COUNTRY

PORTFOLIO

STUDY

# Sierra Leone (1998–2013)

## Volume 1: Evaluation Report

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# GEF Country Portfolio Study: Sierra Leone (1998–2013)

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# Foreword

The Sierra Leone country portfolio study (CPS) is one of the last country-level evaluations of the fifth Global Environment Facility (GEF) replenishment period. It is one of three country-level evaluations that examined the GEF's support in Sub-Saharan Africa. The study was conducted in parallel with the United Nations Development Programme (UNDP) Assessment of Development Results for Sierra Leone. The national consultant supporting the GEF Independent Evaluation Office in conducting the CPS was also responsible for coverage of the UNDP Disaster and Environment Management portfolio which had advantages for both studies. For the CPS, it allowed a broader comparison of issues across sectors in a post-conflict country still in the process of building state institutions. As the majority of the portfolio was implemented by UNDP, it provided opportunities to assess how the GEF-funded projects informed UNDP activities relating to management of the environment, and disaster risk and response.

In May 2014, a draft version of the study was circulated to national stakeholders, including government representatives, GEF Agencies and civil society organizations involved in GEF projects. The feedback received was highly constructive, and comments have been incorporated into this report as appropriate. The conclusions and lessons of this study have been included in the *Annual Country Portfolio Evaluation Report 2014*, along with those emerging from the other country-level evaluations being conducted in Sub-Saharan Africa.

I would like to thank everyone who actively supported this evaluation. Through this report, the Office intends to share the lessons from the evaluation with a wider audience. The evaluation was launched when Rob D. van den Berg was Director of the GEF Independent Evaluation Office. Final responsibility for this report remains firmly with the Office.

Juha I. Uitto
Director, GEF Independent Evaluation Office

# Acknowledgments

This report was prepared by an evaluation team supervised by Carlo Carugi, Senior Evaluation Officer and Team Leader for country-level evaluations in the GEF Independent Evaluation Office, and composed of Dunstan C. Spencer, Senior Consultant, and Simon C. Blower, Research Assistant. Evelyn Chihuguyu provided administrative support. Members of the government of Sierra Leone, in particular Haddijatou Jallow, Executive Chairperson and Kolleh Bangura, Director, both at the Sierra Leone Environmental Protection Agency, provided full cooperation with the study.

# Abbreviations

| | |
|---|---|
| AfDB | African Development Bank |
| CBD | Convention on Biological Diversity |
| $CO_2$ | Carbon dioxide |
| CPE | country portfolio evaluations |
| CPS | country portfolio study |
| FSP | full-size project |
| GEF | Global Environment Facility |
| GHG | greenhouse gas |
| IFAD | International Fund for Agricultural Development |
| LDCF | Least Developed Countries Fund |
| M&E | monitoring and evaluation |
| MSP | medium-size project |
| NBSAP | National Biodiversity Strategy and Action Plan |
| NGO | nongovernmental organizations |
| ODS | ozone-depleting substances |
| POPs | persistent organic pollutants |
| PPM | parts per million |
| PRSP | Poverty Reduction Strategy Paper |
| ROtI | review of outcomes to impacts |
| UNCCD | United Nations Convention to Combat Desertification |
| UNDP | United Nations Development Programme |
| UNEP | United Nations Environment Programme |
| UNFCCC | United Nations Framework Convention on Climate Change |
| UNIDO | United Nations Industrial Development Organization |

All dollar amounts are U.S. dollars unless otherwise indicated.

# 1. Main Conclusions and Lessons Learned

## 1.1 Background and Objectives

Country portfolio studies (CPSs) are conducted as part of the country-level evaluation work of the Global Environment Facility (GEF) Independent Evaluation Office. In addition to country portfolio evaluations (CPEs), CPSs increase the coverage of country portfolios in a given GEF geographic region, but have a reduced focus and scope compared to CPEs. CPSs are undertaken in parallel to country-level evaluations conducted by the independent evaluation units of GEF Agencies. CPEs and CPSs provide the GEF Council with an assessment of how GEF is implemented at the country level. They also report on results from projects, and assess how they are linked to national environmental and sustainable development agendas, as well as the GEF mandate of generating global environmental benefits within its focal areas.

These studies have the following objectives:

- Independently evaluate the **relevance** and **efficiency** of GEF support in a country from several points of view: national environmental frameworks and decision-making processes, the GEF mandate and the achievement of global environmental benefits, and GEF policies and procedures[1]
- Assess the **effectiveness** and **results** of completed projects aggregated at the focal area[2]
- Provide **feedback** and **knowledge** sharing to (1) the GEF Council in its decision making process to allocate resources and develop policies and strategies; (2) the country on its participation in, or collaboration with, the GEF; and (3) the different agencies and organizations involved in the preparation and implementation of GEF-funded projects and activities.

## 1.2 Scope and Methodology

The Sierra Leone CPS covered the full range of GEF-financed interventions, including national projects and national components of regional and global projects. The Sierra Leone GEF portfolio is relatively young, as the country could not effectively participate until the civil war ended in 2002. The principal focus of the evaluation has, therefore, been on the few national projects that are either completed or under implementation. Pipeline projects have only been assessed in terms of their relevance to the priorities of various stakeholders.

[1] *Relevance:* the extent to which the activity is suited to local and national environmental priorities and policies and to global environmental benefits to which the GEF is dedicated; *efficiency:* the extent to which results have been delivered with the least costly resources possible.

[2] *Effectiveness:* the extent to which the GEF activity's objectives were achieved, or are expected to be achieved, taking into account their relative importance; *results:* the output, outcome or impact (intended or unintended, positive and/or negative) of a GEF activity.

The CPS used a variety of evaluation methods beginning with a detailed review of public and internal documents, including those from the United Nations Development Programme (UNDP), the United Nations Environment Programme (UNEP), the United Nations Industrial Development Organization (UNIDO), the World Bank, the GEF Independent Evaluation Office, the government of Sierra Leone (in particular the Environmental Protection Agency), and other sources. These documents assisted in framing and tailoring the interview protocols to the national context.

After the initial desk review, a program of semi-structured interviews was drawn up with a broad range of partners that included UNDP country office partners, former project staff, the government of Sierra Leone, nongovernmental organizations (NGOs), and other international agencies and donors.[3] Respondents were invited to draw on their understanding and experience of project activities, challenges, and results, as well as the relevance of the portfolio of projects under development. These interviews and internal project reporting provided the major sources of primary data.

An understanding of the issues under review was obtained through the triangulation of information and data derived from a range of mixed-methods, including a desk review of monitoring data; completed enabling activity reports, and the resulting strategies and plans; midterm reports; one terminal evaluation report; self-evaluations; and interviews.

To explore the long-term results of the only completed medium-size project (MSP), a review of outcomes to impacts (ROtI) was undertaken for the Sierra Leone Sustainable Land Management Project (GEF ID 3510), attached in volume 2 of this study. Using the standard ROtI methodology, group and individual interviews were conducted and key documents were critically reviewed to explore progress along a theoretical chain from outcomes to impacts in terms of global environment benefits (GEF Independent Evaluation Office and the Conservation Development Centre 2009).

The Sierra Leone CPS was conducted in parallel with the UNDP Assessment of Development Results for Sierra Leone (2008–2012). The national consultant supporting the GEF Independent Evaluation Office in conducting the CPS was also responsible for coverage of the UNDP environment and disaster management portfolio. This was advantageous for both studies. For the CPS, it allowed a broader comparison of issues across sectors in a post-conflict country still in the process of building state institutions. As the majority of the portfolio was implemented by UNDP, it also provided opportunities to assess how GEF-funded projects informed UNDP activities relating to management of the environment, and disaster risk and response. However, synchronization of visits to the field by all members of the assessment of development results team was challenging. It was necessary for the national consultant to arrange separate meetings and visits to the field to collect data needed for the assessment of development results and the CPS.

## 1.3 Overview of the GEF Portfolio

In terms of GEF funding and cofinancing, the Sierra Leone portfolio concentrated almost entirely on the biodiversity and climate change focal areas, with climate change accounting for over two-thirds of the GEF portfolio (table 1.1). Financing has been spread across 14 national projects and one global project.[4] The predominance of the climate change focal area extends across completed, ongoing, and pipeline projects. In terms of the environmental needs of the country and balance

[3] All persons interviewed are listed in annex B.

[4] The global project, Umbrella Programme for National Communications to the UNFCCC, has been included as part of the national portfolio for this report, as it involves a distinct national component in Sierra Leone, in effect, equating to a national enabling activity.

TABLE 1.1 **GEF National Portfolio by Focal Area and Status**

| | GEF funding (million $) | | | | Cofinancing (million $) | | | | Share (%) | |
|---|---|---|---|---|---|---|---|---|---|---|
| Focal area | Completed | Ongoing | Pipeline | Total | Completed | Ongoing | Pipeline | Total | GEF funding | Total funding |
| Biodiversity | 0.28 | 6.80 | | 7.08 | | 22.18 | | 22.18 | 26.41 | 18.71 |
| Climate change | 0.51 | 4.97 | 13.13 | 18.61 | 0.02 | 38.65 | 68.23 | 106.90 | 69.44 | 80.28 |
| Land degradation | 0.50 | | | 0.50 | 0.44 | | | 0.44 | 1.87 | 0.60 |
| POPs | 0.40 | | | 0.40 | | | | | 1.47 | 0.25 |
| Multifocal area | 0.22 | | | 0.28 | 0.02 | | | 0.02 | 0.81 | 0.15 |
| Total | 1.90 | 11.77 | 13.13 | 26.79 | 0.48 | 60.83 | 68.23 | 129.54 | 100.00 | 100.00 |

NOTE: POPs = persistent organic pollutants.

among focal areas, land degradation is strikingly underrepresented.

Six of the twelve overall GEF Agencies are implementing projects in Sierra Leone (table 1.2). UNDP has resident staff in the country to manage its environmental portfolio and has the largest number of projects with seven. Overall, cofinancing exceeds the GEF preferred ratio of at least 4 to 1, with the International Fund for Agricultural Development (IFAD) and the World Bank falling slightly below this threshold.

In addition to national activities, Sierra Leone has participated in 11 regional and 4 global projects. Sierra Leone first received GEF funding having participated in regional projects. Although several have been small national capacity development activities, participation in these projects allowed the country to cover a wider range of focal areas, although primarily on climate change, which has been important.

TABLE 1.2 **GEF Portfolio in Sierra Leone by Agency**

| GEF Agency | No. of projects | Focal area | Modality | Total GEF support (million $) | Cofinancing ratio |
|---|---|---|---|---|---|
| AfDB | 1 | Climate change | FSP | 4.20 | 6.84 |
| IFAD | 1 | Climate change | FSP | 2.74 | 3.14 |
| UNDP | 1 | Biodiversity | EA | 0.28 | 0.00 |
| UNDP | 2 | Climate change | EA | 0.51 | 0.04 |
| UNDP | 3 | Climate change | FSP | 8.93 | 4.42 |
| UNDP | 1 | Land degradation | MSP | 0.50 | 0.88 |
| UNEP | 1 | Climate change | EA | 0.41 | 0.07 |
| UNEP | 1 | Multifocal area | EA | 0.22 | 0.07 |
| UNIDO | 1 | Climate change | FSP | 1.82 | 16.50 |
| UNIDO | 1 | POPs | EA | 0.39 | 0.00 |
| World Bank | 2 | Biodiversity | FSP | 6.80 | 3.76 |
| Total | 15 | | | 26.79 | 4.84 |

NOTE: AfDB = African Development Bank; EA = enabling activity; FSP = full-size project; IFAD = International Fund for Agricultural Development; POPs = persistent organic pollutants.

## 1.4 Conclusions

### RESULTS, EFFECTIVENESS AND SUSTAINABILITY

CONCLUSION 1: **GEF support in Sierra Leone has successfully followed the catalytic path from foundation to demonstration to investment in full-size projects (FSPs), identified through enabling activities.**

GEF started work in Sierra Leone in 1996, with the pipeline entry of the project enabling Sierra Leone to prepare its First National Communication in Response to its Commitments to UNFCCC (GEF ID 296). However, the project was neither effective nor implemented until the end of the civil war in 2002. As a result, this and other GEF enabling activities were only implemented between 2001 and 2008, i.e., after the civil war. This support resulted in the preparation of consolidated national environmental strategies and plans, and also enabled Sierra Leone to meet its obligations to international conventions. Strategies and plans provided a basis for development of medium- and full-size projects (MSPs and FSPs) that comprehensively addressed environment and natural resource management. A number of such projects have been developed and operational with GEF support since 2010. GEF enabling activities also contributed to the 2008 amendment of the Environmental Agency Act.

CONCLUSION 2: **GEF support in the focal areas of biodiversity, climate change, and international waters have helped Sierra Leone raise the profile of environmental issues, establish national priorities, and make a start in addressing critical biodiversity conservation issues of global significance and climate change adaptation measures of national importance.**

The GEF **biodiversity** projects in Sierra Leone have been broadly successful in delivering their results, or are being successfully executed along the expected lines that should enable them to deliver the expected results. The enabling activity in biodiversity (GEF ID 1289) has allowed Sierra Leone to meet its obligations to the global environmental convention, the CBD, and to produce an NBSAP. Sierra Leone has succeeded in sustaining the result achieved in the enabling activity by obtaining the necessary GEF funding and substantial co-financing to implement follow up FSPs. These FSPs are now making a valuable contribution to increasing the number, size and integrity of a variety of global ecosystems by delineating representative samples of ecological areas and declaring them as legally protected. GEF interventions are leading to environmental benefits in the area of protection and preservation of the country's biodiversity, some of which is of global importance, including the protection of important wetlands ecosystems.

In the field of **climate change**, GEF support has helped Sierra Leone to substantially increase its capacity in adaptation measures—through the Least Developed Countries Fund (LDCF)—and expansion of the use of renewable energy. The adaptation activities have enhanced national capacity to understand and track the effects of climate change and to plan responses to them. GEF support has enabled the country to secure substantial co-financing for the measures necessary to further reduce GHG emissions, adapt effectively, and lower vulnerabilities associated with climate change.

GEF support in the area of **international waters** has been through provision of funding through regional activities. These have been of significant importance to Sierra Leone, given the importance of marine fisheries to the economy and the strong link between terrestrial, coastal and marine activities and development. As such, they have enabled the country to sign regional protocols on protection of its marine and coastal environments, to substantially increase surveillance and reduce illegal fishing, creating space for the development of a new long-term policy vision, based on more sustainable exploitation of its fisheries resources.

CONCLUSION 3: **GEF support in some focal areas, especially land degradation and POPs, has had limited results and has not succeeded in establishing the intended foundations that enable the country to address critical issues in these areas.**

GEF support to **POPs** has been restricted to one enabling activity (GEF ID 2486) that enabled the country to develop its national implementation plan for POPs. However, there have been no follow-up activities.

Reversing **land degradation** and promoting sustainable land management is one of the most important national environmental challenges facing Sierra Leone. GEF support has enabled the country to build some limited capacity in support of sustainable land management and mitigate the threats of land degradation.

However, the project was overambitious in terms of the expected outputs and outcomes, and given its size and duration. The challenge is now to mainstream sustainable land management into policies, laws, programs, budgets, and regulatory frameworks as envisaged, and secure the necessary funding to implement those programs identified.

## RELEVANCE

CONCLUSION 4: **GEF support in Sierra Leone has been relevant to its strategic development plan and priorities, as well as the country's efforts to fulfill its obligations under the international agreements to which it is signatory and contribute to the achievement of global environment benefits.**

The GEF portfolio has been relevant to the country's sustainable development agenda and needs. It addresses the second pillar of Sierra Leone's national development strategy, *Agenda for Prosperity*, its third Poverty Reduction Strategy Paper (PRSP III), and focuses on managing natural resources. GEF enabling activities have been catalytic and laid the foundation for follow-up activities in biodiversity and climate change, making it possible for the country to fulfill its obligations to the CBD, the United Nations Framework Convention on Climate Change (UNFCCC), and the United Nations Convention to Combat Desertification (UNCCD).

GEF support in the area of climate change is highly relevant in allowing the country to address issues on adaptation and mitigation of climate change, including development of adaptive agricultural production systems.

GEF support in the area of land management has met local needs as it has addressed one of most pressing constraints in agriculture (the principal livelihood means for rural people) namely, soil fertility and land degradation issues.

