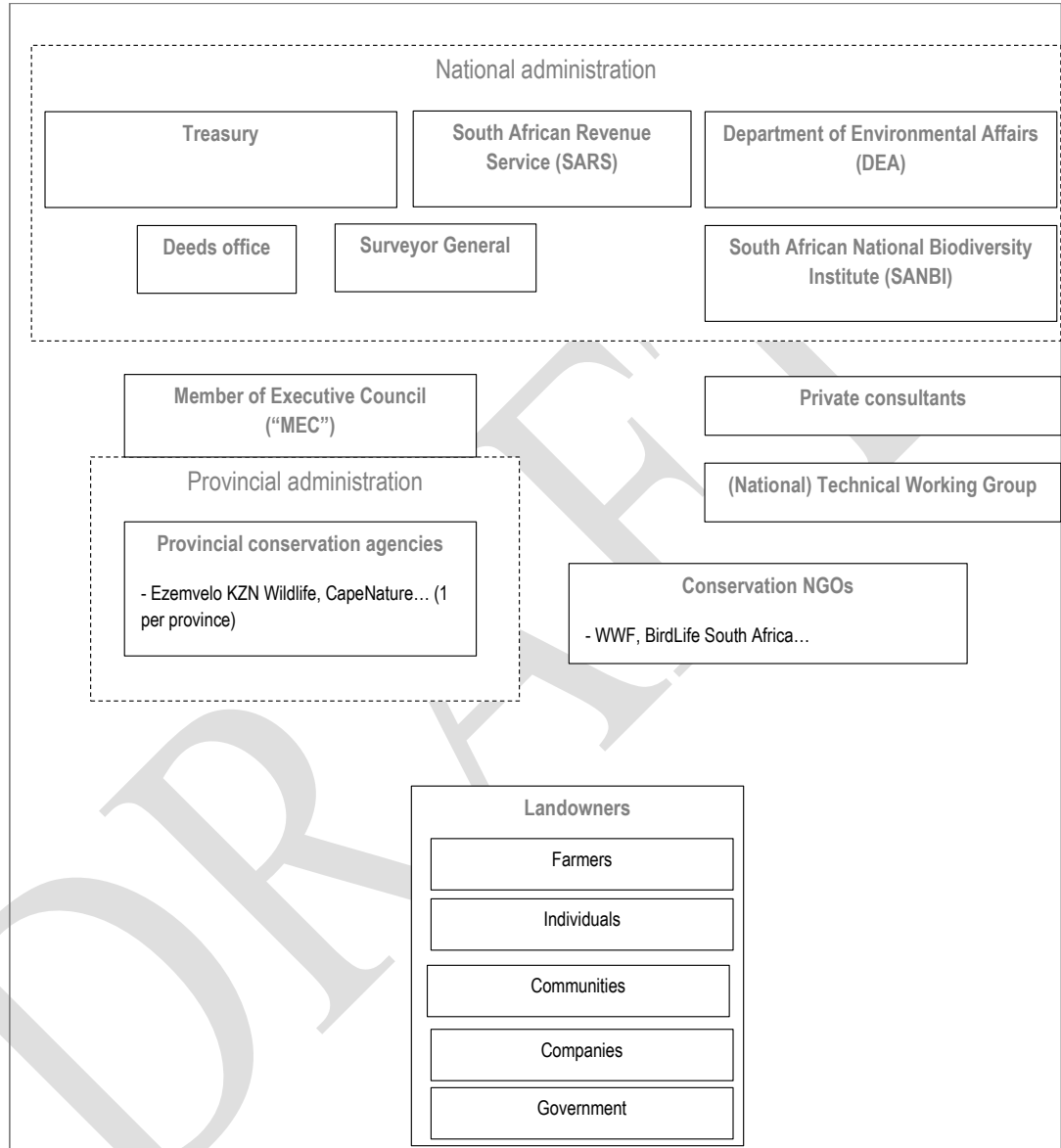


Figure 1. Main participants in the biodiversity stewardship and the fiscal incentive process in the Republic of South Africa

Biodiversity stewardship and economic incentives process

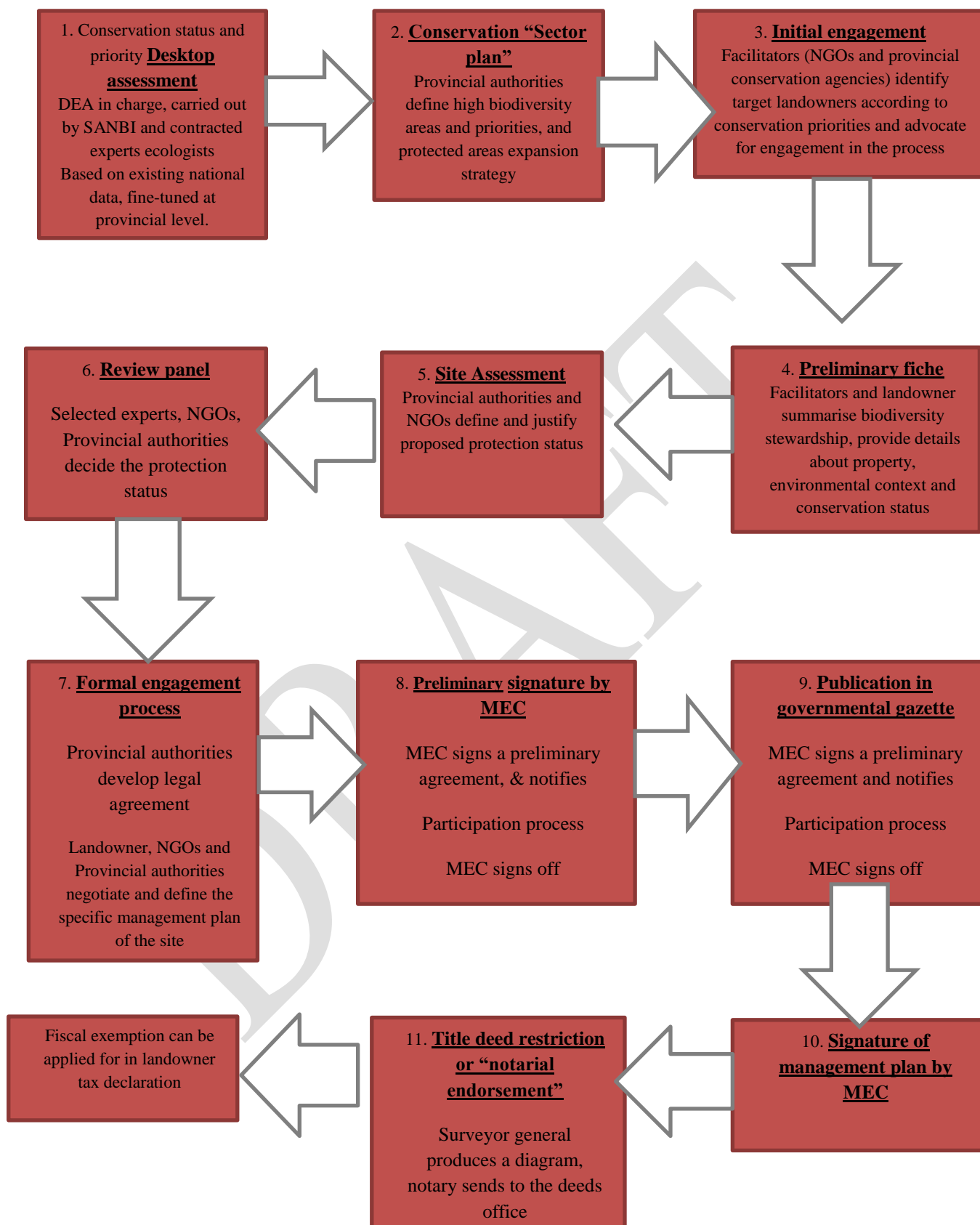


Figure 2. Biodiversity Stewardship and fiscal incentives process diagram

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4. Innovatively securing finance and ecological results: an environmental trust fund for protected areas in Côte d'Ivoire⁴²

4-1. Preparing for the innovation: case study context

National Level

A large country of 322,462 Km², Côte d'Ivoire is host to almost 23 million inhabitants (in 2015, World Bank data). Although a lower middle income country (3,270 US\$ GDP PPP per capita, 2014, constant 2011 international US\$) and a growth rate reaching 8.4% in 2015, most of the population remains vulnerable in particular in rural areas. In 2015, 46.3% inhabitants were considered poor (at national poverty lines) while this proportion was up to 56.8% in rural areas⁴³. Political instability and recent civil wars, the last one in 2010-2011, partly explains this and has so far affected the country's governance and institutional capacity.