The portfolio is also relevant to the achievement of global environment benefits. Although Sierra Leone is a small country, and therefore a minor player in contributing to the achievement of global environment benefits, all GEF-funded projects have made some contribution, however small. Though Sierra Leone's GHG emissions are negligible, in a bid to significantly contribute toward the reduction of sources and potential sources of emissions or to enhance carbon sinks, the country is undertaking appropriate mitigation actions as indicated in its response to the *Copenhagen Accord* in 2010.

Biodiversity conservation activities have also been relevant to the achievement of global environment benefits. They have made a valuable contribution to increasing the number, size, and integrity of a variety of globally important ecosystems by delineating representative samples of ecological areas and declaring them as legally protected. Over 150,000 ha of savannah woodlands and montane forests, and 260,000 ha of wetlands of international importance, with diverse endemic flora and threatened species, have been declared as protected areas and community-based management plans have been developed to ensure sustainability.

GEF support through regional projects has been relevant to the achievement of the global environment benefits on assessment, management, and sustainable use of living and nonliving

resources in the Guinea Current Large Marine Ecosystem, and protection of the globally significant fish habitats and fish stocks in the Canary Current Large Marine Ecosystem, two of the 64 large marine ecosystems that have been delineated worldwide.

## EFFICIENCY

CONCLUSION 5: **All GEF Agencies active in Sierra Leone have experienced problems in keeping projects within their intended time limits.**

GEF enabling activities and the MSP prepared after the civil war ended were prepared under the 22-month limit later imposed for GEF-4 (2006–10). However, FSPs under implementation designed under GEF-4 and GEF-5 (2010–14) have significantly longer project cycles than their respective 22-month and 18-month guidance period. All GEF Agencies have experienced delays, whether with resident or non-resident representation in the country. General slowness in the project cycle stems mostly from the country's post-civil war situation, which makes it fragile and facing reconstruction problems. Delays have also been caused by the time it takes to collect background information where there are no centralized data banks on environmental issues, thus necessitating field data collection from target communities; the time it takes to get projects operational; the process of identifying and recruiting consultants, often international, due to the limited human resource capacity available in collaborating national institutions; and the extended procedures for project approval in the GEF Agencies. However, recent indications show that project cycle durations are becoming shorter.

CONCLUSION 6: **The GEF portfolio has been executed within GEF guidelines as far as distribution of costs and leveraging of significant cofinancing has been concerned.**

The distribution of project costs follows guidelines set by the GEF and GEF funding has facilitated the leveraging of significant cofinancing. As shown in table 6.3, project preparation grant/project development facility costs of 1.79 percent for enabling activities and 3.68 percent for FSPs are reasonable. For the FSPs, they facilitated the leveraging of significant cofinancing (83 percent of total project costs). On average, cofinancing has exceeded the GEF preferred ratio of at least 1 to 4, with only IFAD and the World Bank falling below that threshold, demonstrating that GEF grants have been effectively used to achieve one of the aims of GEF support to national projects. Project management costs at an average of 5 percent for FSPs are within accepted GEF limits but, at 28.1 percent, are on the high side for enabling activities.

CONCLUSION 7: **Partnership, collaboration and synergies have been good in the GEF portfolio. However, there are challenges in developing formal linkages with civil society organizations, local government, and the private sector.**

Partnership, collaboration, and synergies have been good. Most GEF projects have required cross-ministerial collaboration and coordination as climate change, land degradation, and biodiversity are all cross-cutting issues. It was common for projects to obtain support across ministries and agencies through a broad participatory process using cross-sectoral steering committees and working groups. Projects were implemented by a management team that maintained strong linkages with all relevant stakeholders through committees and workshops, and projects generally exploited complementarities with relevant actors including academia, ministries, departments, and agencies. There was also some interaction with other donor projects in the same focal area, particularly in biodiversity.

However, there has been little or no formal links with civil society or private sector organizations. The weak capacity of civil society organizations operating in the area of environmental management often meant their capacity building activities needed to be incorporated into project activities, and the low financial returns expected

in the short-run meant there was a small possibility of getting private sector organizations involved. Although gender issues are not explicitly addressed in the portfolio, implementation activities are usually gender neutral, and alternative livelihood activities usually include women's activities.

## 1.5 Lessons Learned

LESSON 1: **The GEF should ensure that the projects it supports do not have overambitious designs in terms of expected outputs and outcomes, given the size and duration of its interventions, and amount of cofinancing secured.**

The only project in the land degradation focal area, an MSP, demonstrated very clearly the major shortcoming of interventions in the area of environmental management where solutions required long-term interventions with substantial funding. GEF support was in the form of a three-year MSP with no cofinancing to build capacity for sustainable land management in Sierra Leone (either by removing key barriers to sustainable land management or mainstreaming sustainable land management into laws, university and school curricula, and the national budget). The project was also set to create sustainable capacity and ownership in Sierra Leone to mitigate land degradation and thereby meet the country's obligations under the UNCCD. As revealed during the ROtI analysis (see volume 2), the project did not achieve most of its outputs because unrealistic projections in project design were not sufficiently adjusted during the inception phase. The natural resources management project was too short, and there was no exit strategy for completing project activities, let alone scale them up.

# 2. Study Framework and Context

## 2.1 National Social, Economic, and Political Context

### SOCIOECONOMIC CONTEXT

Seventy percent of the population of Sierra Leone live in rural areas and depend on agriculture and forest-related activities for food and income. The agricultural sector provides employment and export earnings. The country has an active labor force estimated at 70 percent (3.5 million) of the population, of which 70 to 80 percent is engaged in farming. Most of this is at a near-subsistence level, with the majority of farmers cultivating farms of between 0.5 and 4.0 ha in size. Women make the largest contribution to rural labor, especially in the production, processing, and marketing of crops, and preparation of food.

With the exception of the western peninsular area, land in Sierra Leone belongs to the community and is held in trust by the paramount chief. However, some families have farming rights to land where their forefathers have been farming over the years, although such land has not been physically demarcated. In the western peninsular area and other municipalities in the provinces, land can be bought, sold, transferred, leased, held in trust, etc. However, farmlands cannot be bought or sold in the provinces. Leaseholders have little incentive to make long-term investments for the efficient and sustainable development and management of the land. Also, since the effective limits of family-owned lands and lands administered by local authorities are not clearly defined, there have been frequent land disputes, especially over the exploitation of land and forest resources. Furthermore, due to unclear property rights, conflicts frequently arise between herdsmen, landowners, and farmers.

Rural life is generally at a near-subsistence level and over two-thirds of the total population live in absolute poverty. Life expectancy, estimated at 42 years, is very low. The infant mortality rate of 143 per thousand (1990) is considered to be one of the highest in the world and was made worse by the civil war. It has been further exacerbated by increasing urbanization; population pressure on available natural resources; and inappropriate domestic policies and market failures, such as overvaluation of the local currency, exchange rate controls, and use of subsidized prices in energy and rice. Illiteracy is very high and large sections of the population remain unemployed, especially among the youth. Consequently, based on the United Nations human development index, Sierra Leone is now classified as one of the poorest and least developed countries in the world.[1]

[1] Sierra Leone's 2012 human development index of 0.359 is below the average of 0.466 for countries in the low human development group and below the average of 0.475 for countries in Sub-Saharan Africa. However, Sierra Leone, along with Angola, Burundi, the Democratic Republic of Congo, Ethiopia, Liberia, Mali, Mozambique, Rwanda, and Tanzania are among the countries that have made the greatest strides in HDI improvement since 2000. This is an indication that the country is making progress in improving the lives of its

## POVERTY IN SIERRA LEONE

Between 2003 and 2011, Sierra Leone experienced continued macroeconomic growth, although at a rate behind the Sub-Saharan African average GDP per capita (World Bank 2013). This growth has generally translated into poverty alleviation. The poverty headcount declined from 66.4 percent in 2003 to 52.9 percent in 2011. The overall reduction was led by strong growth in rural areas, where poverty declined from 78.7 percent in 2003 to 66.1 percent in 2011, yet this figure was overall still higher than urban poverty. Urban poverty declined from 46.9 percent in 2003 to 31.2 percent in 2011, despite an increase from 13.6 percent to 20.7 percent in the capital, Freetown. District level poverty analysis showed that by 2011 most districts had converged to poverty levels between 50 and 60 percent, with the exceptions being Freetown at 20.7 percent and levels above 70 percent in Moyamba and Tonkolili. Underlying this poverty reduction was an annualized 1.6 percent per capita increase in real household expenditure from 2003 to 2011. While steady positive progress is encouraging, much higher growth rates will be necessary to meet the government's 4.8 percent targets outlined in its *Agenda for Prosperity* (Government of Sierra Leone 2013).

The characteristics of poor households varied between urban and rural areas in 2011. In rural areas, households in which the head's primary occupation is agriculture and those with smaller landholdings, were more likely to be poor. Those growing rice were neither more nor less likely to be poor. In addition, households where the head had at least some secondary or post-secondary education were less likely to be poor. In urban areas, education was a more important determinant of poverty status, as the increasing levels of education of the household head consistently reduced a household's probability of being poor. In addition, households that were engaged in a non-farm enterprise and female-headed households in urban areas were less likely to be poor.

Following stronger growth rates in districts with higher poverty rates and rural areas compared to urban areas, the overall level of inequality has declined. Only urban areas outside Freetown showed higher inequality, while both rural areas and Freetown have decreased. The areas where the largest decreases in inequality have been demonstrated have been between urban and rural areas, as rural areas have narrowed the gap with urban areas, and between different urban areas, reflecting strong growth in urban areas outside Freetown, compared with declines in the capital.

Demographically, Sierra Leone remains a rural and extremely young country. The majority of the population lived in rural areas in 2011, with most districts outside Freetown being more than three-quarters rural. In addition, the majority of the population was below the 20 years of age and more than 75 percent were below 35 years of age. Population growth declined sharply from 2003 to 2011, despite fertility remaining high at around four births per woman. Most children under five were born at home in 2011, although this percentage appears to have declined since the implementation of the free healthcare initiative in April 2010.

Educational completion rates are low by international standards. This is troublesome given the relationship between education and poverty. According to the 2011 Sierra Leone Integrated Household Survey, 56 percent of adults over 15 years of age have never attended formal schooling. Current enrollment indicators show mixed results from 2003 to 2011. Both net and gross primary enrollment rates decreased, but caution should be taken in interpreting these results as the 2003 survey was conducted in the immediate post-conflict period, before the situation in many areas had fully normalized. Higher level education

people. It also means it has made progress in rebuilding its data systems and their growing credibility that allows for comparability across countries (UNDP 2013).

indicators improved, however, as greater numbers of students were attending junior, secondary, and post-secondary education. They were also attending at ages more closely appropriate to grade level expectations. In addition, gender parity has almost been reached in primary education, though gaps do open as female students approach childbearing age. Substantial gaps remain across income groups, and between urban and rural areas.

Access to public services was low overall, particularly in rural areas where individuals travel long distances to reach facilities.

## 2.2 Sierra Leone Natural Environment

### THE PHYSICAL ENVIRONMENT[2]

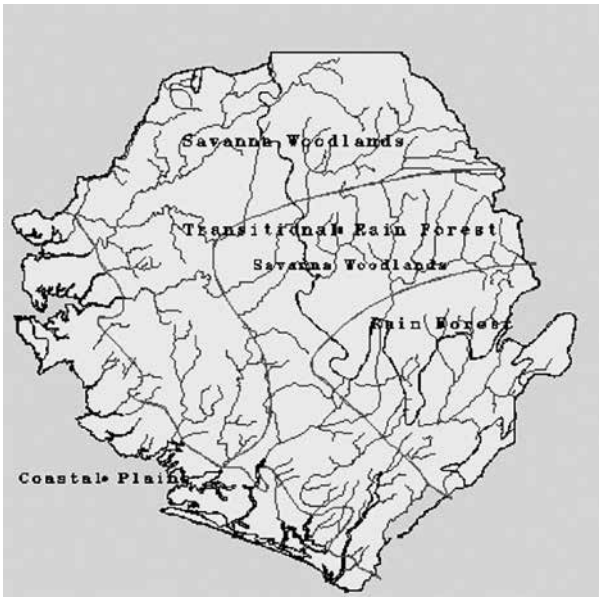
Sierra Leone is located on the west coast of Africa and covers an area of 72,300 square kilometers. It lies between latitude 6.55 and 10.00 north. Approximately 56 percent of the land is less than 150 meters above sea level. It has 6.1 million ha of uplands and 1.16 million ha of lowlands.

The country is divided into four main physical regions: the coastal plains, the interior plains, the interior plateau, and the Freetown peninsula mountains and hills. Combining the physical characteristics of these regions with crop growing seasons results in five agroclimatic regions: coastal plain, savannah woodland, rain forest/savannah, rain forest, and hills/mountains (figure 2.1).

About 71 percent of uplands and 90 percent of the lowlands are arable. The lowlands are differentiated in four ecosystems: inland valley swamps (630,000 ha), mangrove swamps (200,000 ha), bolilands (120,000 ha), and riverine grasslands (110,000 ha). Less than 10 percent of total arable land is cultivated each year.

Sierra Leone has a monsoon-type humid tropical climate with two distinct seasons—the rainy season from May to October and the dry season from November to April. Although rainfall is plentiful, ranging from about 2,000 mm per year in the north to 4,500 mm per year in the south, its erratic nature and poor temporal and spatial distribution during the rainy season often causes problems for farmers. Sierra Leone's hydrological profile includes a series of rivers that run from the Guinean Dorsal Hills, namely the Kolenten or Great Scarcies, the Little Scarcies, Rokel, Jong, Sewa, Moa, and Mano rivers. Other streams in the lowlands include the Ribi, Kukuli, Gbangbaia, and Waanje rivers. Unpredictable flooding and drought spells during the growing season and the prolonged dry season pose serious challenges for water management in the upland and lowland ecologies. Of the country's total surface and groundwater potential of about 160 cubic kilometers per year, only about 0.37 cubic kilometers per year is withdrawn, mainly for agriculture. Average monthly temperature ranges from 23 to 29 degrees celsius but is subject to seasonal extremes. Humidity is high all year, especially in the coastal areas. The dry season

FIGURE 2.1 **Agro-Climatic Regions in Sierra Leone**




[2] Sowa 2013. Based on project document.

is characterized by the strong, dry, dust–laden wind known as the Harmattan.

Four vegetation communities can be distinguished—forests, savannahs, grasslands, and swamps. Sierra Leone was originally a forested country with over 60 percent of its land covered by closed high forests of moist evergreen and semi–deciduous types, the rest being woodland savannah of the guinea type. However, nearly 70 percent of forest cover has been lost through deforestation and the development of the slash-and-burn type of agricultural system in which about 75 percent of the country's population is engaged. The situation is further aggravated by the growing farming population, the attendant shortened fallow periods and declining yields, and the consequential need to clear even more forest to make up for the declining yields. Less than 5 percent of the original primary forest remains in isolated forest reserves on top of mountain and hillsides, particularly in Gola (77,044 ha), Kambui (21,213 ha), Dodo Hills (21,185 ha), Nimini (15,557 ha), Freetown Peninsula (14,089 ha), Tama (17,094 ha), Tonkoli (47,656 ha), Kasewe (2,333 ha), Loma (33,200 ha), Sanka Biriwa (11,885 ha), Kuru Hills (7,001 ha), and Kangari Hills (8,573 ha).

Sierra Leone has extensive natural resources with arable soils, forests, grasslands, freshwater resources, wetlands (swamps), wildlife, extensive fisheries, and other biodiversity and mineral resources. The exploitation of these resources during the colonial period, and during the first twenty years after independence from 1961 to 1980, resulted in steady economic development. The comparatively smaller population allowed for longer fallow periods and a higher level of agricultural sustainability. However, from the early 1980s to recent years, exploitation of these resources became unsustainable due mainly to population increases and aforementioned market failures.

## CLIMATE CHANGE[3]

Various models have been used to assess future climate change scenarios for Sierra Leone, such as the general circulation model (GCM), the Hadley Centre Coupled Model (HADCM), and the climate change model developed at the Max Planck Institute for Meteorology in Hamburg (ECHAM).[4] The average temperature for 1961–1990 was about 26.7 degrees celsius. This average is expected to increase by about 7 to 9 percent by the year 2100.

Climate data for the period 1961 to 1990 were used to construct the climate change scenarios for Sierra Leone. Data were sourced from the Lungi, Bonthe, Kabala, Njala, and Bo meteorological stations. The parameters used for the study were precipitation (rainfall), temperature, solar radiation, evaporation, etc. It was evident from the study that the coastal areas experienced the heaviest rainfall in the form of torrential rains. The same period shows an average annual rainfall of about 2746 mm, which varied from 3659 mm at Bonthe in the south to 2618 mm at Kabala in the north.