Environmentally, the country contains an important part of the « Guinean Forests of West Africa » Hotspot⁴⁴, which is known for its numerous endemic and threatened species. With 14 key biodiversity areas identified so far and 6 Ramsar sites, Côte d'Ivoire has one of the highest level of biodiversity in West Africa, with over 1,200 animal species (232 mammals, 702 birds, 125 reptiles, 38 amphibians, 111 fish) and 4,700 plant species, out of which 62 are endemic to the country and 470 to West Africa (République de Côte d'Ivoire, 2016).

The country's economy is largely dependent on agriculture for its growth and poverty alleviation objectives. Agricultural land represents almost 65% of the total surface area (2013), up from 50% fifty years earlier (World Bank Data)⁴⁵, 22% of GDP (World Bank Data) and 68% of labour force (CIA Fact Book, Estimate 2007). 10.2% and 38.5% (2013) of all goods exported are respectively agricultural raw materials exports and food exports⁴⁶. Although making a limited and decreasing contribution to GDP (1% for logs and 1% for fuelwood), the wood sector further directly and indirectly employs 50,000 people in total whereas fuelwood activities might support 350000 inhabitants.

Forest area was massively lost in Côte d'Ivoire. From 16 million hectares of forest in 1960, less than 4 million hectares are estimated to remain today, hence less than 13% of the country's surface⁴⁷. Deforestation in Côte d'Ivoire was the most rapid worldwide since the mid 50's. Strikingly, the deforestation rate was 2.4% between 1956 and 1965, and 7.3% between 1981 and 1985 (10 times the annual world average of 0.6%). It is still today estimated at 4%.

High demographic growth (around 2,5% annually since 2013), immigration (24% of population is not Ivoirian), mining (gold), unsustainable forest extraction for fuelwood and logs, as well as rapid agricultural development constitute major threats to forests and biodiversity in the country. In this regard, cocoa is the major threat to forests. With 1,8 million tons produced in 2015,

⁴² Authors would like to sincerely thank Dr Fanny N'Golo (FPRCI) and Abdoulaye Diarrassouba (OIPR) for their active support in organizing the field trip to Côte d'Ivoire and the Taï National Park in particular. All people interviewed and informally met in Abidjan and Soubre are also to be warmly thanked for their support and time.

⁴³ The Poverty headcount of people living below 1.90 US\$ a day (PPP) was estimated at 29%.

⁴⁴ 1 out of the 35 hotspots worldwide, defined and promoted by the NGO Conservation International (Myers et al., 2000).

⁴⁵ Agricultural land increased from 158,800 km² in 1963 to 206,000 km² in 2013, a 30% increase in surface.

⁴⁶ The share of Agriculture in exports and GDP nevertheless tend to decrease over the years.

⁴⁷ See the EUREDD Facility website for Côte d'Ivoire : <http://www.euredd.efi.int/cotedivoire>

agricultural land set aside for this commodity currently covers 2,5 million hectares (World Bank data 2014) and is significantly increasing (33% in 10 years since 2002). Importantly, it supports 800,000 agricultural households, among which those with less than 5 hectares of land produce more than 80% of the country's cocoa output.

Forest conservation in Côte d'Ivoire is currently mainly based on a network of 233 « forêts classées » over 4,2 million hectares (reserved for roundwood extraction), as well as 8 protected areas (PA) and 6 natural reserves (NR) over a total of 2.1 million hectares (6,5% of national territory). While some PAs seem to maintain a satisfactory forest cover and status of biodiversity, the « forêts classées » are largely degraded due to agricultural encroachment⁴⁸. In this context, the country's 2016-2020 National biodiversity strategy and action plan (NBSAP) envisions the creation of new PAs (objective 8) and the strengthening of capacities and efficiency of the current network (objective 9) (République de Côte d'Ivoire, 2016) while the recent Intended nationally determined contribution (INDC) calls for capacity building in PAs and « forêts classées ». In both cases however, funding is lacking and needs to be raised and leveraged.

Focusing on the Taï Area as an illustration

Successively registered as a « parc refuge » of 960,000 hectares in 1926, a « forêt classée » in 1955 and then a 425,000 hectares' « réserve intégrale pour la faune et la flore », the Taï national park (TNP) was finally gazetted in 1972 (Lauginie, 2007). Situated in the West of Côte d'Ivoire between the towns of Taï, Guiglo, Soubré and San Pedro, it now encompasses 536,017 hectares together with the N'zo fauna reserve⁴⁹. Of global biodiversity importance, the TNP was declared a Biosphere reserve under the UNESCO's Man and the Biosphere Programme (MAB) in 1978 and a World Heritage Site (WHS) in 1981.

The park, still relatively intact, is one of the last remaining portions of the vast primary Upper Guinean rainforest. About 1,300 plant species were documented, 12% of which endemic, as well as 146 species of mammals. Besides forest elephants and buffalos, various duikers, as well as chimpanzees, the TNP is also host to 12 endemic species, e.g. the Jentink's and zebra duikers. Out of 746 bird species observed in Côte d'Ivoire, 234 are found in the park, including very rare ones (République de Côte d'Ivoire, 2015a).

The Taï wider area is nevertheless prone to significant human pressures. Areas closely surrounding the TNP (periphery) are indeed densely populated. It is estimated that approximately 1 million people inhabit the vicinity of the park in 81 villages within a 10km radius, representing a peripheral zone of 408,277 hectares (Varlet and Kouamé, 2013). Besides artisanal gold mining, agriculture activities concern 55% of households in the peripheral zone⁵⁰. Among this, cocoa is particularly important to the Taï region's economy, around Soubré. In 2013-2014 the area was the first cocoa producing « département » with 14% of the total national production. Due to its favourable climatic conditions and two successive waves of immigration, 53% the Tai area (10 km radius around the TNP) is nowadays covered with cocoa plantations, producing 94,000 tons and supporting 33,800 farmers (396,000 people with their dependents) (Varlet and Kouamé, 2013).

⁴⁸ According to SODEFOR (Société de développement des forêts de Côte d'Ivoire), almost half of the 2,5 million hectares of « forêts classées » in the South are actually cropped or under fallow.

⁴⁹ The TNP and N'zo fauna reserve are contiguous (the latter is located north of TNP), so that the park management team prefers to consider both areas as one single, the TNP.

⁵⁰ Agricultural surfaces average a significant 9,7 ha per household.

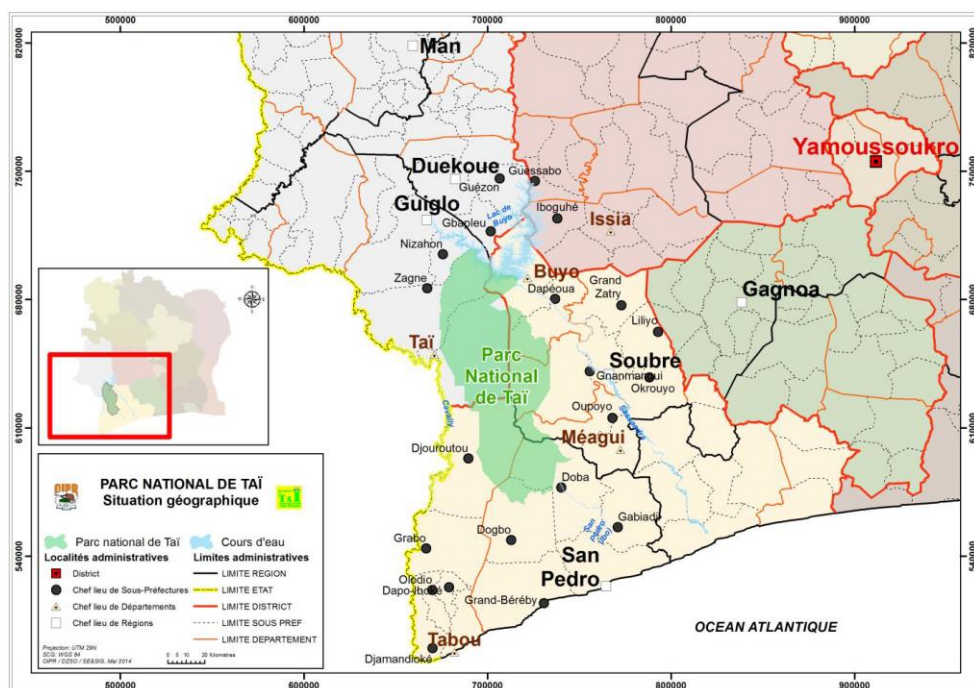


Figure 1. Map of the TNP

Source: République de Côte d'Ivoire, 2015, p.10.