Projections from the 1961 to 1990 data, using the ECHAM-4 and HADCM2 models for rainfall values in 2100, are similar to the current climate rainfall levels. However, the climate model developed for the Australian Commonwealth Scientific and Industrial Organization (CSIRO-TR) and UKTR models show a decrease in rainfall by about 3 to 10 percent below the current monthly and annual values. Based on the GCM outputs, solar radiation is expected to decrease by 12 percent under the HADCM2 model, by 9 percent under the UKTR model, and by 5 percent under the CSIRO-TR and ECHAM models. In Sierra Leone, based on the model for the assessment of GHG induced

[3] Republic of Sierra Leone 2012,142–200.

[4] Wikipedia, http://en.wikipedia.org/wiki/General_Circulation_Model, http://en.wikipedia.org/wiki/HadCM3, and http://en.wikipedia.org/wiki/ECHAM, accessed May 14, 2014.

climate change/scenario generator, a concentration of about 350 parts per million (ppm) of carbon dioxide ($CO_2$) was determined in 1990.[5] Double $CO_2$ concentration levels of about 580 ppm are likely to be achieved by 2025 and about 700 ppm by 2100. The baseline for sea level rise scenarios adopted in this study is 0.2 meters, and 0.5 meters, 1 meter and 2 meters by 2100.

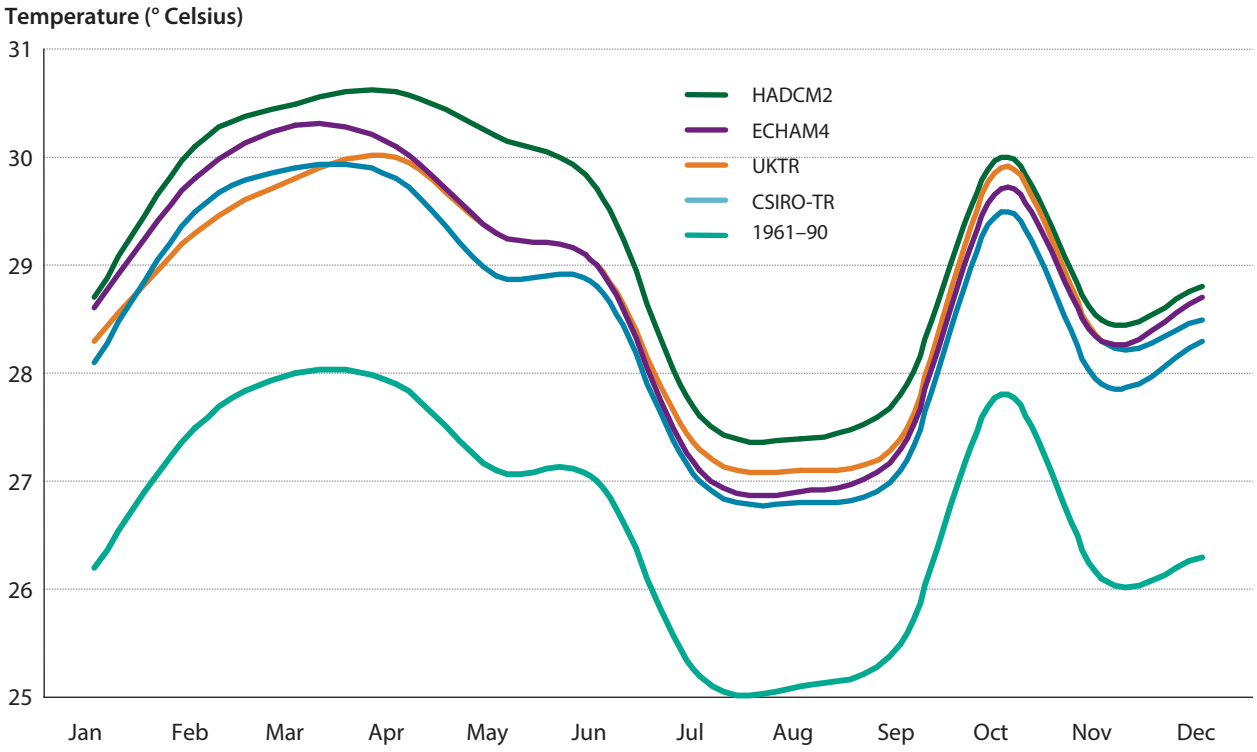
There is an indication of consistent temperature warming across all seasons and scenarios in Sierra Leone. The projected 1.5 to 2 degrees celsius increase in temperature (figure 2.2) will result in increased evaporation losses, decreased precipitation, and a continuation of rainfall decline.

[5] Model for the Assessment of GHG Induced Climate Change, A Regional Climate SCENario GENerator, http://www.cgd.ucar.edu/cas/wigley/magicc/about.html, accessed May 14, 2014.

The collateral impacts of rising sea levels on the coastal zone will include shoreline recession, increased flood frequency probabilities, inundation of coastal lands and wetlands, and the salinization of surface waters and groundwaters. These impacts will, in turn, affect coastal habitats and biodiversity. In Sierra Leone, the retreat of the shoreline will result in significant loss of the mangroves of the Kambia district and elsewhere, strand vegetation, coastal swamps, and the habitat of marine biodiversity (turtles, snails, etc.). The species of mangrove vegetation at risk from flooding and shoreline retreat includes the conocarpus erectus.

The most vulnerable wetlands are those of the Kambia district and Aberdeen creek (one of the Ramsar Convention sites in the western area of Sierra Leone). The loss of beach will adversely affect the survival of intertidal organisms and those that make use of the sandy beaches at some stage of their life cycle, e.g., the semi-terrestrial

FIGURE 2.2 **Current Temperatures in Sierra Leone (1961–2010) and Projected Temperature Scenarios at 2120 Using Different Climate Change Models**



ghost crabs, ocypoda cursor and O. africana. There will also be an impact on marine turtles including the leather back (Dermochelys coiacea), the hawsbill (Erectmochelys imbricata), green turtle (Chelonia myda), the loggerhead (Caretta carretta), and the most common olive ridley (Lepidochelys olivacea).

Climate change is also likely to impact fisheries and marine life by affecting the boundaries of ecosystems and the mix of species that inhabit them. There will be major implications for human activities, particularly those involved in fisheries and coastal formations such as mangroves and coral. It is also evident that water resources will be affected by climate change. The projected increase in temperature will increase the amount and intensity of precipitation. An increase in rainfall could lead to an increase in surface runoff, resulting in flooding. On the other hand, a decrease in the amount and intensity of rainfall may lead to drought.

## BIODIVERSITY[6]

### *The Current Status of Biological Diversity*

Ocean, freshwater, brackish water, coastal beaches (rocky, sandy, and muddy), wetlands (mangrove swamps), inland valley swamps, bolilands, savannah woodlands, and tropical rain forests characterize the diversity of ecosystems at the disposal of a little more than five million people. About 15,000 plants species have been identified in Sierra Leone. There are an estimated 5,250 species of useful plants (Jusu and Bangura 2002, 43).

The country has 295,950 ha of forest, game reserves, and national parks, and 32,000 ha of community forest. There are two types of forest in Sierra Leone: tropical moist evergreen forest and moist semi-deciduous forest. These can be further divided into mountain and lowland types. The tropical evergreen occurs where relative humidity is high, annual rainfall is greater than 2,500 mm and the dry seasons are not longer than three months.

The Gola Forest Reserve is a predominantly lowland tropical moist evergreen rain forest with small areas of moist semi-deciduous forest. The moist semi-deciduous forest has less total rainfall, 2000 to 2500 mm annually with a four to five month long dry season. There are more deciduous trees (shedding leaves annually) but the total diversity of plants is less than in the tropical moist evergreen forest. The Loma Mountains, Tingi Hills, and Tama Tonkolili Forest Reserve all have moist semi-deciduous forests.

Widely spaced trees and tall grasses characterize savannah woodlands (Gordon, Kater and Schwaai 1974). These trees are fire resistant and grow only seven to nine meters. The abundant elephant grass can grow as high as three to four meters. The open savannah woodland supports a more limited variety of wildlife than the forest. Common trees in the savannah woodlands are lophira, locust bean (Parha biglobosa) and cow foot (Piliostigma thenningir). There are several types of grasses and sedges, the most obvious being the elephant grass. Termite mounds dot the savannah. The bush pigs (Red River Hog), bush cat, and leopards are also found in the savannah grasslands of Sierra Leone. Millipedes, snails, earthworms, millions of termites, army ants, and many species of insects form an integral part of the biological diversity.

Bolilands are depressions in the drainage areas of large rivers that flood in the rainy season, and by March are dry grasslands again. These areas provide fine grazing for buffalo because the soil is too moist for coarse elephant grass. Migratory waterfowl are attracted to the bolilands when the water regime begins to recede in December. The flooding and drying of the soil offers a wonderful environment for the tiny invertebrates, snails, and worms that birds eat. However, bolilands are also attractive for rice cultivation. Wildlife and people thus compete for these areas.

[6] Based on NBSAP, 2003.

With its high rainfall, Sierra Leone has an extensive system of rivers and swamps. A variety of mammals, birds, and reptiles are found in the water, on the rocks and sandy beaches, or on the trees along the riverbanks. Rivers that periodically flood and dry in the rains and dries respectively have a variety of migratory bird species that nest on the exposed rocks and sandbanks. The palm nut vulture and the west African fish eagles are birds commonly seen perched on tree sandbars. Hippopotamus, otters (river dogs), crocodiles, and Nile monitor lizards are common riverine species in Sierra Leone.

An estimated 200,000 to 300,000 ha of mangrove swamps fringe the coastline of Sierra Leone. Mangroves are restricted mostly to the four main estuaries (Scarcies, Rokel, Yawri Bay, and Sherbro Rivers). The mangroves of Sierra Leone have been studied mostly as a resource rather than a place of extreme biological diversity. The mangroves are dominated by five species (Rhizophora racemasa, R. Harrisoni, R. Mangle, Langucuncularia racemosa and Avicennia nitida). Intermingled among the mangroves may be other species of plants including Paspalum vaginatum, Sesuvium portulacastrum, and Philoxerns vermincularis. Rhizophora sp. often inhabit the sea front whilst Avicennia and Languncularia are found landwards.

The Sierra Leone coastline is about 560 kilometers long. The continental shelf covers an area of 50,000 square kilometers and is up to 200 meters deep. It is about 125 kilometers wide in the north around Yelibuya and tapers to only 13 kilometers at Sulima in the south. The exclusive economic zone covers 155,700 square kilometers. The western sector of the shoreline has four large estuarine systems separated by rocky and sandy coastlines, while the eastern sector consists of about 280 kilometers of almost unbroken steep sandy coast backed with swamp communities.

A detailed study on coastal and marine biological diversity recorded five genera of Dinoflogellates, 14 genera of diatoms and two genera of Chlorophyta (Ndomahina 2002, 100). Twenty-six species of copepods have been recorded. There was also one species of Ostracoda; two each of Cladocera, ISOPODA, Decapoda, Pteropods, and Coelenterate; three Protochordata; four Mysidacea; five Camacea; nine Chaetogratha; and ten Amphipoda.

Other studies have recorded nine genera of copepods; four genera of Chaetognatha; one genus of Euphausid; and miscellaneous Cladocerans, Codonterates, Polychaots isopods, Ostracopods, Heteropods, and Protozoans. Diatoms usually dominate the plankton samples, with Dionphyceae and Cyanophyceae being abundant during the dry season. Copepods are usually the dominant zooplankton category throughout the year. In 1996, the Institute of Marine Biology and Oceanography recorded 30 species of bivalves and 62 species of gastropods (Institute of Marine Biology and Oceanography, University of Sierra Leone 1996, 8).

The fish stocks of Sierra Leone are the most diverse along the west coast. Marine and coastal fish stocks of Sierra Leone can be classified into three broad categories-pelagic, demersal, and shellfish (crustacea and molluscs)—based on the biology and physico-chemical parameters of the environment. About 213 species of pelagic and demersal fish stocks have been recorded so far.

Pelagic fish stocks consist of the true pelagic and the largely loose category often referred to as semi-pelagic. Demersal fish stocks can be classified into four categories: Sciaenid fauna, Sparid fauna, deep shelf community, and continental slope. Forde (1976) noted that Soviet trawlers caught some 243 species of fish in 1976. FAO (1990) recorded 237 species of fish in the West African region belonging to 108 different families. The contribution of various categories of fish stocks over the year are close to estimates provided by Coutin and Payne (1989) namely small pelagics (43 to 55 percent), demersals (30 to 40 percent), large pelagics (3 percent), and shrimps (2 percent). Total biomass is estimated at between 300,000 and 700,000 metric tonnes.

### *Trends and Major Threats to Biodiversity in Sierra Leone*

Threats to resources in Sierra Leone over the years have depended on the specific historical conditions. There are 761 species of mammals and birds in Sierra Leone. Six species of birds are threatened with extinction. All 15 species of primates are either endangered or vulnerable. Of the 18 species of antelope, two are extinct and the remaining 16 are threatened. Other mammals such as elephants and hippopotamuses have been drastically reduced.

Biological diversity in Sierra Leone is faced with diverse threats including: logging for timber, fuel wood, charcoal, and poles extraction; trade in bushmeat and pets; slash-and-burn agriculture; mineral exploitation; civil conflict; over-fishing of marine resources; ill-conceived public policies and conflicting mandates; and poverty. Poverty is one of the biggest indirect threats to biological diversity in Sierra Leone. The majority of the population depends to a large extent on natural resources, which are often overexploited, for their livelihood. High demand, coupled with unsustainable practices of exploitation and use, continue to place pressure on the natural resource base impacting negatively on biological diversity.

## INTERNATIONAL WATERS

Sixty-four large marine ecosystems have been delineated globally. They are defined by their distinctive bathymetry, hydrography, chemistry, and trophodynamics. Sierra Leone is in the Guinea Current Large Marine Ecosystem stretching from Guinea Bissau at the southern end of the Canary Current down to northern Angola, the seasonal limit of the Benguela Current. The large marine ecosystem includes the drainage basins of major rivers, such as the Niger and Volta, and extends seaward to the (variable) front delimiting the Guinea Current from open ocean waters.

The Guinea Current Large Marine Ecosystem is ranked among the most productive coastal and offshore waters of the world, with rich fishery resources, oil and gas reserves, precious minerals, a high potential for tourism, and an important reservoir of marine biological diversity of global significance.

## OZONE-DEPLETING SUBSTANCES

Table 2.1 presents data on the level of consumption of ozone-depleting substances (ODS) in Sierra Leone and shows that only hydro chlorofluorocarbons (HCFCs) are a problem as far as the production and consumption of ODS is concerned. HCFC-22 is used solely for servicing refrigeration equipment such as 55,000 split/window air-conditioners; 16,000 cold rooms used in food processing businesses, ice-making plants and central air conditioning systems used in a few government buildings and private institutions; and 1,000 refrigerated transport units.

## PERSISTENT ORGANIC POLLUTANTS

None of the original twelve POP chemicals have been manufactured in Sierra Leone (Republic Of Sierra Leone 2008a). The import of POP pesticides and application equipment is undertaken by commercial organizations. In the past, POP pesticides, such as dichlorodiphenyltrichloroethane (DDT) and dieldrin, were used across the country. However, the only POP pesticide still in use is hexachlorobenzene (HCB). Some quantities of obsolete pesticides, such as Kocide 101, are still in stock due to the lack of proper disposal facilities.