In fine, such human pressures have resulted in massive deforestation around the TNP. It is estimated that between 2003 and 2011 in the peripheral area, primary forest cover decreased from 10,5% to 0,6% while surfaces of degraded forests shrank from 15,5% à 6,1% (Varlet et Kouamé, 2013). In this context, the integrity of the park's boundaries remains highly uncertain and is prone to rapid encroachment. Management capacity and funding therefore need to be both secured.

4-2. Innovation at work: funding efficient PA management through debt swaps

Three types of innovation are at work in biodiversity conservation in Côte d'Ivoire : first, setting a foundation as an independent vehicle for funding PAs; second, mobilizing finance through the foundation's capitalisation from debt swaps; and finally third, managing PAs efficiently through contractual agreements with an autonomous parastatal conservation body.

Financing the Ivorian PA network: an innovative change in paradigm

Until the mid 1990's, protected areas in Côte d'Ivoire were placed under the direct authority of different government ministries, successively the Ministry for water and forests, the Ministry of agriculture and finally the Ministry of environment, where the Directorate for nature protection (DNP) was to centrally oversee the strategic and operational management of all protected areas, « forêts classées », and natural sites.

Yet, in 1992, a convention was organised together with the IUCN to conduct a diagnosis of the status and management of protected areas in the country. In 1995 thereafter, the government held a National Seminar in Abidjan where all concerned stakeholders (ministries, donor agencies, adjacent populations, etc.) were invited to share a common diagnosis. At this point, stakeholders agreed that the PA network, despite significant government investment and donor assistance, had not achieved the desired objectives and results. The key problem was attributed to the type of

financing, and its timing aspect, which was so far mobilised to fund PAs. On the one hand, funding was dependent on donor project money, which was time-bound, unpredictable, and mainly concentrated on one single PA. On the other, fully dependent on government funding for its park operations, the DNP only received its annual financial contribution in March, at the soonest, while budget for the next year was voted in the November-December period. A financial gap resulted from this timing and highly affected surveillance operations during the dry season (October to February) where most poaching activities are usually undertaken. The PA network's conservation status was therefore significantly jeopardised.

To tackle such issues, it was thought that a mechanism to ensure a minimum, permanent and stable, flow of funding to cover PAs' operations was to be put in place, together with a set of better management structures. This led to the design of a Framework Programme for PA Management (Programme Cadre de Gestion des Aires Protégées – PCGAP), which was validated in Cabinet in March 1996. Among other key objectives, the strategy aimed at 1/setting up a new management body for PAs, a parastatal entity with administrative and financial autonomy, although with strong government backing ; 2/ setting up a foundation so as to fill the PA financial gap with additional resources ; and 3/ designing and implementing a development and management plan for each PA.

In 2002, the government of Côte d'Ivoire finally enacted Law n° 2002-102 in order to strengthen conservation policies in general, and parks and reserves in particular. First, the law required the ad hoc creation of a specific national public entity (an « établissement public national (EPN) de type particulier ») to manage the country's protected areas and reserves, carry out surveillance as well as patrol activities and eventually and lawfully arrest offenders (titre III). Contrary to the DNP, this entity is endowed with its own legal personality and financial autonomy. Besides, each PA would be decentrally managed at the area's level, following its specific development and management plan. Second, the law set foundations as official vehicles to sustainably financing PA operations through the generation of financial returns from their capital (titre IV).

Following decree n° 2002-359 hence formally established the Côte d'Ivoire Parks and Reserves Office (OIPR) (Office Ivoirien des Parcs et Réserves) in 2002 as the entity to manage Ivorian PAs. A management committee, consisting of 12 members from different ministries, foundations, NGOs and adjacent communities, shall oversee the Office's operations and its new Directorate General⁵¹. Although an autonomous entity, the Office remains under the administration supervision (from the Ministry) and receives government subsidies for operation and investment costs while most employees are actually public servants paid by the government.

FPRCI-CI Structure

Also building on the 2002 law, the Foundation for the parks and reserves of Côte d'Ivoire (Fondation des parcs et réserves de Côte d'Ivoire) was created in Côte d'Ivoire (FPRCI-CI) in November 2003 as a private non-profit institution, the first Ivorian trust fund dedicated to funding the country's PA network. Its mission is to mobilise and manage funds through an Environmental Trust Fund (ETF, see Box 1) so as to ensure long-term sustainable financing of parks' operations, in addition to State's contribution. By 2020, it aims at financing over 90% of operational costs of all Ivorian parks and reserves.

⁵¹ The Director General is proposed by the management committee and nominated, after validation, by the Ministry.

Box 1. Environmental Trust Funds: definitions

An environmental trust fund (ETF) is an independent legal entity and investment vehicle to help mobilizing, blending, and overseeing the collection and allocation of financial resources for environmental purposes. It is a country-driven solution that facilitates strategic focus, rigorous project management, solid monitoring and evaluation, and high levels of transparency and accountability.

An endowment fund refers to an ETF where capital is invested in perpetuity, and only the resulting investment income is used to finance grants and activities.

A sinking fund refers to an ETF where the entire principal and investment income is disbursed over a fairly long period (typically ten to 20 years) until it is completely spent and thus sinks to zero.

Source : UNDP, *50 years Financing Solutions for Sustainable Development*
<http://www.undp.org/content/sdfinance/en/home/solutions/environmental-trust-funds.html>

A first constituent general meeting was held in 2003, attended by the 10 founding members in order to define the foundation's statutes, mission, as well as the processes, rules and regulations. While a number of slight modifications were introduced in the foundation's statutes rules and processes until 2009, the FPRCI is now governed by the following structures :

1/ the General Assembly of 10 volunteer members meets once a year. It validates the foundation's strategy, approves the budget and monitors directors;

2/ the Board of directors is composed of 9 volunteer voting members (including a Chair and a Vice-chair) as well as 2 observing (non-voting) members (PNUD and KfW representatives), and meets 3 times a year. The Board defines the strategy, validates the work programme, validates rules and regulations and closely monitors how funds are managed and spent;

3/ the Executive directorate carries out daily activities, undertakes financial, technical and administrative management and oversees the asset manager's work and results;

4/ two committees provide the Board of directors with analysis and recommendations. First the Investment committee defines, reviews and proposes investment guidelines and instructions, as well as it monitor the asset manager's performance. In this, it is assisted by an international consultant⁵². Second, the Audit committee controls the foundation's annual accounts and its procedures.

The first Board of directors' meeting took place in 2004. It is now composed of well-renown, accepted, very skilful and influential persons from Côte d'Ivoire's civil society, including the private sector (big companies), NGOs, lawyers and academics, as well as of two government representatives⁵³. All those high-profile members, co-opted by the Board of directors and validated by the General Assembly, ensure the credibility, efficiency and legitimacy of FPRCI in the country, but also abroad when liaising with conservation agencies as well as with international, multilateral or bilateral donor agencies.

FPRCI was eventually recognized to be of public utility in January 2009, and therefore exempted from taxation in Côte d'Ivoire for returns from its endowment's and sinking funds' assets.

⁵² A consultant works 2.5 days per month as a financial advisor for the foundation.

⁵³ As an important consequence government representatives always remain in minority.

First FPRCI-CI activities

Earlier years of the 2000's were ones of political instability and uncertainty. The foundation was thus somehow dormant from 2002, yet its operational costs (salaries) were covered by the Government of Côte d'Ivoire who supported the initiative. In 2008, in order to mobilise funding and upscale operations for parks and reserves, FPRCI nevertheless organised, together with GiZ and OIPR, a donor's round table conference, where Germany, Austria, Switzerland, France and other donors were targeted. The conference first focused on the Taï national park (TNP) where German cooperation was for long involved. Several donors did then pledge to contribute to financing the country's parks and reserves. On the one side, the World Bank decided to resume its assistance stopped with political unrests of 1999 and 2002. It launched the 5-year PARC-CI project, disbursing \$US 2.5 million to broadly support FPRCI and OIPR. On the other, the German cooperation promised another \$US 2.5 million to be specifically dedicated to the foundation's endowment fund (for TNP in particular). For this, WWF Germany, with financial support from BMZ and technical assistance from GiZ, first assisted FPRCI in making due diligence, finalizing criteria, and selecting directors. Outcomes of such a positive process were finally presented during the 9th Conference of Parties (CoP9) to the Convention on Biological Diversity (CBD) in May 2008.

Creating FPRCI-UK to mobilize funds

In order to host these first German disbursements (2.3 million) into the endowment fund, it was eventually decided to create a FPRCI sister foundation in the UK. Advised by with an international consultant, it was indeed felt that due to political instability in Côte d'Ivoire and UMEOA's stricter financial rules, international financial markets and funds would be keener to see their capital deposited in the UK before being reinvested. Hence, FPRCI-UK, FPRCI-CI's sister foundation in the UK was created in October 2009 to host the endowment fund and recognized to be of public utility in the UK. FPRCI-UK was officially founded by one member, FPRCI-CI, which similarly appointed a board of 9 voting directors (the same as in Côte d'Ivoire) and 2 non-voting members selected from donor partners (only one for now is sitting, WWF Germany). Besides, the executive directorate from FPRCI-CI also acts as executive directorate for the sister foundation in the UK.

Technically, funds to be invested on the financial market transit to the UK foundation's account while funds generated to be donated and spent for PAs in Côte d'Ivoire (from both the endowment and sinking funds) are transferred back to FPRCI-CI. An agreement was signed between both foundations to stipulate relations between them as well as procedures (both foundations co-own funds). And all documents and agreements with donors are to be jointly validated and signed by both foundations.

The asset manager was thereafter chosen in 2009 after a strict selection process and with the consultant financial advisor's assistance. The investment strategy (« Politique d'investissement du patrimoine »), defined and proposed by the foundation's Investment committee (see above) requires the asset manager to deliver a threshold of 4% net returns (after its management fees). At first deciding to carry a conservative investment portfolio (30% stocks & 70% bonds), FPRCI's investment committee and board of directors have recently shifted towards a balanced investment portfolio (50% stocks & 50% bonds), after this was discussed and validated with donor agencies.

Funding the FPRCI: mobilising finance with debt-fo-nature swaps

Besides the innovative nature of the structure and mechanism chosen in Côte d'Ivoire to partly finance the country's PA network, innovation also came from the source of funding to be channelled.

In March 2010, in the context of the Paris Club's negotiations and the Heavily Indebted Poor Countries Initiative (HIPC) Initiative, the German government decided to write off and reschedule part of the debt it held from Côte d'Ivoire⁵⁴. In return, the stipulated condition was for the government of Côte d'Ivoire to allocate some of this written off and rescheduled debt in the field of biodiversity conservation. More specifically, Côte d'Ivoire had to commit itself to disburse 9,5 million euros for TNP (for 19 million euros debt written off) and 10 million euros for the Comoé national park (for 19 million euros debt written off). In 2012, a debt swap agreement was signed between KfW and FPRCI together with the government of Côte d'Ivoire, where the payment schedule was set as well as conditions for these payments and monitoring procedures⁵⁵. Contractually, a funding window was opened at the foundation for each of the 2 national parks where the government of Côte d'Ivoire is to transfer instalments. For TNP, it transfers instalments to the FPRCI-UK's account twice a year (March and September) until 2018 while for the Comoé national park 4 equal instalments were agreed on and have been completed by now. For each instalment, KfW receives the transfer order from the government of Côte d'Ivoire and a proof of funds' receipt by FPRCI-UK.

Money from instalments is then divided in two by the foundation. On the one hand, some share is, until 2018, channelled directly from FPRCI's sinking fund to OIPR and the concerned national park following both a 5-year Framework agreement and an annual Funding agreement (see below). On the other, the remaining share is deposited into the foundation's endowment fund in order to generate financial interests, under the selected asset manager's supervision, which will cover PA management after 2018 and in perpetuity⁵⁶.

Until 2018, 610 000 euros, respectively 457 000 euros, are thus yearly transferred from FPRCI to OIPR and then to the concerned PA in order to manage TNP and the Comoé national park. These funds, as defined by the Framework agreement with the donor, are to be allocated by OIPR, at the regional level, to specific categories of expenditure, eligible within the agreement. These are *only* recurrent costs, including contract staff (not public servants), running costs (fuel, water, electricity, daily allowance fees for patrols, maintaining borders, etc.), maintenance costs for vehicles, mission expenses and consulting services, as well as buying small equipment (<1500 euros). Investment costs, including park infrastructure and roads, vehicles but also infrastructure and projects for adjacent communities are excluded from this funding window⁵⁷. Only exceptionally can investment be financed through the foundation's funding line, when request is made and after a non-objection notification is made by the corresponding donor (here KfW).

For technical and financial monitoring purposes, KfW, through FPRCI, can control the mechanism so as to make sure expected results and effects are delivered. First, KfW is provided with all reporting documents requested from OIPR and respective national parks (see below): technical and financial reports, external audits, etc. Second, KfW attends park stakeholder meetings at the end of the year where for each park an assessment is done of the park activities and results. Finally, and most importantly, KfW is a non-voting member (observer) on the FPRCI-CI's Board of directors. This means the donor can usefully monitor the mechanism and the associated processes and indirectly can control park activities through its participation in discussions within the foundation's decision-making body. Among other issues, KfW can for instance make sure that the asset manager is well selected, that its financial performance is aligned with the investment strategy agreed on, and that funds are well disbursed to, and spent by, PA managers.

⁵⁴ Note this is different, and in addition, to the US\$ 2.5 million disbursed in 2008-2009.

⁵⁵ A retrocession agreement (acte de rétrocession) with FPRCI was also signed by the Government of Côte d'Ivoire so as to ensure the funds would be channelled to FPRCI and then to OIPR for the management of TNP and Comoé NP

⁵⁶ For PNT, the endowment fund was allocated 3,5 billion FCFA while the sinking fund was allocated 2.7 billion FCFA, so a total of 6.2 billion FCFA (approximately 9.5 million euros).

⁵⁷ Socio-economic measures for adjacent communities are counted as investment costs in OIPR budget and PA decentralised budgets.

Another debt-for-nature swap agreement was very recently signed with the French government in order to increase the foundation's endowment fund and therefore further finance several other protected areas in Côte d'Ivoire. Also building on the Paris Club's negotiations, a first debt swap had previously been signed in 2012 between the government of Côte d'Ivoire and the French government under a Debt Reduction and Development Contract (Contrat de Désendettement et Développement - C2D). The latter is a mechanism, led by the Agence française de développement (AFD), to write off the debt of the concerned country by refinancing it in the form of donations. The indebted country actually continues to service the debt (transfer to French Treasury) but repayments to France are immediately transferred back as donations to the country, earmarked for a limited number of sectors⁵⁸. The first C2D contract, amounting to 630 million euros over 6 sectors, eventually allocated 16.5 million euros to biodiversity conservation in Côte d'Ivoire, including 4.5 million euros for strengthening OIPR's as well as FPRCI's capacity and rehabilitate infrastructure in 3 national parks (Azagny, Mount Sangbé, Comoé). In this, FPRCI was the organization to receive funds but had contractually to transfer those to OIPR for it to rehabilitate parks (Azagny NP, Mt Sangbé NP) and implement socio-economic measures for adjacent communities (Comoé NP). The FPRCI was therefore in this set-up just an intermediary body to channel funding to OIPR and PAs⁵⁹.

Yet, a second C2D contract was thereafter signed in 2014 to swap 1.1 billions euros debt and allocate it to the same 6 priority sectors. In the process, biodiversity conservation projects were allocated 15.5 million euros under the FADCI project (Filières agricoles durables en Côte d'Ivoire), whose agreement was finalized and signed in April 2016. Contrary to the first C2D, approximately 10 million euros is now earmarked to FPRCI⁶⁰ to specifically capitalise the foundation's endowment fund. Interests generated from the endowment fund will contribute to finance park management costs for Azagny NP as well as Sangbé NP⁶¹. Following the same mechanism and model set up for TNP and Comoé NP (see above), FPRCI and OIPR are currently finalising a Framework agreement to define annual funding amounts to each of the 2 national parks, procedures to use these funds, monitoring & reporting processes and eligible categories of expenditure. Contrary to the KfW debt-for-nature swap mechanism (see above), investment costs including vehicles but also socioeconomic measures for adjacent communities (infrastructure) are here eligible. FADCI funds to the foundation's endowment fund are to be disbursed in 2 instalments within the year 2016, which will allow financial interests to be quicker generated and to cover the 2 parks' management costs.