According to current estimations, there are no significant stockpiles of polychlorinated biphenyls in Sierra Leone. These enter the country through imported electrical appliances, hydraulic oils, impregnators, etc. The national power authority and the Bo-Kenema Power Services are the major providers of electricity nationwide and the major owners of transformers. It has been estimated that nearly

TABLE 2.1 **ODS Consumption Levels in Sierra Leone (ODP tonnes)**

| Substance | Annex | Group | 2001 | 2002 | 2003 | 2004 | 2005 | 2006 | 2007 | 2008 | 2009 | 2010 | Base-line[a] |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Chlorofluorocarbons (CFCs) | A | I | 92.9 | 80.8 | 66.3 | 64.5 | 26.2 | 18.2 | 10.4 | 4.2 | 6.1 | 0.0 | 78.6 |
| Halons | A | II | 9.0 | 0.0 | 15.0 | 18.5 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 16.0 |
| Other fully halogenated CFCs | B | I | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Carbon tetrachloride | B | II | 0.7 | 0.2 | 0.1 | 2.4 | 0.0 | 0.0 | 0.1 | 0.2 | 0.1 | 0.0 | 2.6 |
| Methyl chloroform | B | III | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| HCFCs | C | I | 1.9 | 2.2 | 2.0 | 1.6 | 1.0 | 1.4 | 1.5 | 1.4 | 1.5 | 1.8 | 1.7 |
| Hydrobromofluorocarbons | C | II | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Bromochloromethane | C | III | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Methyl bromide | E | I | 1.2 | 1.2 | 0.7 | 0.4 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 2.6 |

SOURCE: Personal communications, V. H. O. Sawyerr, Ozone Officer, Environmental Protection Agency, Freetown, Sierra Leone.
NOTE: "Calculated Levels of Consumption" means production plus imports minus exports of controlled substances (paragraph 6 of Article 1). However, any export of controlled substances to non-Parties is not subtracted in calculating the consumption level of the exporting Party (paragraph (c) of Article 3).
a. 1998–2000.

three-quarters of the transformers in Sierra Leone contain more than 500 ppm of polychlorinated biphenyl, while the remaining quarter have none.

Table 2.2 shows the estimation of POPs in Sierra Leone. The major releases are into the air (646g) and residues (588g). Countrywide surveys, which identify possible contamination sites and determine the levels of contamination, revealed no sites contaminated with POP pesticides. Two thermal power stations and a privately owned used oil refinery were identified with potential polychlorinated biphenyl contamination. Also, two municipal waste dump sites, where hospitals dispose of medical waste by open burning, were identified as posing health and environmental threats because of their locations.

TABLE 2.2 **Estimated Releases of POPs in Sierra Leone (g toxic equivalents)**

| No. | Item | Air | Water | Land | Residue |
|---|---|---|---|---|---|
| 1 | Waste incineration | 2.0 | | | 0.01 |
| 2 | Fercus and non-ferrous metal production | | | | |
| 3 | Power generation and heating | 6.88 | | | |
| 4 | Mineral production | 0.274 | | | |
| 5 | Transport | 0.008 | | | |
| 6 | Uncontrolled combustion processes | 637 | | 8.00 | 588 |
| 7 | Production and use of chemicals and consumer goods (ind. gas flaring from oil production) | | | | |
| 8 | Miscellaneous | 0.00018 | | | |
| 9 | Disposal/landfill | 0.09 | | | |
| 10 | Potential hot spots | | — | — | — |
| 1–9 | Total | 646.16 | 0.09 | 8.00 | 588.01 |

SOURCE: NIP, Table 9.

### LAND DEGRADATION

The principal direct causes of land degradation in Sierra Leone are the unsustainable use of forest resources; unsustainable agricultural practices, especially those resulting in soil fertility loss and decline in crop yields on upland rainfed sites; wildfires on farm fallows and wooded savannahs; deforestation from clearing for agriculture; and mining (GEF 2007).

- **Unsustainable use of forest resources.** This refers to forest over-cutting for saw timber, wood fuels (firewood and charcoal), and other forest products. The unsustainable use of forest resources leads to the replacement of high-value species by low-value species, loss of productive potential, and the degradation of ecosystem integrity and function.
- **Unsustainable agricultural practices.** Currently upland, rainfed agriculture is practiced in an unsustainable manner in Sierra Leone. In particular, slash-and-burn agriculture, the traditional upland rainfed farming system in most parts of the country, involves converting forest and woodlands into croplands.
- **Wildfires on wooded savannahs and farm fallows.** Wildfires are another major direct cause of land degradation in Sierra Leone because there is always a huge amount of highly combustible grass fuels on savannahs and fallows, and these areas burn very frequently during the dry season.
- **Mining.** Mining has severe impacts on the land through the loss of vegetation, soil erosion, and contamination of water sources. Surface water pollution, in the form of suspended matter caused by runoff from earthmoving and other mining activities, are significant.

## 2.3 Country Environmental Policy, Legal, and Administrative Framework

Table 2.3 contains a summary of the most important national environmental legislation in Sierra Leone and the year of approval.

### ENVIRONMENTAL POLICY AND LEGISLATIVE FRAMEWORK

#### *Biodiversity*

Legislation relating to biological resources has traditionally been split among a number of statutes, many of them covering other materials unconcerned with the area of conservation. However, this has changed as the international concern and political importance of the conservation of natural resources has gained momentum. In Sierra Leone, this has been substantiated by the enactment of the Environment Protection Act (2000) that attempted to make provisions for the effective protection of the environment, and the institutional and administrative machinery required for its implementation. It was updated by the National Environment Protection Act of 2008.

All legislation relating to biological diversity, except the National Environment Protection Act, were enacted before GEF intervention in Sierra Leone. The legislation can be classified into three categories:

- Laws concerning agro-biological diversity
- Laws concerning forestry biological diversity
- Laws concerning coastal and marine biological diversity

The Provinces Land Act Cap 122 of the Laws of Sierra Leone (1960) on land tenure, the Wildlife Act (1972), the Forestry Act (1988), and the Fisheries Management and Development Act (1996) form the current basis for the conservation of biological diversity in Sierra Leone. Some provisions of these

TABLE 2.3 **Summary of National Environmental Legislation**

| Focal area | Legislation, policy, plan | Year |
|---|---|---|
| Biodiversity | Provinces Land Act, Cap 122 | 1960 |
| | Wildlife Conservation Act (and Amendment) | 1972 (1990) |
| | Forestry Ordinance, Cap 189 | 1960 |
| | Forestry Act (and Regulations) | 1988 (1990) |
| | National Forestry Policy | 2004 |
| | Forestry and Wildlife Sector Policy (draft) | 2003 |
| Climate change | Energy Policy and Strategic Plan | 2009 |
| | Mines and Minerals Act | 2009 |
| International waters | Fisheries Management and Development Act (and Amendment) | 1994 (2007) |
| | Fisheries Regulations | 2006 |
| | Fisheries Decree | 1994 |
| Land degradation | National Land Policy | 2004 |
| ODS | ODS Regulations (and Revision) | 2008 (2011) |
| Cross-cutting and multifocal | Constitution | 1991 |
| | Environment Protection Act | 2000 |
| | National Environmental Policy | 1994 |
| | National Environmental Action Plan | 1994 |
| | Environment Protection Agency Act | 2008 |

legislations are insufficient or obsolete and, above all, the institutions set up to implement the legislation lack the capacity to effectively implement the provisions contained therein.

**Agro-biological diversity legislation.** There are several piecemeal legislations on agriculture, the most notable among them being *An Ordinance for the Control and Preservation of Agricultural Produce* (1946). Shortly after the enactment of this legislation several rules and regulations were promulgated to fulfill the legislation's intended purpose including: the Plant Pests Import Rule, Plant Pests Inspection of Crop Rules, Movement of Rice Restriction Rules, Noxious Weed Control Rules, Cocoa Movement Control Rules, and the Locusts Destruction Rules. This ordinance and its related rules were enacted primarily for the control and preservation of agricultural produce and made very little or no provision for the conservation of agricultural lands. In 1960, the ordinance and its piecemeal regulations were embedded in Cap 185 and incorporated into the Laws of Sierra Leone in 1960. The ordinance empowered the governor to make rules for the effective control and preservation of agricultural produce subject to the approval of Parliament. The director of agriculture was the titular head of the department of agriculture for the implementation of these regulations. The ordinance remained in force until enactment of the Produce Inspection Rules (1974) and the Plant Phytosanitary Import Rules (1975). These latter legislations made minor amendments regarding the nomenclature and designation of officials, and licenses for and penalty provisions of Cap 185. Despite these minor amendments, Cap 185 is still regarded as the substantive law governing the control and preservation of agricultural produce in Sierra Leone.

**Forest biological diversity legislation.** The second category of legislation concerning biological

diversity in Sierra Leone are those relating to forestry and wildlife conservation. The relevant legislation in this respect is the Forestry Ordinance Cap 189 of the Laws of Sierra Leone (1960) that consolidated the 1942, 1946 and 1955 forestry rules. Under this legislation, the Chief Conservator of Forests was entrusted to manage forests with assistance from the tribal authority of the respective chiefdoms in which the forest reserves were situated. The legislation established 42 forest reserves throughout the country. Laws relating to bush fire prevention were also enacted in 1932 and the provisions contained therein are now incorporated in Cap 190 of the Laws of Sierra Leone (1960). The wild animals, birds, and fish preservation legislations were also enacted and are now incorporated in Cap 194 of the Laws of Sierra Leone (1960). Cap 194 made provisions for the prohibition of hunting in protected forests except with a valid license. Further, it requires license holders to observe native rights and pay a security deposit in order to ensure compliance with the dictates of the license. The legislation entrusted the director of forestry and other forestry department officials with the task of preserving forest reserves. Cap 194 also contains mandatory provisions prohibiting the export of wild animals from Sierra Leone, except through the port of Freetown.

Laws relating to forest biological diversity were updated when the Wildlife Conservation Act of 1972 was enacted. The long title of this legislation is "An Act to make further and better provisions for the control of fauna and flora of Sierra Leone and to give effect to the International Convention Relating to the Protection of Fauna and Flora in such natural state-1953, as amended by the International Convention for the Protection of Fauna and Flora of Africa of 1953." The legislation established significant provisions for the conservation of wildlife ranging from the constitution of strict nature reserves, national parks, and the prohibition of hunting of animals generally, except with a valid license and/or permit. The Act also contains enforcement and penalty provisions. The legislation marked a tremendous development for the conservation of wildlife in Sierra Leone and is the current law on the conservation of wildlife in the country.

Like the Wildlife Conservation Act of 1972, the Forestry Act of 1988 and its Regulations of 1990, also made significant provisions for the conservation of forest biological diversity and makes new provisions in the law relating to forestry in Sierra Leone. The legislation established provisions ranging from the administration and management of forest reserves, community forests, national parks, licenses fees, and enforcement provisions.

In 1990, the Wildlife Conservation (Amendment) Act was passed and redefined certain terms, modifications, and qualifications of the 1972 Act. For instance, section 25 of the 1972 Wildlife Conservation Act prohibits hunting of elephants in prohibited forest reserves only, whereas section 7 of the 1990 Amendment Act prohibits hunting elephants in any forests, protected areas, or national parks without the written permission of the Chief Conservator. Further, the 1990 Amendment Act provided for the change of name from the Forestry Department to the Forestry Division. Despite these minor amendments, the 1972 Wildlife Conservation Act and the Forestry Act of 1988 are still regarded as the substantive legislations on forest biological diversity in Sierra Leone.

**Coastal and marine biological diversity legislation.** Legislation relating to fisheries and fishing industries abound, but the notable and earliest amongst them is the Fisheries Control and Preservation Act of 1932. Now incorporated in Cap 195 of the Laws of Sierra Leone (1960), the provisions in this legislation include the requisite licensing fees for motor fishing vessels; prohibited use of certain trawl nets; prohibited areas of fishing; and introduced requirements for measurement of the baseline, as well as enforcement provisions. Cap 195 was the prevailing law on the control and

preservation of fisheries from its inception until 1988. Over time this legislation became obsolete and the need for new legislation led to the enactment of the Fisheries Management and Development Act (1988) that partially improved conservation of marine resources.

The 1988 Fisheries Act had very little or no specific conservation provisions that resulted in the enactment of the Fisheries Amendment Act (1990). However, this legislation was short lived as it was annulled by the National Provisional Ruling Council and replaced by Decree No. 19 of 1994 that called for "better provisions for the management, planning and development of the fisheries and fishing industry" by laying down provisions for the conservation of marine resources. Section 4 of this decree empowers the secretary of state (minister) for marine resources to prepare and implement additional policies designed to improve the fisheries and fishing industry in Sierra Leone. The 1994 Decree further established sufficient provisions for the conservation of marine resources ranging from specific conservation provisions, monitoring, control and surveillance provisions and also provisions relating to enforcement.

**Intervention of the GEF.** To fulfill Sierra Leone's obligation under the CBD, the government of Sierra Leone prepared the NBSAP with GEF support. It outlines biodiversity conservation strategies in two broad categories: sectoral strategies (wildlife, forests, biological diversity, agricultural biological diversity, inland water biological diversity, and marine and coastal biological diversity); and cross-sectoral strategies (policy, legislation, capacity building, public participation, planning, monitoring, sustainable use principles, incentive opportunities, research and training, public education, impact assessment, access to technology, information exchange, benefit distribution, indigenous knowledge, and financial resources).

### *Sustainable Land Management Legislation*

Important legislative actions related to sustainable land and natural resource management in Sierra Leone include the National Environmental Policy (2002), the National Environmental Action Plan (2002), the National Land Policy of (2004) (all prepared with support of the World Bank), the National Energy Policy (2011), and the Mines and Minerals Act (2011) (GEF 2007).

The **2002 National Environmental Policy** is the background document for environmental management efforts in the country. It defines the general principles and approaches that should be adopted by any sector of government, private sector, or individual that is undertaking any activity that may affect the environment. In relation to sustainable land management, the policy aims to achieve sustainable development in Sierra Leone through sound environmental management of land, in particular by ensuring that the quality of available land is conserved so as to enhance its potential for continuous productivity and to prevent degradation.

The objectives of the National Environmental Policy include: encouraging adoption of a land tenure system that ensures security of tenure with a view to promoting the conservation of agricultural and forest land, improving the traditional system of shifting cultivation and encourage alternative farming systems, reorganizing traditional grazing systems so as to limit environmental degradation from overgrazing, establishing irrigation schemes that significantly reduce salinization and acidification, regulating agriculture mechanization to reduce soil erosion, developing sustainable agro-forestry techniques for use by farmers in rural areas, and encouraging soil improvement measures.

The **2002 National Environmental Action Plan** offers concrete actions for integrating environmental issues into development planning. It consists of a series of reports and recommendations on natural resource management; urban

management; gender and the environment; and environmental information, education and training. It ranks categories of environmental interventions, prioritizes environmental problems, and ranks the actions according to their contributions to sustainable development. The National Environmental Action Plan lays emphasis on tenure arrangements as they affect the sustainable management of land. It maintains that tenure security is perhaps the single most important incentive to prudent management of land resources. It sees insecurity of tenure as resulting in abuses and/or misuses of land. The issue of conservation is linked to the duration of tenure. Tree and soil conservation require that the custodians of lands have an incentive to invest in long-term future, plant trees, build terraces where needed, and conserve water demand sacrificed today so that benefits will be yielded in the future.

The **National Land Policy (2004)** ensures "the judicious use of the nation's land and its natural resources by all sections of the Sierra Leone society." The policy framework ensures "equal opportunity of access to land and security of the people in order to maintain a stable environment for the country's sustainable social and economic development." Two of the policy statements intended to guide the implementations of the land policy within the domain of sustainable land management include "ensuring sustainable land use and enhancing land capacity and land conservation." Due to the sensitivity of land issues, there has been a slow progress in the implementation of the policy.

The main goal of the **National Energy Policy (2011)** is "to meet the energy needs of the Sierra Leone population by establishing efficient energy production… and end user systems in order to contribute to social and economic development in an environmentally sustainable manner." In Sierra Leone, the unsustainable harvest of wood fuels from forest areas is a major contributing factor locally to deforestation. The strategic directions to household energy include measures that will obviate the need for wasteful use of land to reduce the pressure on scarce forest resources, measures that focus on reforestation, awareness raising campaigns to improve environmentally friendly production and domestic utilization of technology.

The **Mines and Minerals Act (2011)** demonstrates a significant awareness that mining activities adversely affect the environment and recognizes the need for mitigating actions to redress the degradation it causes. Mining activities undertaken by large mining companies lead to the loss of large forest areas, soil erosion, siltation, and contamination of river systems and tidal creeks, and displacements of villages that are a major cause of deforestation and land degradation. Heavy siltation of river beds and tidal creeks reduce coastal coral and fish populations. Small-scale or artisanal mining of diamonds and gold in the east and north of the country also results in a loss of large areas of forest and degradation. The 2011 Act requires the rehabilitation of mined over lands. A special fund, the Consolidated Fund, has been set up by the government from fees and taxes imposed on mine operators for the reclamation of mine spoils.