Monitoring and assessment of the mechanism includes all stakeholders. First, the Framework agreement was checked and validated by AFD (non-objection notification) so that the donor was involved in designing the mechanism and ensuring its sustainability. Besides, AFD is also now a non-voting member (observer) on the FPRCI-CI's Board of directors. As a result, together with FPRCI and other donors, it is part of all discussions related to park management by OIPR (during directors' meetings) and has access to all reporting documents and processes (see below).

⁵⁸ See the AFD website : <http://www.afd.fr/home/outils-de-financement-du-developpement/C2D>

⁵⁹ There was nevertheless some funding specifically earmarked for FPRCI's capacity building.

⁶⁰ To make sure the government of Côte d'Ivoire, within the C2D contract, will allocate money from the FADCI project to FPRCI for its endowment fund, a retrocession agreement (acte de rétrocession) was signed between the government of Côte d'Ivoire and FPRCI where the latter also commit to use the fund to finance OIPR's management activities in the 2 national parks concerned; the retrocession agreement was validated by AFD (non-objection notification).

⁶¹ Interestingly, 7.5 million euros were initially earmarked but an additional 2.5 million was requested so that interests generated from the endowment fund could also not only cover recurrent costs but *also* investment costs (vehicles, infrastructure).

« Privatizing » management and decision processes for PA management in Côte d'Ivoire

Not only is the mechanism to mobilize and generate funds for Ivorian PAs innovative, but the FPRCI institutional set-up and financing processes also, and mostly, provide the whole PA network system with transparent procedures which ensure efficiency and sustainability in their management.

Created in 2002, the Côte d'Ivoire Parks and Reserves Office (OIPR) is a specific national public entity (see above). Still under the administration's supervision, it is nevertheless an autonomous entity governed by a management committee. In the latter are sitting 6 representatives from the government (majority), 3 representatives from adjacent communities, 1 representative from the FPRCI and 1 representative from environmental NGOs (Decree in 2011). While the management committee discusses and validates OIPR's management plan, perspectives, budget and strategy, the Directorate General designs, proposes and implements those orientations as well as it oversees daily operations. OIPR's functions, undertaken and supervised by the Directorate General, includes infrastructure development, surveillance, ecological monitoring and evaluation, research, relationships with adjacent communities, ecotourism development, and finally communication and outreach. These tasks are performed, on the one hand, at the central level (Directorate General in Abidjan) but are also, on the other, decentralized at the regional level to zone directorates. Each of the 5 zone directorates (West, South-West, South, Centre, North-East) are in turn subdivided in several sectors (3 to 5) depending on the size of the region and the number of protected areas within it (a total of 22 sectors over the whole country).

OIPR holds management responsibility over 14 protected areas, representing 2.1 million hectares, including 1.75 million hectares for 8 national parks. It employs approximately 480 persons, among which 95% are civil servants, including 200 game rangers. Government subsidies cover most of the budget, mainly through salaries to public servants.

Each zone directorate is to design a number of strategic and operational documents for each PA under its responsibility, which will contribute to their efficient management.

First, a 5-year⁶² development and management plan presents the park's conservation status, its legal and governance background, and designs different management measures to be carried out in order to reach defined results and objectives based on agreed strategic interventions. Management measures include surveillance measures, monitoring & evaluation and research, contribution to local communities, communication and outreach, infrastructure development, and ecotourism. For each of these measures, indicators are clearly defined for results, effects and impacts and quantitative objectives are set.

Second, a business plan is designed in order to quantify the costs associated with management measures agreed and proposed in the development and management plan. Overall, it is the financial translation of technical choices made in the development and management plan. It presents and analyses the costs and financial resources available over a certain period (5-7 years) and as a result investigates the funding gap which will be necessary to fill. In this regard, it aims at proposing a financial strategy and at attracting additional funds from the private as well as public sector.

Third, an annual plan of operations is elaborated. It very precisely specifies the concrete activities to be carried out, their timing over the year, the result to be achieved (a quantitative indicator), their cost, and finally the stakeholder to support these activity costs.

⁶² Alternatively a 10-year plan, as in the case of the Comoé national park.

All those plans are discussed, co-designed and agreed on with all stakeholders concerned with the concerned PA. Local authorities, adjacent communities, researchers, but also the FPRCI and technical as well as other financial partners all contribute to designing and refining the management and business plans. Every trimester as well at the end of the year they similarly review the implementation of such plans. In fine, this inclusive elaboration and monitoring of PA management structures and activities legitimizes the parks' operations and activities and reduces potential conflicts.

Due to the new private financing role of FPRCI (see above), a particular relationship is now being built between OIPR and the foundation, as well as indirectly with its donors. These links, based on financial and technical reporting as well as on monitoring conservation results, constitute a governance innovation which contributes to strengthen PA management in Côte d'Ivoire and helps OIPR reaching private sector operational and strategic decision-making standards.

FPRCI and OIPR sign a Framework agreement for each and every funding window dedicated to one PA (see above). This framework agreement, validated by the concerned donor (through a non-objection notification), defines responsibilities, modalities and procedures for financing the concerned PA over a certain period of time and sets eligible expenses and their amounts. It stipulates that an annual request for funding for the PA (for next year activities) is to be sent by OIPR to FPRCI. This request must be based on the PA's development and management plan, the business plan, as well as on the annual plan of operations; it will be reviewed by FPRCI according to the coherence between the request made and the said plans. When (if) the request is validated after its official presentation by OIPR executive director (and zone directors) to the foundation's Board of directors, a yearly funding agreement is then signed between both parties.

Implementation of both the framework and the funding agreements will be reviewed by both partners, together with other concerned stakeholders, on a quarterly basis. In this regard, the private funder, FPRCI, is provided with technical and financial reporting every quarter and is able to review the implementation rate by the PA management team and OIPR. A rate below 75% would trigger a thorough assessment of the quarterly report while a rate below 50% would trigger a meeting between OIPR's management committee and FPRCI's Board of directors, and thus could lead to stopping funding⁶³. At the end of the financial cycle (March/April), in addition, a meeting (atelier bilan) is organized with all stakeholders to monitor & evaluate the closing annual funding agreement. On this occasion, impacts are evaluated building on indicators agreed in the development and management plan. Together with external audits ordered by the foundation, this exercise allows FPRCI to assess effects of its funding on PA conservation and allows to eventually modify modalities, procedures and strategies. Importantly, while funding concerns a certain type of spending (see above), such monitoring & evaluation is conducted over the whole annual plan of actions, without distinction of expense categories. In fine, this means that FPRCI, even with its partial financing of PAs, is able to control overall performance by OIPR and its PA management team as well as their successful level of completion of the set conservation objectives.

4-3. Innovation at scale: securing the parks' integrity

As shown previously, the FPRCI mechanism is not only a funding innovation but also an institutional innovation. It mobilises conservation finance which, most importantly, is very efficiently used to manage Ivorian PAs thanks to all checks and balances, monitoring and evaluation processes which have been put in place with FPRCI funding and procedures. In fine, this allows conservation of biodiversity inside protected areas on a large scale, at the national as well as at the local level.

⁶³ The funding agreement (article 9) clearly states that an insufficient implementation rate would make FPRCI cease disbursements.

National scale

As mentioned above, OIPR manages a network of 8 protected areas (PA) and 6 natural reserves (NR) over a total of 2.1 million hectares, a significant 6.5% of national territory. Out of this, FPRCI covers costs, at least partially, for 7 parks, i.e. 87.5% of the PA network, with all its funding to OIPR in the form of direct support (sinking fund) and financial interests from the endowment fund.

Local scale: illustrating with TNP-

TNP is 536,017 hectares large, i.e. 1.7% of the country's surface. Together with the 408,277 hectares peripheral zone, the Taï area represents close to 3% of Côte d'Ivoire inland territory. As per Law n° 2002-102 and Decree n° 2002-359, economic activities (e.g. mining) as well as natural resource use and farming activities in peripheral zones around protected areas are regulated and monitored by OIPR. In this regard, sustainably funding, strengthening and finally monitoring OIPR operations inside and outside TNP is a significant contribution of FPRCI to biodiversity conservation over a large biodiversity-rich area.

In 2015, a total budget of (close to) 600 million FCFA was spent for TNP operations and infrastructure while approximately 500 million FCFA was used to pay civil servants responsible for TNP management (including bonuses and social security). The latter public service wage costs were fully covered by the government of Côte d'Ivoire. Concerning operational costs, 398 million CFA were allocated from FPRCI to cover contract staff's salaries and bonuses, small equipment, but also mostly maintenance of vehicles (55 million FCFA) and petty money for game rangers while in the field (*pécule hommes de troupe*) ; in addition, 170 million FCFA were donated by KfW⁶⁴ to fund building infrastructure, support to adjacent communities, among other things ; and finally 32 million were generated by the PNT itself (ecotourism, renting space, etc.).

In 2015 staff included 100 civil servants, 13 contract staff, and 27 interns for a total of 140 employees dedicated to biodiversity conservation in and around PNT. Among these, there were 21 people at the zone direction headquarters in Soubré, 53 rangers (brigade mobile) and 76 staff stationed across the 5 sectors of the PNT.

Overall, this represents a very significant technical capacity (both in quantity *and* quality) to protect the park's integrity and preserve its rich biodiversity. In 2015, 203 patrols have been carried out inside TNP (and just outside, at the boundary) with 9,933 man/days involved, an increase as compared with 2014 (respectively 174 patrols and 8,722 man/days)⁶⁵. Importantly, almost all 25km² park's quadrats were patrolled (95%) whereas, as it is requested in the development and management plan, close to 3 quarters of patrols (72%) were concentrated in vulnerable areas of the park, mostly the eastern part of PNT, where encroachment and small-scale gold mining are occurring, as well as in the PNT South-west part where ecotourism activities are located.

This eventually led to arrest 174 offenders during 2015 (against 157 in 2014). This included three quarters who were illegal miners, 15% who were poachers and 10% who were farmers illegally clearing inside PNT. Besides, 91 mining tools were seized, 17 rifles and 153 ammunition as well as 84 wildlife dead parts, mostly duikers (against 17 in 2014). Though these figures could tend to

⁶⁴ This comes from some support remaining from a previous phase but not from the debt swap funding.

⁶⁵ Patrols last on average 7 days in PNT with a minimum of 4, a maximum of 11. In 2015, each ranger has patrolled in the field an average of 17 days per month. A patrol activity is generally triggered by information transmitted by adjacent communities to one of the sector chiefs. GPS coordinates to be reached are defined ahead of the mission and recorded in the patrol report after completion, together with all events and issues encountered during the patrol.

show an unwelcome increase in poaching and artisanal gold mining in and around TNP, this also positively proves the capacity built by OIPR to keep those threats to biodiversity under control. This significant capacity for instance allowed OIPR to recently rehabilitate TNP's eastern part with natural cover with the agreement of most local stakeholders. This part, due to successive immigration waves (see above), was previously an area illegally encroached and farmed with cocoa. OIPR eventually decided to cut down cocoa trees within this zone (4,200 ha since 2012, including 3,000 ha in 2014) and to concentrate patrolling efforts there (it is a vulnerable area). This strategy proved efficient : encroachment in this area is almost null and represents a marginal share of offences reported (see above).

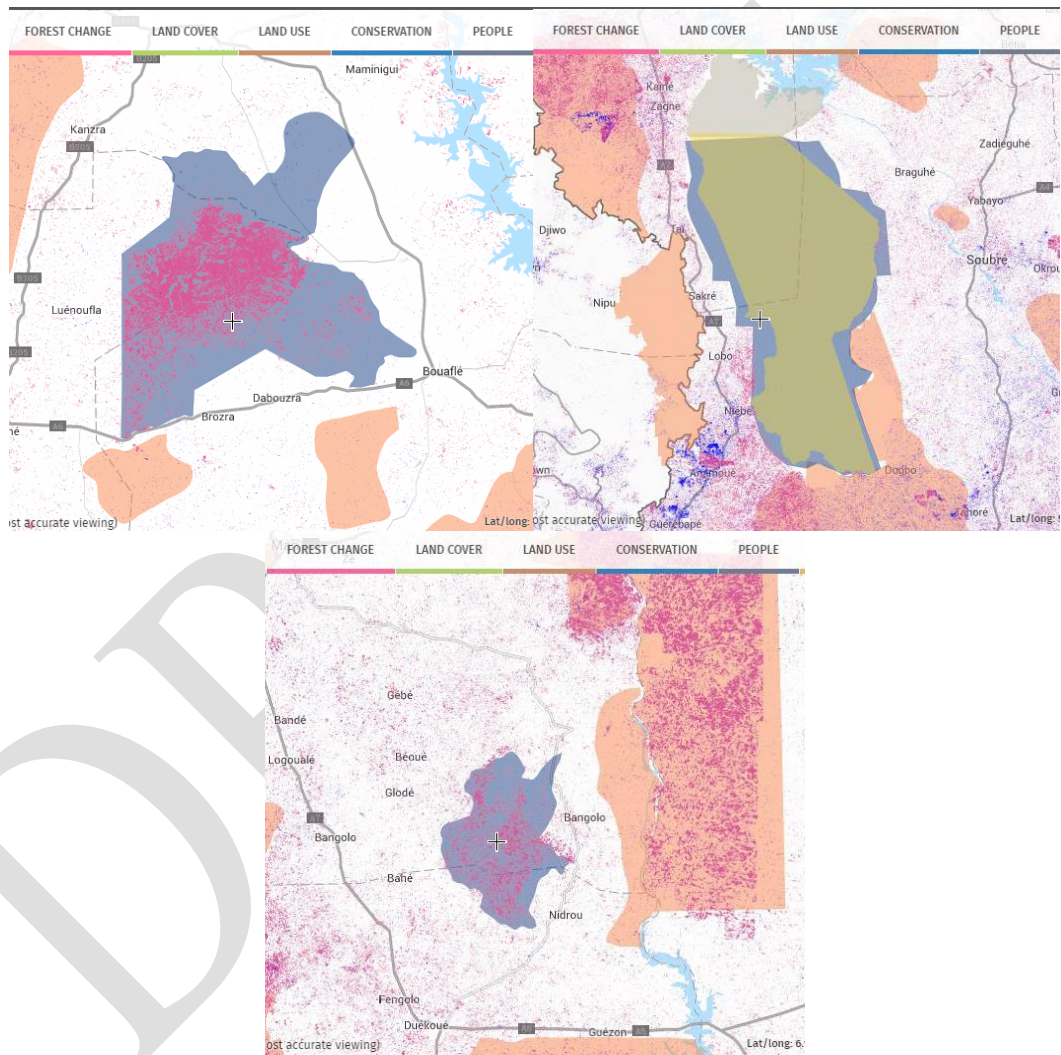


Figure 2. Deforestation 2002-2015 in three protected areas

Clockwise maps: Marahoué national park (101,000 ha), Taï national park (536,017 ha), and Mount Péko national park (34,000 ha)

Note: blue (and green) areas are designated protected areas (in Taï NP, 2 PA status are superposed) while red points are deforestation since 2000

Source: Global Forest Watch, Accessed 25 July 2016

In total, deforestation inside TNP, and within its close vicinity, is kept to minimal. Despite the South-west region being the biggest cocoa producing area and as a result a place of migration, TNP is probably the most intact and best protected park within the Ivorian PA network. Compared with other protected areas, TNP was largely untouched by encroachment and deforestation activities in the 10 last years (figure 2), and human activities, as evaluated by the encounter rate (during annual census), have decreased to their lowest level in 2015 (République de Côte d'Ivoire, 2015b).

Wildlife numbers, including elephants, antelopes, but also monkeys, have also stabilized since 2012 (after a critical decrease during 2009-2011 and the political crisis). Some groups, including monkeys, have even seen their number increase since 2012 (Tiédoué et al., 2015).

Without any doubt, part of the explanation lies in the continuing financial and technical support of international donors, and most recently of the private FPRCI, which surely allowed to secure sustainable funding from innovative debt-for-nature swap sources and additionally to strengthen OIPR efficient procedures and management capacity.