**GEF Interventions.** The GEF/UNDP sustainable land management project had the following legislative reforms in its projected outcomes and outputs:

- **Outcome 2.1.** Sustainable land management is mainstreamed into policies, laws, programs, budgets, and regulatory frameworks. The main outputs under this component relate to defining the legal and/or regulatory framework for participatory sustainable land management systems for mangroves, wooded savannahs, woodlots, and fallows, including participatory fire management of fallows, as appropriate; and the integration of sustainable land management/participatory forest management into university curricula. The finalization of the Sierra Leone National Adaptation Program of Action will provide inputs for needed reforms. Policy, budgetary, and procedural mainstreaming will

secure internal funding allocations to the sustainable land management.

- **Output 2.2.** Community-based forest and fire management laws and regulations are to be developed. Near the mid-point of the project, and based on project field experience, proposed changes to the legal and regulatory framework for participatory forest and fire management will be submitted to the government to provide a strong basis for the widespread replication of community-based forest and fire management.

However, as indicated in the ROtI (volume 2), neither Outcome 2.1 nor Output 2.2 was achieved by the end of the project in December 2012.

### *POPs Legislation*

Table 2.4 lists legislation concerning POPs in Sierra Leone prior to GEF interventions.

The bans were apparently approved by the Cabinet of Ministers of the government on June 20, 2000 (UNIDO 2006). However, there is no evidence that the Cabinet decision has been promulgated into law. With GEF support, a national implementation plan was prepared in 2008. As part of the preparation process, UNIDO contracted the services of an environmental lawyer to assist Sierra Leone in drafting legislation specific to industrial and agricultural chemicals to enable the country to implement the provisions of the Stockholm Convention (signed on September 26, 2003), that required the country to prepare a national implementation plan to reduce or eliminate the use of POPs by 2025. The institutional policy and regulatory framework section in the national implementation plan called for laws governing the management of POPs. The law provided for

- the institutional and administrative arrangement of a national POPs center,
- harmonization of policies at subregional level to enhance regional inspection at entry points,
- development of a national monitoring plan for effective evaluation,
- domestication of the Stockholm Convention into the national legal instruments,
- capacity building,
- a POPs center (laboratory, equipment, logistics, etc.,),
- recruitment and training,
- financial resource mobilization (at national and international levels),

TABLE 2.4 **Status of POPs listed in the Stockholm Convention**

| Compound | Regulation/Status | Date of effect |
|---|---|---|
| Aldrin | Banned * | August 28, 2000 |
| Chlordane | Banned * | August 28, 2000 |
| DDT | Banned * | August 28, 2000 |
| Dieldrin | Banned * | August 28, 2000 |
| Endrin | Banned * | August 28, 2000 |
| Heptachlor | Banned * | August 28, 2000 |
| Mirex | Banned * | August 28, 2000 |
| Toxaphene | Banned * | August 28, 2000 |
| Hexachlorobenzene | Banned * | August 28, 2000 |
| PCBs | Banned * | August 28, 2000 |
| Dioxins and furans | No inventories and measurements have been conducted. | |

- the provision of technical assistance provision under the multilateral environmental agreements.

However, since the production of the national implementation plan, no action seems to have been taken in promulgating any laws on POPs.

### *Legislation on Ozone Depleting Substances*

None of the GEF interventions in Sierra Leone With regards ODS, the GEF only supports countries with economies in transition. As such, none of the GEF's interventions related to ODS legislation. Sierra Leone is supported by the Multilateral Fund under the Montreal Protocol.

Sierra Leone's ODS regulations were originally issued in 2008. A subsequent revision, incorporating further control measures on the phase-out of ODSs (including HCFCs) came into force on April 1, 2011. The regulations control imports and exports of ODS and ODS-based equipment and provide for quota and licensing systems. They also control the registration and certification of all stakeholders including refrigeration service technicians and ODS importers. The regulations are implemented inter alia by the Environmental Protection Agency; the National Revenue Authority; the Standards Bureau; the Ministry of Agriculture, Forestry, and Food Security; the Ministry of Trade and Industry; the police; and the Refrigeration Engineers Technicians Association.

## THE ENVIRONMENTAL ADMINISTRATIVE FRAMEWORK

Until 2005, the key public institutions responsible for forestry and wildlife, biodiversity conservation, and environmental protection and management were the forestry and environment departments of the Ministry of Agriculture, Forestry, and Food Security; Ministry of Lands, Country Planning, and Environment; and the Ministry of Fisheries and Marine Resources. However, in 2005, the government of Sierra Leone established the National Commission on Environment and Forestry that took over the responsibilities overseen by these three ministries. The Commission was executive in nature and was mandated to provide policy advice, and be involved in project implementation, environmental monitoring, and priority setting.

The Commission was eventually replaced by the Environmental Protection Agency, established in 2008 and amended in 2010, that provides for the effective protection of the environment and other related matters. Its principal functions include advising the Minister of Lands and Environment on the formulation of policies concerning the environment and, in particular, making recommendations for the protection of the environment; coordinating the activities of bodies concerned with the technical or practical aspects of environmental protection and serving as a channel for communications between such bodies and the minister; coordinating of the activities of such bodies to control the generation, treatment, storage, transportation, and disposal of industrial waste; and promoting effective planning in the management of the environment. In 2012, the Environmental Protection Agency established a National Secretariat for Climate Change to provide guidance and direction for the formulation of a national climate change policy and strategies in line with the country's PRSP. The chief executive of the Environmental Protection Agency is the GEF political focal point and one of the program directors is the GEF operational focal point.

**The Ministry of Agriculture, Forestry, and Food Security** is the main institution responsible for promoting development and regulating the agricultural sector. It is mandated to manage protected areas through the National Forestry Policy (2004). The Forestry Division is responsible for implementing provisions of the Policy for all state and some chiefdom forests. It is also mandated to encourage management planning in all forests, emphasizing agro-forestry, fuel wood management, watershed protection, collection of baseline data on forest reserves and forest biodiversity, monitoring

and protection of improved forests, and bush fire control. The Wildlife Conservation Unit manages national protected areas and implements the provisions of the Wildlife Conservation Act. The Land and Water Development Department has a mandate to create an enabling environment for increased food production through sustainable development and use of land and water resources.

**The Ministry of Lands, Country Planning, and Environment** is the body that implements environmental policy, including the sustainable management of land resources in Sierra Leone, and is responsible for overall national land administration. The overall policy objectives of the Ministry are to ensure balanced land administration, use, planning management, and development control. It also administers real estate, conducts territorial inventories (cadastre), and manages geographical territorial information (geodesy and cartography).

**The Ministry of Transport and Aviation (Meteorology Department)** is charged with three mutually exclusive functions: ensuring the safety and general welfare of citizens through the timely provision of meteorological services, collecting and collating historical meteorological and climate data for record and research proposals, and honoring international obligations. Additional responsibilities include: contributing to the socioeconomic (including agricultural, marine, etc.) development of the country, ensuring the quality of the nation's environment is maintained, and conducting climate change-related activities.

**The Ministry of Mineral Resources** controls all mining activities with the recently established National Minerals Agency. It has developed a mining policy and legislation that make provisions for the rehabilitation of mined out areas ensuring that prospecting, exploitation, mining, and processing of mineral resources proceed in an environmentally sound manner.

**The Sierra Leone Agricultural Research Institute** was established by an act of parliament in 2007. It is an independent agricultural institution responsible for generating valuable technologies that address the problems facing the farming, fishing, forestry, and livestock sectors. The Institute has four core functions: conducting agricultural research, generating information and knowledge, strengthening capacity, and promoting advocacy. When fully operational, it is comprised of eight research centers, including the Magbosi Land and Water Research Centre, charged with contributing to food security and wealth by enhancing long-term productivity of land and water resources.

**The private sector does** not have the capacities for effective management of natural resources which limits the opportunities for either a wholesale outsourcing of management responsibilities or public-private-partnering. Until recently, the government made no conscious effort to include the private sector in resource management except in licensed exploitations.

**Universities** have an acceptable level of human and technical resources to assist in developing and managing the countries' natural resources effectively and on a sustainable basis. The two main universities, Fourah Bay and Njala, run courses in agriculture, forestry, wildlife and fisheries management, and environmental studies and research into various aspects relating to natural resources management. However, limited financial resources have limited their engagement.

**International and local NGOs** have committed resources to natural resource management in Sierra Leone. They are actively involved in decision making and policy formulation, and implementation of programs for wildlife protection and biodiversity conservation. Local NGOs have less capacity than their international counterparts, most of which work through local organizations. Prominent NGOs in the environment and natural resource sector include the Environmental Foundation for Africa, Friends of the Earth Sierra Leone, the Conservation Society of Sierra Leone (a Birdlife International partner in Sierra Leone), Birdlife

International, Conservation International, and the Royal Society for the Protection of Birds (a Birdlife International partner in the United Kingdom). There is little information available on the existence and capacity of community-based organizations in rural Sierra Leone.

### PARTICIPATION IN INTERNATIONAL TREATIES

The relationship between Sierra Leone and the Sierra Leone's relationship to the global environment is largely defined and supported through its participation in international and regional treaties, conventions, and protocols related to environment and natural resource management. Accession to international conventions is a prerequisite for eligibility for GEF funding, as such Sierra Leone was a signatory to most of the conventions before GEF assistance began in 1996. Important international conventions to which Sierra Leone is signatory include:

- Convention on the African Migratory Locust (1962)
- Convention on Biological Diversity (CBD)
- Convention on International Trade in Endangered Species of Wild Fauna and Flora (CITES)
- Convention on Wetlands of International Importance (Ramsar)
- Convention Concerning the Protection of the World Cultural and Natural Heritage
- United Nations Convention on the Law of the Sea
- United Nations Convention to Combat Desertification (UNCCD)
- United Nations Framework Convention on Climate Change (UNFCCC)
- Vienna Convention for the Protection of the Ozone Layer
- Montreal Protocol on Substances that Deplete the Ozone Layer, and the London Amendments
- Stockholm Convention on Persistent Organic Pollutants
- Convention for Cooperation in the Protection, Management and Development of the Marine and Coastal Environment of the Atlantic Coast of the West, Central and Southern Africa Region (Abidjan Convention) and its protocols
- Bamako Convention on the Ban of the Import into Africa and the Control of Transboundary Movement and Management of Hazardous Wastes within Africa (Bamako Convention) (signed 2003, but not yet ratified).[7]

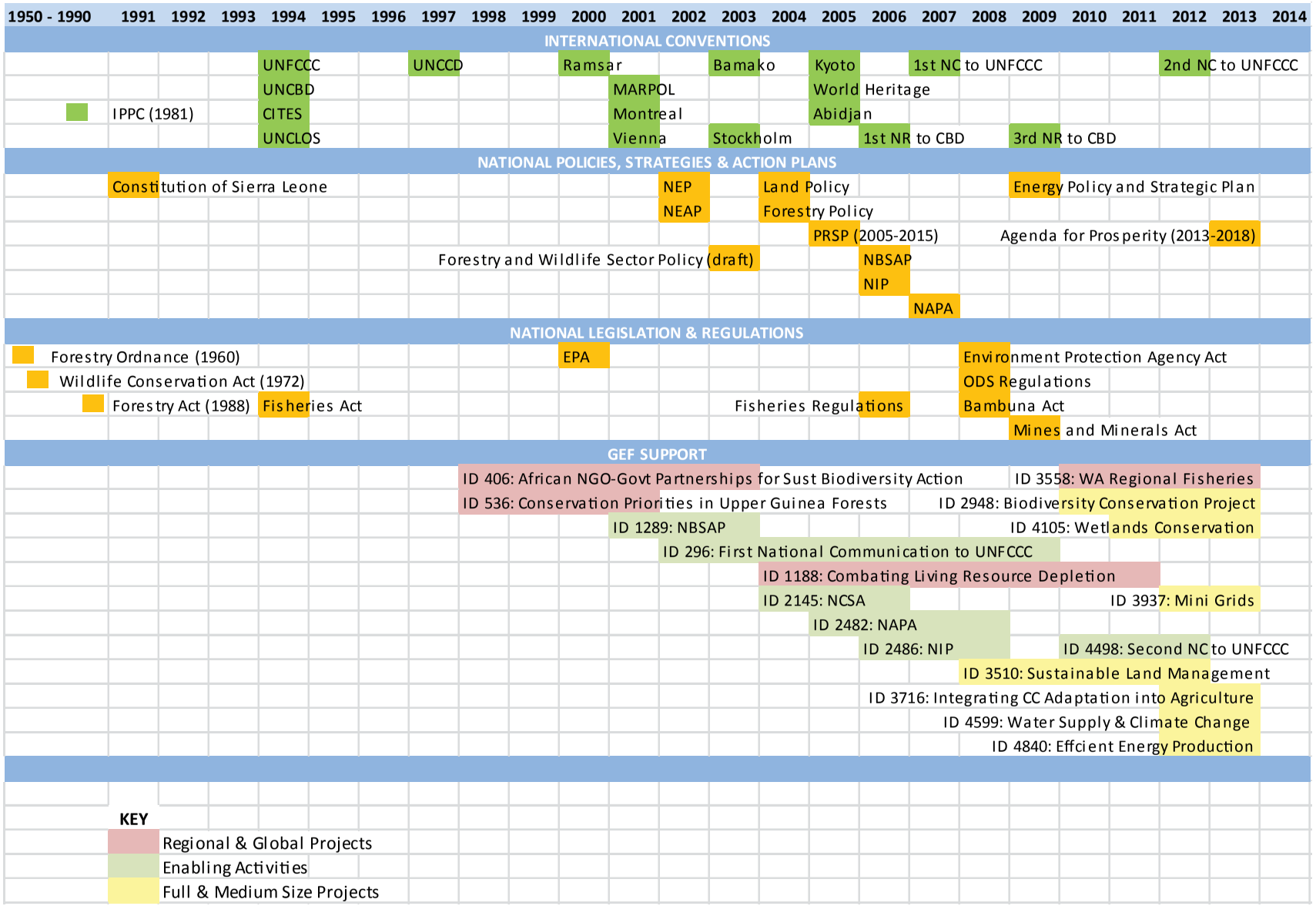
## 2.4 Relationship to GEF Support

Figure 2.3 shows the chronological relationship between GEF interventions and national policies and commitments to international conventions and agreements. Sierra Leone has yet to sign the Basel and Rotterdam Conventions.

The civil war disrupted most government programs, including GEF activities. As a result, there was a break in activities between the signing of the UNFCCC, the CBD, and the UNCCD between 1995 and 1997, and signing other conventions and protocols starting in late 2001.

[7] NBSAP 2003, 23–24.

FIGURE 2.3 **Sierra Leone Legal & Regulatory Framework Timelinee**




NOTE: CC = climate change; EPA = Environmental Protection Agency; MARPOL = marine pollution; NEP = National Environmental Policy; NEPA = National Environment Protection Act; NIP = National Implementation Plan.

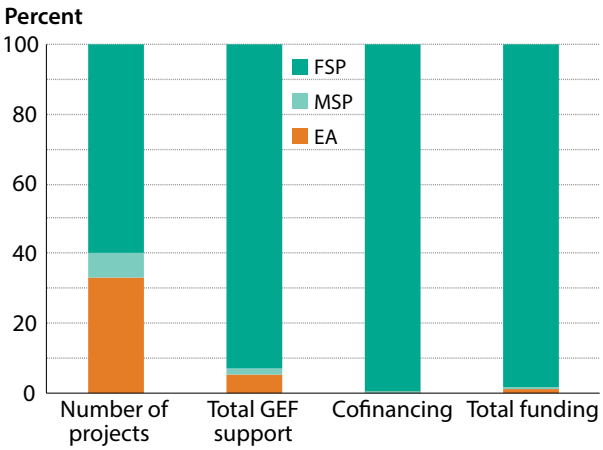
# 3. The GEF Portfolio

## 3.1 The Portfolio of National Projects

Sierra Leone participated in its first regional GEF-funded project in 1998. Implementation of national enabling activities started at the end of the civil war in 2001. The portfolio of national projects completed or under implementation is relatively small, amounting to total of just over $13.6 million in GEF support (table 3.1). Six of the 15 projects have been enabling activities that are good for a relatively young GEF country as they set the stage for the design of follow-up medium- and full-sized projects. However, as shown in figure 3.1, enabling activities only account for a small proportion of GEF funding in the country due to their relatively small size compared to grants for medium- and full-size projects.