4-4. Innovation at risk: challenges and the way ahead

FPRCI's innovative involvement in mobilizing biodiversity finance, through debt-for-nature swaps, and using it for funding the PA network, through OIPR, is still recent. The financial and contractual approach adopted by the foundation therefore needs to be strengthened and reinforced in order to ensure its sustainability. The mechanism we have described, although innovative and highly efficient in promoting sound PA management and biodiversity conservation, might face several challenges that need to be tackled in the mid to longer term.

First, transaction costs to design, negotiate and thereafter implement and monitor contracts remain significant. Numerous agreements had, and will still have, to be signed with a number of stakeholders. For debt-for-nature swaps, retrocession agreements have to be signed with the government of Côte d'Ivoire ; and funds need to be transferred to FPRCI-UK then to FPRCI-CI. In the C2D case, funds need to transit via the French treasury before being transferred to UMEOA accounts, then FPRCI-UK and back to FPRCI-CI and finally OIPR. Then framework agreements, as well as annual funding agreements have to be signed with OIPR for each PA. In all of this, non-objection notifications are to be made by donors. Overall, this implies effort, time, and financial costs that are borne by the foundation but also by its partners. This might create over-complexity as compared with alternatives, for example direct transfers to the national authority in charge of managing the protected area system.

Second, such an endowment fund scheme might actually substitute previous project-based donor funding's unpredictability by financial market volatility and limited transparency. On the one hand, several donors are still reluctant with capitalising endowment funds which invest their assets on financial markets that are volatile and unpredictable by nature. Recent financial crisis may of course explain part of this donor timidity and deterioration in their confidence. This caution is all the more reinforced by the willingness of donors and funders to strictly control where money will be invested. Foundations and their selected asset managers will increasingly need to track financial products down and make sure those do not invest any fund on assets linked with terrorism, the arms industry, drugs and other illegal activities. This might of course place heavier information burden on foundations, including FPRCI, and might limit their capacity to mobilize funds. On the other hand, some donors also doubt that financial markets, when not taking too much of a risk, might generate high enough returns on investment to be able to significantly fund PA operations. Assets currently donated and capitalized by FPRCI are still limited when compared with other

foundations. When counting for 1/ resulting higher management fees by the asset manager⁶⁶ and 2/ the need to transfer direct funding to PAs very quickly through a sinking fund (not waiting to generate interests), the probability for returns on investment to cover, alone, PA operational costs remains uncertain.

Third, the focus of the foundation on funding recurrent costs prevents larger investment in infrastructure and support to communities adjacent to PAs. Vehicles which were financed by previous donor projects and are necessary to patrol inside parks are now getting old and need to be repaired and replaced. Their number is also in some cases inadequate when compared with the increase in staff. In this regard, excluding infrastructure investments from funding agreements between OIPR and FPRCI, leaves the government of Côte d'Ivoire the sole responsible for this critical budget in a context of competing social needs and political requests. The insufficient level of the foundation's capitalisation by current donors is of course a prime reason, but the willingness to focus efforts on recurrent costs, when signing framework agreements with OIPR, might also be usefully modified. While park infrastructure is inefficient without daily activities being carried out, the contrary is also true: rangers without vehicles, barracks and fair roads cannot work properly. In a similar way, socio-economic measures, including social basic infrastructure and livelihood projects for adjacent communities living in parks' peripheral areas, are essential to legitimize OIPR's actions and its rangers' presence. Yet, only operational costs, i.e. fuel to go to villages, few posters and T-shirts, are eligible. As a result, the burden falls on donor projects' budget, which is time-bound and unpredictable, or on government's budget, which is still limited. In TNP, socio-economic measures were until 2014 supported by donor project money. Assistance included setting up 11 micro-projects (pork farming, poultry, etc.), basic infrastructure (health centres, schools with equipment, 13 water pumps, and some other initiatives) but also training for community associations and farmers. Nevertheless, due to recent stop or lack of funding, socio-economic measures for adjacent communities have been reduced drastically in 2015 and the 2016 budget did not allocate any fund for such activities. While indeed the mandate of OIPR is to focus on managing the protected area itself, and adjacent areas are actually governed by local authorities which are responsible for their development, targeting funding for strict conservation without further engaging communities might prove counter-productive. An illegitimate innovation will only lead to local resentment, conflicts and encroachment.

4-5. Conclusion

Combining the mobilisation of funds through debt for nature swaps and the innovative set-up of an environmental trust fund has allowed the increased protection of parks' integrity in Côte d'Ivoire. Public and private partners at the national as well as international level (the Government of Côte d'Ivoire, bilateral donors, the foundation in Côte d'Ivoire and in the UK, the parastatal PA agency) have all collaborated to simultaneously raise additional funding and importantly ensure efficient management of the PA network in the country. This has led to several PAs being better protected with operational costs being financially covered in a stable and predictable manner (the Taï national park, the Comoé NP and more recently Mt Sangbé NP and Azagny NP). In the TNP, wildlife numbers are on the rise and slash-and-burn agriculture, in particular for cocoa plantations, remains under check. Overall, activities of park managers, and their associated ecological effects and results, are better monitored through this new funding and contracting mechanism.

Yet, this innovative structure involves contractual complexities and transaction costs which have to be kept to minimal if sustainability is to be ensured. It is also dependent on the financial market volatility and its lack of transparency. In fine, this means that public intervention and spending, through the government of Côte d'Ivoire, will remain a major share of conservation efforts in the

⁶⁶ Bigger funds can of course negotiate lower management fees. Hence some funds are indeed now willing to pool their assets together to tackle that issue.

country. Almost all park employees are public servants whose salaries, benefits, and bonuses are incurred on the public payroll. Private finance through endowment funds is therefore only complementary funding that can for now mainly support costs which neither the government nor project-based donors are willing to cover : recurrent costs. In this context, FPRCI's continued funding is essential while public financial involvement is a pre-requisite.

Institutionally, the PA network will benefit from the currently clear division of tasks and responsibilities between the three main actors : FPRCI as a funder, OIPR as the independent implementation body, and finally the State as the ultimate guardian (tutelle) of biodiversity conservation in PAs, a public good for the benefit of all Ivorian citizens. Such clear division avoids conflicts of interests and patronage and provides the PA network with efficient, transparent and private sector-based procedures and management systems. In this, project-based donor investment will also continue being vital. The TNP experience clearly shows that old and long relationships, mutual trust and building capacity between the German technical and financial cooperation and the government of Cote d'Ivoire have played a major role in safeguarding the park's integrity and biodiversity. While the FPRCI innovation has modified the conservation ecosystem of both funding and implementing actors, the overall institutional architecture is still dependent on the existence and important respective role of all these stakeholders, the State, OIPR, donors, NGOs and the FPRCI.

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5. IFMs for the future? Synthesis of results from three African case studies

5-1. Innovation lies in forms of combination of public and private action

Across the three African case studies that were studied here, “innovation” was present in various forms, but all of them are, in a way or another related to a form of (re)combination of public and private action.

Although the phrase “innovative economic instruments” may suggest one will find new and highly qualified financial engineering, this was hardly so in the three cases studied. Conservation Innovative Instruments (CII) did not contain much innovative finance, at least in the case studies that were under examination here. Innovation rather lied in finding ways to foster and facilitate the involvement of voluntary action from the civil society (individuals, businesses and non-for-profit organisations), and to combine this involvement with administrations’ attributions.

This public-private combination can lie in funding, and / or organisation, and / or action, in one, two of them or in all three together.

Combining public and private funding

Innovation here is a matter of combining *donations*, from individuals, businesses, non-for-profit organisations or from Official Development Aid (ODA), with funding from local national or regional governments.

To make this happen, experience showed that three conditions are to be met: (a) security for donors with respect to political instability (ensuring their endowment doesn’t get seized by tiers or diverted from its purpose), (b) long-term regularity of financial flows and (c) conditionality of payments to the effectiveness of action.

The typical solution to provide for these three conditions lies first in creating a specific autonomous body, which then possesses a moral identity, the ability to receive private funds and at the same time be charged with public missions: in other words, some kind of conservation-devoted *agency*, a typical “new public management” concept (Ferlie 1996; Barzelay 2001). The agency allows donators and governments to partner in order to fund and operate conservation missions, on behalf of and with supervision from public authorities, but with a control of the use of their funds by the donators. See for instance the combination of the Parks and Reserves Office and the related Parks and Reserves Foundation in Côte d’Ivoire, and the Gola Rainforest Conservation LG in Sierra Leone.

Meeting the abovementioned conditions then leads to use Trust Funds or foundations that are attached to the agency, where the donated capital is located in a supposedly safe financial place, and the revenues are then transferred to the agency on a contractual basis. See the Sierra Leone case as an illustration. Long term stability is then to be obtained thanks to initial and perpetual endowment of a capital, which is then progressively and regularly used to fund conservation. In that respect, Trust funds and other initial-capital-based finance instruments bring the benefits of recurrent although not irreversible funding (in case conditions are no more fulfilled, the donators

can stop the aid flows), but without the uncertainty that is otherwise typically attached to recurrent funding.

More generally, having created an autonomous and mixed public-private body then allows finding resources among a vast array of financial sources, based on a mix of classical governmental budget, private donations and public assistance, that are channelled through various forms of foundations, funds, ODA instruments such as debt swaps or carbon credits.

Combining private and public conservation areas

South Africa's conservation organisation is an example of combining, in a nation-wide conservation system, the public parks and the voluntary reserves. Innovation here lies in providing an official and perennial recognition of voluntary protected areas, and in explicitly integrating these areas in the country-wide conservation organisation. By giving a status to privately protected areas and allowing them to be registered both in the national conservation organisation, and in the property registration system, it allows integrating the large variety of land uses that are typical of private properties in the conservation strategy: grasslands, forests, wetlands that are used for production purposes, when compatible with conservation, can then be perennially inserted in regional and national ecological networks. Besides, this opens the way for assistance to private landowners, be it financial assistance through tax benefits or subsidies to lighten the burden of conservation, or technical assistance.

Combining private and public action

Innovation can also lie in the nature of conservation-oriented action that receives support. In addition of in combination with typical public action (control, police and infrastructure investment), it is possible as well to introduce payments for ecosystem services, which will induce landowners and economic agents (farmers, foresters...) to change their business-as-usual practice and adopt more sustainable production techniques (Lapeyre, Hartanto, and Pirard 2015; Wunder 2005; Laurans, Leménager, and Aoubid 2012). As exemplified by the Sierra Leone, what is innovative here is the idea of funding combined sovereign-state control and economic payments for ecosystem services altogether. This rationale can be found in the South African example as well, where tax benefits are designed to partly compensate the opportunity cost of using land in a sustainable way.

To sum up, what appears at the core of "innovative instruments" for conservation is not a technical or financial innovation, it neither a simple privatisation of conservation, but rather a way of combining private and public roles. Innovation lies in the generalisation of this combination, and in its different forms across social and geographical contexts.

5-2. Key points of innovative instruments

Bringing security with respect to funding effectiveness

Innovative instruments are typically designed to maximise the security of funding. For instance, establishing a Trust fund in a stable finance place is a means to prevent the funding source from being seized or diverted from its initial purpose. Moreover, creating a specific and dedicated entity that is responsible for its conservation effectiveness appears as a good way to enhance the specification of action, its control, its evaluation and the ability to actually require results. The autonomy and responsibility of this dedicated entity is said to make specification, command and control easier than by way of internal administration (see above ideas of the "new public management").

In other words, and somehow paradoxically, it is generally less difficult to specify and then require what one wants and pays for from a responsible individual body, than to do it within the administration. This may explain why such agencies are key in all three case studies (although the South African case may suggest that when such agencies are solely composed of administration, and not mixed as in Côte d'Ivoire and Sierra Leone, the resulting efficiency is more variable).

Ensuring conditionality

Funding instruments that rely on recurrent indefinite payments often raise the problem of their stability over the long term, since they require long-lasting support, adaptation to future changes, and since this is never easily guaranteed. Conversely, unique initial payments do not always offer sufficient conditionality, since they bear the risk that the initial requirements will not be fulfilled in the long run, leaving the payer with no control means (Pirard, Billé, and Sembrès 2009). This is probably why funding by allowing and securing an endowment fund, and subsequently using its financial revenue to support biodiversity protection is a growingly popular instrument, as witnessed here in the case of Côte d'Ivoire and Sierra Leone. It brings long term guarantees with, however, the possibility to stop payments when (contractual) conditionality is not guaranteed, and in the same time it provides for recurrent although adaptive funding in cases where long-lasting support is needed.

Funding what is generally difficult to fund to fund: operating day-to-day expenditures

Traditionally, public management is defiant with respect to funding operating expenditures rather than capital expenditures, especially in developing countries (Hicks and Kubisch 1984). First, recurrent expenditures potentially require important management control costs. Second, they tend to be much less politically palatable than investment expenditures, the latter allowing a better communication of political action and limiting the long-term commitment of the State. Therefore, day-to-day recurrent and small-scale spending tend to receive a limited support, however they are strongly needed on the field to sustain the protection of biodiversity. Innovative instruments in the three case studies proved attentive to this issue and able to address it. Objectives and organisations adopted in the three projects explicitly target protected area management, be it monitoring, patrolling against encroachment or poaching, sustainable farming, etc.

5-3. Innovation at scale?

Many examples of interesting and innovative projects for conservation exist throughout the world (Landell-Mills and Porras 2002; OECD 2010). The question about this profusion is whether good ideas and successful setups are susceptible to work at large scale (i.e. regional or even national scale). Questions arise about pilot projects with respect to their ability to prove up to the task of addressing sustainability challenges at large scale (Pirard, Billé, and Sembrès 2009; Pirard and Billé 2010). And this was indeed an important criterion in the analysis of the three case studies.

First, it must be noted that budgets involved in the three instruments remain limited, or very limited, when compared for instance to ODA typical budgetary flows. In all cases studied, initiatives deal with a few million dollars, some times tens of million dollars, but they seldom reach larger orders of magnitude (e.g. see the modest potential tax benefits in RSA, or funding in Côte d'Ivoire originating from 2.5% of the French debt swap).

However, and surprisingly, considering above observations, all three instruments seem able to cover, at least partly and potentially, conservation needs at regional or even national scale. Somehow this might have been favoured by their financial modesty itself, in that it may have

helped avoiding critiques with respect to conservation costs, in the face of other developmental concerns in countries that indeed experience urgent sanitary, economic and educational needs.

Moreover, when zooming at the scale of the nature conservation domain in the three countries, the budget allotted, the staff dedicated as well as the institutional arrangements proved significant. All three initiatives are definitely not restricted pilot projects, but conversely outstanding or even leading arrangements in the country or in the region. This therefore suggests that innovative instruments are not necessarily restricted to small-scale projects.

5-4. Challenges and questions ahead

Are capital expenditures structurally underfunded?

As mentioned previously as a seemingly strong point of innovative instruments, their ability to fund recurrent operating expenditures raises questions related to funding investments, when and where these are needed for conservation.

It seems that little is achieved in that field, at least by the initiatives analysed. And indeed under-equipment of conservation is a challenge that can be observed in many aspects of the initiatives under examination. This illustrates somehow the need for a proper, effective and solid combination of partners and action, so that governments, with help of Official Development Banks (ODBs), can and will actually play this role.

Institutional stability is key

As exemplified in the Sierra Leone case, when organisational setups have been arranged *ad hoc* for the project, and are not fully consolidated in institutions, this can generate potential instability. By contrast, the coordination of public and private protected areas in RSA's biodiversity institutions is a salient counter-example; however this does not suffice to ensure political support and administrative involvement in all cases.

High transaction costs?

All three initiatives strongly rest upon contractual arrangements: between landowners, NGOs and the administration; between donors and agencies; between donors and governments... Having to elaborate and then manage so many contracts prove an important burden, for all partners. This is of course a typical feature of such arrangements, which have long since been identified by economists, who point to "transaction costs" (i.e. management costs) as the main criterion for evaluating the efficiency of contractual arrangements [Renaud tu as certainement des refs là-dessus].

This characteristic feature of innovative instruments should however be assessed in the face of, and in comparison with, transaction costs that arise or would arise in alternative organisations of action. Singularly, it remains to be seen whether these contractual arrangements raise higher transaction costs than those which would be generated, with a similar result, by more traditional arrangements: would the management burden actually be lighter if action was organised solely by means of public administration? This should be considered, when addressing the cost-effectiveness of these initiatives.

5-5. References

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