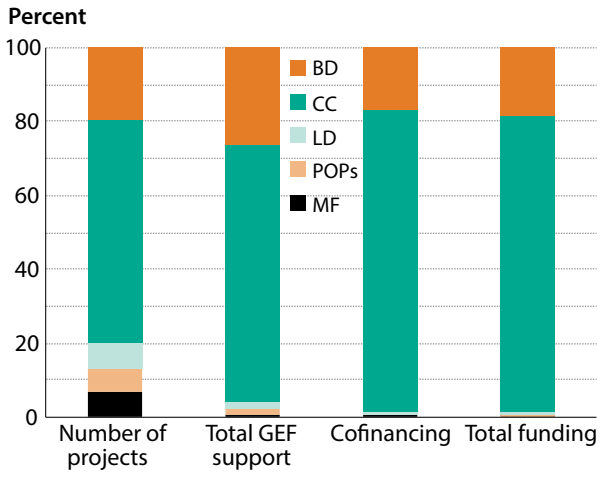
Most of the projects (nine of fifteen) in Sierra Leone have been, and are programed to be, in the climate change focal area. As shown in figure 3.2, funding allocated to climate change is around three times that allocated to biodiversity, the next largest focal area. This bias toward climate change is partly a reflection of the emphasis placed in the focal area by UNDP, who has implemented most of the GEF projects in Sierra Leone, as well as the active interest shown in the area by local agencies, especially the national university and research institutes. The GEF's bias toward the climate change focal area is evident from the number of follow-up FSPs executed or under design by

FIGURE 3.1 **Support to Sierra Leone National Projects by Modality**




NOTE: EA = enabling activity.

FIGURE 3.2 **Support to Sierra Leone National Projects by Focal Area**




NOTE: BD = biodiversity; CC = climate change; LD= land degradation; MF = multifocal.

TABLE 3.1 **National Projects**

| GEF ID | Project title | Agency | Focal area | Modality | Status | GEF support ($) | Cofinancing ($) |
|---|---|---|---|---|---|---|---|
| 296 | Enabling Sierra Leone to Prepare Its First National Communication in Response to Its Commitments to UNFCCC | UNDP | CC | EA | C | 309,000 | |
| 1289 | National Biodiversity Strategy and Action Plan, and Country Report to the COP | UNDP | BD | EA | C | 275,000 | |
| 2145 | National Capacity Self-Assessment (NCSA) for Global Environmental Management | UNEP | MF | EA | C | 216,900 | 16,000 |
| 2482 | Preparation of a National Programme of Action for Adaptation to Climate Change | UNDP | CC | EA | C | 200,000[a] | 20,000 |
| 2486 | Enabling Activities to Facilitate Early Action on the Implementation of the Stockholm Convention on POPs in Sierra Leone | UNIDO | POPs | EA | C | 394,600 | |
| 2948 | Biodiversity Conservation Project | WB | BD | FSP | O | 5,000,000 | 18,800,000 |
| 3510 | LDC/SIDS Portfolio Project: Capacity Building for Sustainable Land Management in Sierra Leone | UNDP | LD | MSP | O | 500,000 | 442,000 |
| 3716 | Integrating Adaptation to Climate Change into Agricultural Production and Food Security in Sierra Leone | IFAD | CC | FSP | O | 2,744,800[a] | 8,626,000 |
| 3937 | SPWA-CC Promoting Mini Grids Based on Small Hydropower for Productive Uses in Sierra Leone | UNIDO | CC | FSP | O | 1,818,182 | 29,992,068 |
| 4105 | SPWA-BD Wetlands Conservation Project | WB | BD | FSP | O | 1,800,000 | 3,380,000 |
| 4599 | Building adaptive capacity to catalyze active public and private sector participation to manage the exposure and sensitivity of water supply services to climate change in Sierra Leone | UNDP | CC | FSP | A | 3,010,000[a] | 10,150,000 |
| 4840 | Energy Efficient Production and Utilization of Charcoal through Innovative Technologies and Private Sector Involvement | UNDP | CC | FSP | A | 1,818,182 | 9,000,000 |
| 5006 | Strengthening Climate Information and Early Warning Systems in Western and Central Africa for Climate Resilient Development and Adaptation to Climate Change—Sierra Leone | UNDP | CC | FSP | E | 4,100,000[a] | 20,347,310 |
| 5209 | Building Resilience to Climate Change in the Water and Sanitation Sector | AfDB | CC | FSP | A | 4,200,000[a] | 28,735,000 |
| 4498 | Umbrella Programme for National Communication to the UNFCCC[b] | UNEP | CC | FSP | O | 405,000 | 30,000 |
| Total | | | | | | 26,791,664 | 129,538,378 |

SOURCE: GEF Project Management Information System.

NOTE: A = Council approved; AfDB = African Development Bank; BD = biodiversity; C = completed; CC = climate change; E = endorsed by the GEF Chief Executive Officer; EA = enabling activity; LD = land degradation; MF = multifocal; O = ongoing; WB = World Bank. GEF support includes project grant and project preparation grant/project development facility amounts. GEF funding is from the GEF Trust Fund unless otherwise indicated.

a. Funding from LDCF.

b. Global project.

UNDP focus in that area. Although UNDP also implemented the biodiversity enabling activity, no follow-up projects are being developed by the organization in that area. The amount of cofinancing obtained for the FSPs has been one positive feature of the portfolio in Sierra Leone.

Data presented in the tables and figures show that cofinancing outweighs the amount of GEF finance. This confirms that GEF activities in the country are having the desired effect of stimulating other investments in the GEF focal areas. Furthermore, it confirms that GEF enabling activities have been successful in laying the ground for follow up investments by other donors.

## 3.2 Sierra Leone's Participation in Regional and Global Projects

Sierra Leone has participated in several regional and global projects, as a result of which it received its first GEF funding. Although several have been small national capacity development activities, they have been very important to the country, as participation in them has enabled the country to cover a wider range of focal areas, although the majority of projects are also in the climate change focal area.

## 3.3 Small Grants Programme

In 2012, Sierra Leone joined the Small Grants Programme (SGP) under the GEF-5 strategic framework and Sierra Leone's environmental management priorities, with the following broad strategic directions:

- Actively engaging indigenous representatives from biodiversity-rich areas in CBD decision making processes recognizing them as rights holders as distinct from stakeholders, given their close dependence on and historical connection with biodiversity.
- Improving participation in national policy processes, especially by local groups.
- Improving advocacy and capacity for mainstreaming environmental management in national legislative and institutional processes.
- Strengthening CSO capacity to mainstream global environment issues to achieve local and global benefits.
- Promoting small-scale, climate-smart technologies for rural energy and poverty alleviation.
- Revising conservation policies to promote coherence of indigenous and human right frameworks both nationally and internationally.
- Promoting mainstreaming via local institutions but with pooled support from strategic and network partnerships.
- Tackling mainstreaming by building on existing integrating processes rather than separate master plans.
- Emphasizing the socioeconomic benefits of environmental management through participative communication and education programs, and making explicit the links between conservation and national development objectives.

Since 2013, a total of 42 projects have been approved, the majority on biodiversity (table 3.4). The average size of the GEF grant is around $30,000.

TABLE 3.2 **Regional Projects with Components in Sierra Leone**

| GEF ID | Project title | Agency | Focal area | Modality | Status | GEF support ($) | Cofinancing ($) |
|---|---|---|---|---|---|---|---|
| 406 | African NGO-Government Partnership for Sustainable Biodiversity Action | UNDP | BD | FSP | C | 4,544,080 | 7,117,000 |
| 536 | Conservation Priority-Setting for the Upper Guinea Forest Ecosystems, West Africa | UNDP | BD | MSP | C | 742,000 | 207,000 |
| 1188 | Combating Living Resource Depletion and Coastal Area Degradation in the Guinea Current LME through Ecosystem-based Regional Actions | UNDP, UNEP | IW | FSP | C | 21,449,184 | 43,971,292 |
| 1431 | Fouta Djallon Highlands Integrated Natural Resources Management Project (FDH-INRM) (Tranches 1 and 2) | UNEP | LD | FSP | O | 11,554,000 | 33,000,000 |
| 3558 | West Africa Regional Fisheries Program (WARFP) | WB | IW | FSP | O | 10,000,000 | 46,000,000 |
| 3781 | Evolution of PA systems with regard to climate change in the West Africa Region | UNEP | BD | FSP | O | 3,636,363 | 12,119,471 |
| 3785 | SPWA-BD: GEF Program in West Africa: Sub-component on Biodiversity | WB, UNDP, UNEP, FAO | BD | FSP | A | 39,520,000 | 23,660,000 |
| 3789 | SPWA-CC: GEF Strategic Program for West Africa: Energy Component (PROGRAM) | UNIDO | CC | FSP | A | 46,000,000 | 100,000,000 |
| 3969 | AFLDC: Capacity Strengthening and Technical Assistance for the Implementation of Stockholm Convention National Implementation Plans (NIPs) in African Least Developed Countries (LDCs) of the ECOWAS Sub-region | UNEP, UNIDO | POPs | FSP | O | 8,400,000 | 11,631,703 |
| 4178 | SPWA-CC Promoting Coherence, Integration and Knowledge Management under Energy Component of SPWA | UNIDO | CC | MSP | O | 700,000 | 790,000 |
| 4953 | Mano River Union Ecosystem Conservation and International Water Resources Management (IWRM) Project | AfDB | MF | FSP | A | 6,586,364 | 25,000,000 |
| Total | | | | | | 153,131,991 | 303,496,466 |

SOURCE: GEF Project Management Information System.

NOTE: A = Council approved; AfDB = African Development Bank; BD = biodiversity; C = completed; CC = climate change; IW = international waters; LD = land degradation; MF = multifocal; O = ongoing; WB = World Bank. GEF funding is from the GEF Trust Fund unless otherwise indicated.

TABLE 3.3 **Global Projects with Components in Sierra Leone**

| GEF ID | Project title | Agency | Focal area | Modality | Status | GEF support ($) | Cofinancing ($) |
|---|---|---|---|---|---|---|---|
| 4498 | Umbrella Programme for National Communication to the UNFCCC (Also see national projects) | UNEP | CC | FSP | O | 11,330,000 | 2,013,500 |
| 4623 | Support to GEF Eligible Parties (LDCs & SIDs) for the Revision of the NBSAPs and Development of Fifth National Report to the CBD —Phase II | UNEP | BD | FSP | O | 6,118,200 | 5,513,637 |
| 4678 | GEF SGP Fifth Operational Phase Implementing the Program Using STAR Resources II | UNDP | MF | FSP | E | 72,851,267 | 75,766,000 |
| 4829 | Support to GEF Eligible Parties for Alignment of National Action Programs and Reporting Process under UNCCD | UNEP | LD | FSP | O | 2,830,000 | 2,750,000 |
| Total | | | | | | 93,129,467 | 86,043,137 |

SOURCE: GEF Project Management Information System.
NOTE: BD = biodiversity; CC = climate change; E = endorsed by the GEF Chief Executive Officer; LD = land degradation; MF = multifocal; O = ongoing. GEF funding is from the GEF Trust Fund unless otherwise indicated.

TABLE 3.4 **Portfolio of Small Grant Projects in Sierra Leone**

| | | | Cofinancing | |
|---|---|---|---|---|
| Focal area | Number of projects | GEF grant amount ($) | Cash ($) | In kind ($) |
| Biodiversity | 17 | 485,625 | 38,919 | 349,556 |
| Climate change | 8 | 216,994 | 14,800 | 71,988 |
| Capacity development | 7 | 193,885 | 10,000 | 176,187 |
| Land degradation | 7 | 197,755 | 1,832 | 259,913 |
| POPs | 3 | 93,860 | 0,000 | 94,040 |
| Total | 42 | 1,188,119 | 65,551 | 692,030 |

# 4. Results of GEF Support

GEF support in Sierra Leone has covered all GEF focal areas for which the country has been eligible, both through national projects and through Sierra Leonean components of regional and global projects. The results of these activities are assessed below. A focal area approach is adopted, since this clarifies the linkages between activities, the accumulation of results, and progress along the causal chain from outputs toward long-term impacts and global environment benefits.

The GEF has invested in three broad categories of intervention in Sierra Leone. The first are enabling activities and capacity development activities. As described in chapter 3, the largest number of GEF projects in Sierra Leone have fallen under this category.

These activities are the foundations to capacity building through the fulfillment of basic convention obligations (e.g., National Communications, the National Adaptation of Programme Action, and NBSAP). In the short-term, fulfillment of these obligations has been positive because it has allowed the country to progress toward development and implement further medium- and full-size projects that have the potential to deliver tangible "on the ground" results. In the medium-term, heightened awareness and capacity, in particular the government's, to address environmental management issues are also an indicator of achievement, such as the National Adaptation of Programme Action, leading to LDCF adaptation projects. These results are expected to produce positive changes in the local and national environment, while contributing to global environment benefits in the long-term.

The second category of intervention in Sierra Leone has been that of MSPs. Only one has been implemented in Sierra Leone. Such projects are smaller in size than the FSPs discussed below, and are expected to directly generate environmental benefits, but to less an extent than FSPs, the third category of interventions.

FSPs are coming into pre-eminence in the GEF portfolio with four under implementation and four in the pipeline (at time of writing). Such interventions directly generate environmental results, although the issues of scale-up and sustainability are critical for the attainment of long-term impacts.

## 4.1 Biodiversity

GEF biodiversity projects in Sierra Leone have been broadly successful in delivering their results, or are being successfully executed along the lines that should enable them to deliver the expected results. These projects allowed Sierra Leone to meet its obligations to the CBD by producing a NBSAP. Sierra Leone has succeeded in sustaining the result achieved in the enabling activity by obtaining the necessary GEF funding and cofinancing to implement follow-up FSPs, which are making a valuable contribution to increasing the number, size, and integrity of a variety of globally significant ecosystems by delineating representative samples of ecological areas and declaring them as legally protected. This will remove them partially or entirely from

production and any other form of land use that may have an adverse impact on the objectives for which they are set aside. GEF interventions are leading to environmental benefits in the area of protection and preservation of the country's biodiversity, some of which is of global importance, e.g., the protection of important wetlands ecosystems by strengthening and implementing major elements of the planned Protected Areas Program in the country.

### ENABLING ACTIVITIES

The GEF supported the UNDP-implemented enabling activity National Biodiversity Strategy and Action Plan and Country Report to the CBD Conference of Parties. The results of this enabling activity include a biodiversity strategy divided into two broad categories: 1) thematic strategies and general measures (i.e., cross-sectoral strategies). The main thematic areas considered in the strategy are wildlife, forest biological diversity, agricultural biological diversity, inland water biological diversity and marine and coastal biological diversity; and 2) cross-sectoral strategies covering cross-cutting issues including policy legislation, capacity building, public participation, planning, monitoring, protected areas conservation, sustainable use, incentive measures, research and training, public education, impact assessment, access to technology, information exchange, sharing of benefits, indigenous knowledge, and financial resources. The resulting Biodiversity Action Plan comprised measures and mechanisms intended to conserve and promote the sustainable use of the different components of the country's biodiversity.

The NBSAP identified eight priority ecological sites of important biodiversity and suggested urgent actions were needed to restore the integrity and ecological functionality of these systems. These ecological sites are spread over four major types of ecosystems comprising the arid and semi-arid; coastal, marine and freshwater; forest; and mountain zones.

### FULL SIZE PROJECTS

Two important World Bank-implemented, GEF-funded FSPs are currently underway, namely the Sierra Leone Biodiversity Conservation Project (GEF ID 2948) and the SPWA-BD Wetlands Conservation project (GEF ID 4105). Midway through implementation, the achievement of results can be classified as satisfactory.

The Sierra Leone Biodiversity Conservation Project is expected to help the government of Sierra Leone improve the management of three priority biodiversity conservation sites (of the eight proposed in the NBSAP) and enhance capacity to replicate the best biodiversity conservation practices at all conservation sites in the country. The SPWA-BD Wetlands Conservation Project is successfully piloting the conservation planning and management of two wetland sites of global environmental importance (table 4.1).

GEF grant funds are also financing capacity building of forest managers, civil society organizations, subnational governments, and rural communities in protected area management and biodiversity conservation. The projects are also documenting local knowledge and skills in natural resource management and are employing them in the management and protection of selected protected area sites.

## 4.2 Climate Change

The climate change portfolio has been the largest in Sierra Leone in terms of the number of projects, amount of GEF funding, and amount of cofinancing. Five of the six implementing agencies have activities in the area, consisting of both enabling activities and FSPs. Overall, in the field of climate change, GEF support has helped Sierra Leone substantially increase its capacity in fields such as adaptation and renewable energy. Adaptation activities have enhanced capacity to understand and track the effects of climate change, and plan responses to them. Ministries, departments, agencies, and the

TABLE 4.1 **The Conservation Sites in the World Bank Implemented Biodiversity and Wetlands Conservation Projects**

| Conservation site | Description | Environmental issues |
|---|---|---|
| | **Biodiversity** | |
| Outamba-Kilimi National Park | 112,825 ha. Savanna woodland. National Park status since 1995. The site supports at least nine species of primates including four threatened species—western chimpanzee, red colobus monkey, black and white colobus monkey and sooty mangabey. In addition to elephant and hippopotamus, other resident large mammals include leopard, savanna buffalo, maxwell duiker, and water chevrotain. Vegetation is characterized by a mix of grassland, closed woodland and gallery forest, with South Guinea woodland savanna dominant. | • Community resource use: hunting, farming, wood cutting, bush fires, NTFPs, fishing.<br>• Commercial logging close to the park's boundaries.<br>• Encroachment from Guinean communities with cattle in the Kilimi side. |
| Loma Mountains Non-Hunting Forest Reserve | 33,200 ha. Montane forest and savanna ecosystem. Non-hunting forest reserve since 1973. The Reserve includes the largest and most remote and pristine Guinea mountain forest ecosystems in the country. At 1,945 meters above sea level, Bintumani Mountain, in the core of the site, is the highest mountain in the country, and the highest peak west of Mount Cameroun. The site includes grasslands and Savannah above the tree line, mountain evergreen and low altitude tropical forests. Loma ecosystems support more than ten species of primates including chimpanzee, red colobus, black and white colobus, and sooty mangabey. Other resident threatened species include black duiker, Jenkins and Maxwells duiker, forest buffalo, leopard and—at the lower elevations—water chevrotain, elephant and hippopotamus. Because of its altitude, Loma Mountain hosts rich bird fauna including many species that do not occur elsewhere in the country, including five that are globally threatened. | • Low human influence due to isolation and difficult geography.<br>• Evidence of small farming but no evidence of extractive activities<br>• Reserve's boundaries unclear. |
| Kangari Hills Non-Hunting Forest Reserve | 8,573 ha. Rainforest. Non-hunting forest reserve since 1973. The Forest Reserve is a watershed for some of the country's main river systems and includes rich mountain forest and Savannah ecosystems. The site has been designated an important bird area by virtue of species diversity, endemism and threat (including three globally threatened species— white necked rockfowl picathartes, black faced stream warbler, and green tailed bristlebill), and hosts approximately 33% and 18% of Guinea forest and Guinea-Sudan biome species respectively. By virtue of its linkages with other remnant forest ecosystems, the site also includes vagrant populations of forest elephant and resident populations of threatened primate species including chimpanzee, red colobus, and black and white colobus monkeys. | • Low human influence due to isolation and difficult geography.<br>• Mining activities in fringe areas, but this needs to be confirmed.<br>• Reserve's boundaries unclear. |

*(continued)*

TABLE 4.1 **The Conservation Sites in the World Bank Implemented Biodiversity and Wetlands Conservation Projects** *(continued)*

| Conservation site | Description | Environmental issues |
|---|---|---|
| | **Wetlands** | |
| Sierra Leone River Estuary | 2The Sierra Leone River Estuary covers an area of more than 259,000 ha and was designated a "Wetland of International Importance" on December 13, 1999 under the Ramsar Convention on Wetlands. The estuary is lined by 110 ha of mud and sand foreshore, backed by mangroves, and 1,800 ha of intertidal mudflat and muddy sandflats, containing key mangrove tree species and abundant wader species. The predominant mangrove tree species are Rhizophora sp., Avicennia africana, Laguncularia sp. and Conocarpus sp. The site is a critical bird habitat. A total of 36 wader species have been recorded in the estuary and numbers are known to regularly exceed 20,000. This is one of the four major sites for wintering waders in the country. Concentrations are usually found along the banks of the Bunce River and Aberdeen Creek, where mangroves provide suitable roosting sites, as well as breeding habitat for such species as the striated heron Butorides striatus, and other species of egrets and herons. Less common migrant Palearctic waders (less than 500 individuals) found include ruddy turnstone Arenaria interpres, Eurasian curlew Numenius arquata, marsh sandpiper Tringa stagnatilis and Temmink's stint Calidris temminckii. | • unsustainable clearing of mangroves for firewood and construction materials;<br>• dumping of untreated waste from industries in the Freetown area;<br>• oil spillage from tankers unloading at the main port. salt processing and curing of fish, which requires large quantities of firewood, provide additional threats to the site |
| Mamunta Mayosso | The Mamunta Mayosso complex was the first site to be managed as a wildlife sanctuary in Sierra Leone. Located almost at the centre of the country, Mamunta Mayosso supports a wide range of vegetation types. The predominant vegetation is boliland (seasonally flooded grassland) with occasional occurrence of swamps, savanna, secondary forest and two perennial lakes. This 2,000 ha site is important for its diverse endemic flora and has excellent eco-tourism potential; it is one of the few areas in Sierra Leone still supporting viable populations of the threatened Dwarf Crocodile, and hosts 252 species of birds, belonging to 51 families. These include two near threatened species—Turati's Boubou and Rufous-winged Illadopsis. A waterfowl census conducted at the two wetlands of Dakrafi and Robierra (Thompson, 1994) gave a total of 1280 birds of 18 species and includes a large count of the White-faced Whistling Duck. In addition to birds, eight species of primates are known to occur in this sanctuary. Also present are big game mammals such as bushbuck, bush pig, genets and duikers. The threatened primate species are Western Chimpanzee and Red Colobus monkey. Other threatened fauna includes the Dwarf Crocodile. The major threat to the site is cultivation of agricultural crops (rice and cassava). Other threats include cattle grazing, fishing, and hunting. | • The major threat to the site is cultivation of agricultural crops (rice and cassava). Other threats include cattle grazing, fishing, and hunting. |

university were strengthened and are now capable of undertaking inventory studies. GEF support has enabled the country to secure substantial cofinancing for measures necessary it to further reduce GHG emissions, adapt effectively, and reduce the vulnerabilities associated with climate change.

## ENABLING ACTIVITIES

The GEF has so far supported three enabling activities under climate change—Enabling Sierra Leone to Prepare its First National Communication in Response to its Commitments to the UNFCCC; the global project, Umbrella Programme for National Communications to the UNFCCC (GEF ID 4498); and preparation of a National Program of Action for Adaptation to Climate Change (GEF ID 2482). The projects were implemented either by UNDP or UNEP. The first two successfully produced the first and second National Communications to the UNFCCC, allowing capacity building of climate change institutions and experts. The rudiments of an information system for collection, organization, storage, and dissemination of local and international climate change literature in the country were established; national institutions (ministries, departments and agencies, the university, key NGOs, etc.) were strengthened and are now capable of undertaking inventory studies, mitigation analysis, impact studies, vulnerability assessments, and project formulation; and an inventory of sources and sinks of GHG in Sierra Leone was undertaken based on the Intergovernmental Panel on Climate Change (IPCC) methodology and local emission factors. Also, a more informed body of policy-makers and members of the public on climate change issues has been created.

The third enabling activity increased the capacities of local experts on issues relating to vulnerability and adaptation. Key vulnerability sectors were identified for consideration in the National Adaptation of Programme Action, adaptation options were identified, policy and measures formulated, and their feasibility characterized by priority sectors. Also, a portfolio of priority projects was produced. The National Adaptation of Programme Action was prepared through a participatory stakeholder review process, and the final version was widely disseminated to national and international adaptation-involved users.

The National Capacity Self-Assessment for Global Environmental Management (GEF ID 2145) was the multifocal-area project implemented by UNEP that also covered climate change. The project prepared three thematic profiles for the CBD, UNFCCC, and UNCCD. Each involved a review of needs identified in relevant reports and documents; a strengths, weakness, opportunities, and threats (SWOT) assessment of past and ongoing efforts related to capacity building in each thematic area; an in-depth description of capacity building activities needs in the different sectors; identification of capacity building priorities; and preparation of an action plan that was presented to the government for endorsement. For implementation of the CBD, the priorities include expansion of protected areas; inventory and databases of ecosystems, species and habitats; legislation for biodiversity conservation, etc. For implementation of the UNCCD, they include institutional strengthening and capacity development of government of Sierra Leone line ministries and NGOs, development of an appropriate land use policy and plan, formulation of national strategies for poverty reduction through provision of alternative livelihoods to exploitation of degraded lands, etc. For implementation of the UNFCCC, they include creation of a center for climate change research, capacity building of target communities, policy reforms, etc.

## FULL SIZE PROJECTS

The GEF is currently supporting two national FSPs in the area of climate change namely, the IFAD-implemented project, Integrating Adaptation to Climate Change into Agricultural Production and Food Security in Sierra Leone (GEF ID 3716), and the UNIDO project, SPWA-CC Promoting

Mini-Grids Based on Small Hydropower for Productive Uses in Sierra Leone (GEF ID 3937).

Progress toward achievement of the outcomes of the IFAD-implemented project has been satisfactory. Expected results of the project include: sustainable development of inland valley swamps for rice/other food crop production, participatory mapping and monitoring of vulnerability to climate change, development of climate-resilient rice production systems in the lowlands, training for local rice producers on best adaptation practices, ecosystem-based adaptation of cropping in the uplands, agriculture climatic data collection and analysis for decision making, and knowledge and awareness on climate change at the community level.

Field observations of the UNIDO-implemented project show that they are behind schedule in delivering expected outputs as per the project document. Expected results include: 1) strengthened institutional capacities at various levels on the planning and implementation of sustainable hydropower; 2) based mini-grid projects for enhancing electricity supply and productive applications; 3) public-private investments and partnerships and stakeholders acceptance of viability of sustainable hydropower-based mini-grid enhanced; and 4) local expertise and knowledge enhanced for sustainable hydropower-based mini-grids (installation, operation and maintenance), their financing and productive use, and conducive policy and regulatory frameworks in place. At the time of the review, the inception workshop and the first meeting of the project steering committee had been organized, and consulting activities were underway, including the preparation of the environmental impact assessment report and gender mainstreaming components. These were all 12–18 months behind schedule due to delays in stakeholder consultations and UNIDO procedures.

As indicated in table 3.1, there are four FSPs on climate change in the design phase that are not yet effective and therefore cannot be assessed in terms of results in this review.

## 4.3 Land Degradation

Halting land degradation and promoting sustainable land management is one of the most important national environmental challenges facing Sierra Leone, as identified in the country's PRSP. GEF support in the land degradation focal area allowed the country to implement one MSP. Overall, the project enabled Sierra Leone to build some limited capacity for sustainable land management and mitigate the threats of land degradation. It also enabled it to prepare a national action program to combat desertification, thereby meeting its obligations under the UNCCD. However, the national action program has not yet been formally adopted, and mainstreaming sustainable land management into policies, laws, programs, budgets, and regulatory frameworks was not as successful as envisaged. The GEF intervention was too small in size and too short in duration to allow achievement of the project's outputs and outcomes. In other words, the project had an over-ambitious design in terms of expected outputs and outcomes given its size and duration. The major challenge still facing the country is securing the funding necessary to implement the measures to combat land degradation proposed in the national action program.

### MEDIUM SIZE PROJECTS

The only GEF-funded national activity in land degradation to date has been the UNDP-implemented LDC/SIDS portfolio project, Capacity Building for Sustainable Land Management in Sierra Leone. The project aimed to build sustainable land management capacity in Sierra Leone by removing key barriers and mainstreaming it into laws, university and school curricula, and the national budget. It also aimed to create sustainable capacity and ownership in Sierra Leone to mitigate land degradation and thereby meet the country's obligations under the UNCCD.

A ROtI of the project (see volume 2) revealed that it had only satisfactorily achieved one of its results, namely the preparation of a national action

program. The objective of Sierra Leone's national action program is to combat desertification and land degradation. The program is set within the overall vision of Sierra Leone's longer-term development agenda articulated in *Vision 2025*. This is based on the desire to create a better future for Sierra Leone a future that is characterized by a virtuous circle of peace, stability, and wealth creation, in place of the vicious circle of poverty and underdevelopment. Therefore, the objective of the national action program is to achieve sustainable development by creating long-term strategies that focus on improved productivity of land and sustainable land management practices that will lead to improved living conditions.

Core areas of intervention proposed in the national action program, the implementation of which is expected to contribute to achievement of global environment benefits in the land degradation area, include forestry and wildlife management, livestock and range management, mining, agriculture, gender and land degradation, waste management, and environmental health.

Other planned results of the project were not achieved and received the following ratings:

- **Outcome 2.** The medium-term investment plan is approved and funded (highly unsatisfactory).
- **Outcome 3.** Sustainable land management is mainstreamed into policies, laws, programs, budgets and regulatory frameworks (unsatisfactory).
- **Outcome 4.** Capacity building for participatory sustainable land management practices in Sierra Leone (moderately unsatisfactory).[1]

## 4.4 Persistent Organic Pollutants)

The GEF project Enabling Activities to Facilitate Early Action on the Implementation of the Stockholm Convention on POPs in Sierra Leone, was implemented by UNIDO between 2003 and 2009. As a result of GEF support, Sierra Leone completed its national implementation plan. However, five years after its development, no follow-up activities have been undertaken except for the recent designation of a focal point for relevant activities in the Environmental Protection Agency.

### ENABLING ACTIVITIES

GEF supported Sierra Leone by funding the aforementioned national enabling activity under POPs implemented by UNIDO. The project resulted in a national inventory that identified and quantified the production, trade, storage, use, or unintentional emission of POPs; an assessment of the current legal, institutional, and technical capacity in the management and monitoring of POPs; an assessment of the socioeconomic implications of POPs use and reduction, and awareness of POP-related risks amongst stakeholders; identification from preliminary inventories and assessments, the actions to be taken by Sierra Leone as a matter of priority; and preparation of the national implementation plan.

Through the national implementation plan, an action plan was developed to reduce or eliminate the chemicals in annexes A and B of the Stockholm Convention. Since Sierra Leone does not produce POPs, the strategies developed focus on: control of importation and use, raising awareness of decision makers and users, and equipping the institutions involved with means of identification and intervention. Priority activities include strengthening the legal and institutional framework for management of POPs, and other agricultural and industrial chemicals; facility development for disposal of polychlorinated biphenyls; establishment of coordinating mechanisms for the management of POPs; establishment of better environmental practices to manage POPs pesticides; and creation of public information, awareness raising, and education tools and mechanisms for POPs.

[1] See ROtI report in volume 2.

## 4.5 International Waters

Activities in the area of marine environment and watershed management are of significant importance to Sierra Leone, given the importance of marine fisheries to the economy and the strong link between terrestrial, coastal, and marine activities and development. GEF support through regional projects has enabled the country to sign regional protocols on protection of the marine and coastal environment, and cooperation in combating pollution in cases of emergency. It has also enabled the government of Sierra Leone to substantially increase surveillance and reduce illegal fishing, creating space for the development of a feasible new long-term policy vision based on more sustainable use of fisheries resources.

The GEF funded Sierra Leone's participation in two regional projects in international waters. The UNDP/UNEP-implemented project Combating Living Resource Depletion and Coastal Area Degradation in the Guinea Current Large Marine Ecosystem through Ecosystem-based Regional Actions (GEF ID 1188), was expected to result in the creation of an ecosystem-wide assessment and management framework for the sustainable use of living and non-living resources in the ecosystem. This would serve to recover depleted fish stocks, restore degraded habitat, and reduce land and ship-based pollution in the ecosystem. Globally, delivery and outcomes in the areas of fisheries and living resources, biodiversity and habitats, and water quality fell short of those anticipated in the project document. However, key outputs in this area—reflecting strong partnerships with the Global Program of Action for the Protection of the Marine Environment from Land-based Activities, FAO, the International Maritime Organization (IMO), UNEP and the Abidjan Convention—include the development of regional fisheries management plans; national plans of action on land-based sources of marine pollution; adoption of the Protocol Concerning Cooperation in the Protection of the Marine and Coastal Environment from Land-Based Sources and Activities; and adoption of the amended regional Protocol concerning Cooperation in Combating Pollution in Cases of Emergency in the Western and Central African Region, and a related regional contingency plan.

The Sierra Leone national action plan benefitted from individual's building capacity by participating in workshops. These workshops were an important foundational step toward the project development goal. Sierra Leone endorsed the ecosystem-based approach to assessment and management of living and other resources of the Guinea Current Large Marine Ecosystem. The main achievement in this area was the endorsement of the regional Sustainable Adaptation Plan of which the country's national action plan is a part.

The World Bank-implemented West Africa Regional Fisheries Program (GEF ID 3558), is expected to sustainably increase the overall wealth generated by the exploitation of the marine fisheries resources of west Africa, and the proportion of that wealth captured by west African countries. Key issues addressed in Sierra Leone were: poor governance of the sector, and weak regulatory and management framework for sustainable fisheries as the sector grows in the aftermath of the war; increasing the country's capacity to prevent illegal foreign fishing vessels; poor benefits from fisheries to the local economy; and strengthening small-scale processing. Progress toward increasing the economic benefits of the region's fisheries has been substantial. The government of Sierra Leone has substantially increased surveillance and reduced illegal fishing, creating space for the development of a new long-term policy vision that could be feasible, based on more sustainable exploitation of resources. At the regional level, the subregional fisheries commission has begun reviewing the monitoring and data collection systems for fisheries in each of the participating countries, to help them establish a national 'dashboard' of key fisheries information (e.g., fishing licenses and revenues). Information will be aggregated into a regional dashboard that will serve as a knowledge portal for the region's fisheries.

# 5. Relevance of GEF Support

The relevance of GEF support concerns the extent to which support has helped Sierra Leone meet its commitments under international agreements and conventions concerning the global environment, while assisting in national environmental management, according to the policies and laws of the country. Since most international agreements relate to the major focal areas supported by the GEF, relevance is most readily addressed within this framework.

## 5.1 Relevance to the Country's Sustainable Development Agenda and Needs

The portfolio of GEF projects is highly relevant to the country's development agenda. In the second PRSP, *An Agenda for Change* (Republic of Sierra Leone 2008a), management of natural resources is one of the strategic principles identified. It states that the multi-sectoral nature of environmental issues creates the need to develop and implement strategies that address environment at the national level, and to mainstream them into implementation. In order to ensure environmental sustainability, as outlined in Millennium Development Goal (MDG) 7, Sierra Leone will take steps to address

- integrating the principles of sustainable development into country policies and programs, and reverse the loss of environmental resources,
- significantly reducing biodiversity loss and the rate of loss by 2010,
- halving the proportion of the population without sustainable access to safe drinking water and basic sanitation by 2015.

The *Agenda for Change* also states that, while there is an urgent need to conserve the remaining natural rainforests, the government will also explore possibilities for investment in sustainable financing mechanisms, for example through carbon markets and trading schemes under current and future climate change protocols, as well as by signing up to future programs to reduce emissions from deforestation and forest degradation (REDD).

Pillar 2 of the more recent *Agenda for Prosperity* (Government of Sierra Leone 2013) concerns managing natural resources. Important strategy issues specific to individual sectors important to environment and disaster management include:

- **Water resource management.** Policy will develop water resources, ensuring water is used in an integrated manner, addressing human needs, ecosystems, and conservation to respond sustainably to the needs of society and the economy.
- **Land management.** Strategies for land management include a legal framework for land ownership, developing land-use planning, creating sustainable infrastructure for social improvement and economic growth, and training farmers in sustainable land and water practices.
- **Forests.** Sustainable management will meet the widely different objectives of forest conservation,

watershed regulation, traditional exploitation, economic development and job creation, ecotourism, biodiversity, and climate change.

As indicated earlier, GEF enabling activities have laid the foundations for follow-up activities in biodiversity and climate change. GEF funding of enabling activities have also been very relevant in allowing Sierra Leone to fulfill its international obligations by preparing the first and second national communications to the UNFCCC, as well as preparation of the NBSAP, the national implementation plan, and the National Adaptation of Programme Action. Importantly, GEF-supported enabling activities have provided important information for the development of a green growth strategy (AfDB 2013), which will allow the country to follow a carbon efficient sustainable development path.

GEF support in the area of climate change has been highly relevant in allowing the country to address issues on adaptation and mitigation of climate change, including development of adaptive agricultural production systems. Water and sanitation projects currently being designed are highly relevant as the water sector is one of the three top priority sectors in the National Adaptation of Programme Action. Ensuring sustainable water supplies remains a major challenge to national development and is one of the major national priorities. GEF support is likely to address several climate-related challenges that place significant constraints on sustainable water supplies in both Freetown and rural areas. However, although sufficient water is available in the rainy season, during prolonged dry spells, water shortages are common. Other climate-related risks include water sources being tapped unsustainable, water being mined beyond long-term capacities, and water infrastructure developments that are planned without taking climate resilience into account.

GEF support in the area of land degradation coincided well with local needs, as it addressed one of most pressing constraints in agriculture namely, soil fertility and land degradation issues. However, the government's small investment in the area shows it does not appear to be of high priority in the development agenda for agriculture. For example, annual public agricultural expenditure (of which expenditure on sustainable land management is a small proportion) as a percent of total public expenditure, ranged between 1.5 and 2 percent since 1990, and was estimated at 1.7 percent in 2010.[1]

GEF support in the area of biodiversity, through one enabling activity and two subsequent FSPs, has been very relevant and consistent with the government's sectoral policies, and regulatory and institutional frameworks that deal with natural resources management (including forestry, wildlife, minerals, and fisheries); protected area system management; and biodiversity conservation. They implement provisions of the Wildlife Conservation Act (1972), the Forestry Act (1988), and the Environmental Protection Act (2008) that make provisions for the effective protection of the national environment, and the institutional and administrative structure for its implementation. They also implement proposals made in the NBSAP that identify a broad range of cross-sectoral needs to ensure effective conservation of biodiversity, including policy planning and legislation, capacity building, public participation, monitoring and evaluation (M&E), incentives, research and training, public education and awareness, access to technology and information, benefit sharing, indigenous knowledge, and financial resources.

## 5.2 Relevance to the Achievement of GEBs

Although Sierra Leone is a small country and, therefore, a relatively minor player in contributing to the achievement of global environment benefits,

[1] Regional Strategic Analysis and Knowledge Support System website, http://www.resakss.org/region/sierra-leone/caadp-targets, accessed May 14, 2014.

all GEF-funded projects make a contribution, however small. They are therefore highly relevant to achievement of global environment benefits.

## CLIMATE CHANGE

Based on the identified mitigation and adaptation measures in national communications, a strategy has been developed for the future implementation of the UNFCCC in Sierra Leone. The National Adaptation of Programme Action will enable Sierra Leone to develop simplified and direct channels of communication for information relating to the urgent and immediate adaptation needs arising from disasters caused by climate change and extreme weather events. Specifically, the document aims at identifying a list of priority activities, formulating priority adaptation options, building capacity for adapting to longer-term climate change and variability, and raising public awareness on the urgency to adapt to the adverse effects of extreme weather events.

Though Sierra Leone emissions are negligible, in a bid to significantly contribute toward the reduction of sources and potential sources of GHG emissions, and to enhancing carbon sinks, the country is undertaking appropriate mitigation actions as indicated in its response to the Copenhagen Accord in 2010. Such actions include[2]

- establishment of the National Secretariat for Climate Change,
- institutional strengthening and capacity building for environmental protection and management, and mitigation and adaptation efforts to climate change,
- increasing conservation efforts in Sierra Leone through: the establishment of a network of twelve protected areas by 2015; sustainable management and protection of forest reserves and catchment areas in Sierra Leone, including mangroves, coastal and inland wetlands; delineation and restoration of vulnerable habitats and ecosystems in the western area of Sierra Leone; and support for a national assessment on forest resources,
- improving forest governance to maintain the proportion of land area covered by forests by at least 3.4 million ha by 2015, through the development of legislation, regulations and by-laws for environmental protection, including control of deforestation; firewood collection and charcoal production; and through capacity building, training, and support to law enforcement services and the Ministry of Agriculture (Forestry Department),
- setting/developing air, water, and soil quality pollution standards, and ensure regular assessments and monitoring through control programs,
- introducing conservation farming and promoting the use of other sustainable agricultural practices, e.g., agro forestry, etc.,
- developing an integrated natural resources and environmental management program for Sierra Leone, including sustainable land management programs, particularly in relation to ecosystems,
- expanding the use of clean energy (e.g., solar, mini-hydropower, liquefied petroleum gas, biomass stoves, etc.),
- developing energy efficiency programs through sensitization and awareness raising campaigns, developing sustainable production of charcoal, and reducing dependence on firewood,
- developing alternative energy sources such as biofuels from sugarcane, corn, rice husk, etc.,
- developing agricultural and urban waste incineration programs for energy production,

[2] United Nations Framework Convention on Climate Change website, https://unfccc.int/files/meetings/cop_15/copenhagen_accord/application/pdf/sierraleonecphaccord_app2.pdf, accessed May 14, 2014.

- improving waste management through composting and recycling of waste,
- developing and enforcing regulations on the regular maintenance of vehicles,
- improving the use of mass transport (e.g., road and water) for passengers and cargo to reduce traffic congestion and GHG emissions.

In a number of areas, there has been much progress. For example, the National Secretariat for Climate Change was established in 2012, and there are a number of ongoing projects funded by the GEF, as indicated in other sections of this report.

The IFAD-implemented FSP is relevant and will enable the country to contribute significant environmental co-benefits (over and above the adaptation to climate change). Principally it is reducing the practice of slash and burn agriculture in uplands (protecting the biodiversity of forests as carbon stores, reducing erosion on burned land, and protecting soil carbon), and raising awareness and protection of biodiversity in inland valley swamps.

The UNIDO-implemented FSP is also relevant and GEF support is expected to directly result in an annual reduction of 34.9 kilo-tonnes of $CO_2$. The cumulative direct GHG emission reductions achieved would be 499.51 kilotonnes $CO_2$ assuming a 15-year lifetime for the sustainable hydropower demonstration project in Moyamba, and 848.5 kilotonnes of $CO_2$ considering a 25-year lifetime. An additional indirect reduction of 770.7 kilotonnes of $CO_2$ over 15 years is projected through additional hydropower investments influenced by the project.

## BIODIVERSITY

The World Bank-implemented biodiversity conservation projects are also very relevant to the achievement of global environment benefits. They are making valuable contributions to increasing the number, size, and integrity of a variety of global ecosystems by delineating representative samples of ecological areas and declaring them as legally protected, including five of the eight nationally important biodiversity sites identified in the NBSAP. They will be partially or entirely removed from production and any other form of land use that may have an adverse impact on the objectives for which they are set aside. GEF support to management and improvement of three terrestrial and two wetland ecosystem areas is relevant to the global environment benefits of conservation of globally significant biodiversity, and sustainable use of the components of globally significant biodiversity.

## LAND DEGRADATION

The UNDP-implemented MSP is relevant to the achievement of global environment benefits for improved sustainability of agricultural lands, and restoration of extremely degraded wooded savannahs back to a closed canopy forest. However, as reported in section 4.3 and volume 2, the intervention did not achieve most of its expected results in terms of outputs and outcome. Consequently, it made a limited contribution to the achievement of global environment benefits in land degradation.

## INTERNATIONAL WATERS

Regional projects in which Sierra Leone has participated are relevant to achievements of global environment benefits in international waters. GEF support has been relevant to the achievement of the global environment benefits on assessment, management, and sustainable use of living and nonliving resources in the Guinea Current Large Marine Ecosystem (Sierra Leone is one of the 16 countries in the ecosystem), and protection of the globally significant fish habitats and fish stocks in the Canary Current Large Marine Ecosystem. These are two of the 64 large marine ecosystems that have been delineated globally and are defined by their distinctive bathymetry, hydrography, chemistry, and trophodynamics.

# 6. Efficiency of GEF Support

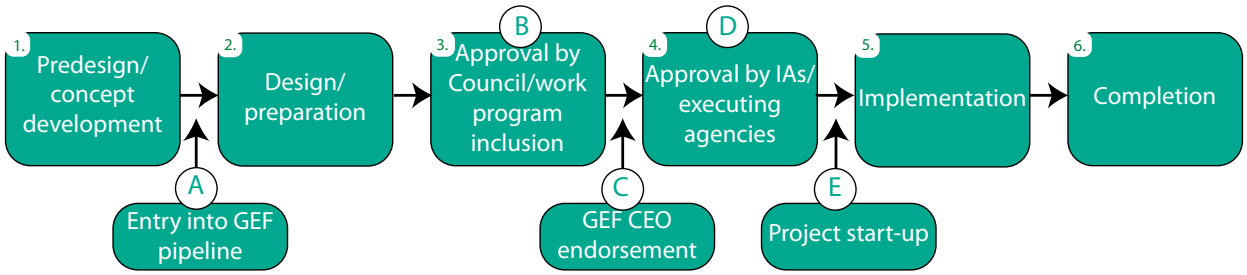
The efficiency of the overall support provided through GEF-financed activities depends on many factors, including the GEF activity cycle; GEF agency systems; government, ministry and national agency procedures; and the role of other stakeholders. The GEF operates as a partnership institution. Taking this and other factors into consideration, it can be anticipated that the overall path of a GEF project will be long and that there may be considerable variation among projects. These aspects are explored in this chapter.

## 6.1 The GEF Project Cycle

The GEF project cycle has evolved over the years. Following the *Joint Evaluation of the GEF Activity Cycle and Modalities* (GEF Independent Evaluation Office 2006), the GEF project cycle was revised in 2007 (at the beginning of GEF-4) and processing time frame limits were adjusted. For example, a limit of 22 months for project development was imposed during GEF-4 that was further reduced to 18 months for GEF-5. Figure 6.1 provides a summary overview of the project cycle before 2007. Figures 6.2 and 6.3 give an overview of the current project cycle, presented separately for MSPs and FSPs, as the project cycle varies slightly for each of these modalities.

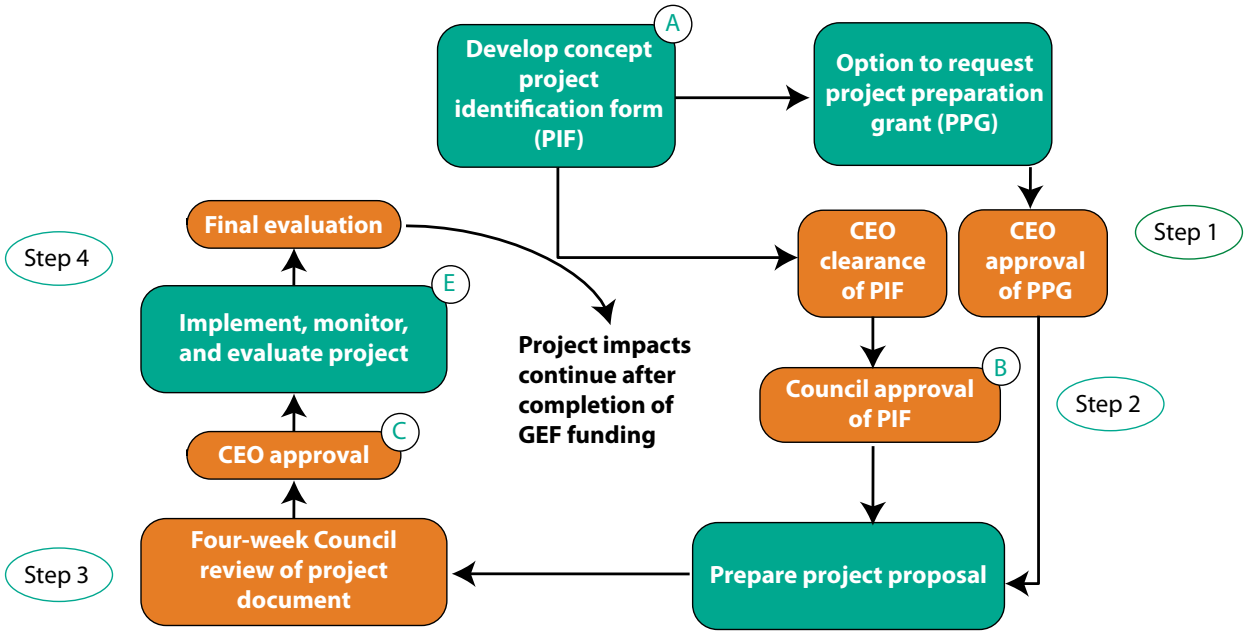
The portfolio of GEF-supported projects in Sierra Leone has been implemented over the three cycles. In all three, most steps are taken before a project starts. An important element is the design and preparation stage. The option to obtain GEF funds to assist in this process, which may include original research and extensive consultation processes to build stakeholder understanding and ownership, has always been available. Projects that have received GEF assistance during this stage (formerly a project development facility, now a project preparation grant) may therefore show a long duration in moving from stage A to stage B (or steps 1 to 3). This does not in itself reflect inefficiency, but a thorough preparatory and consultative process.

FIGURE 6.1 **GEF Project Cycle prior to 2007 Revision**



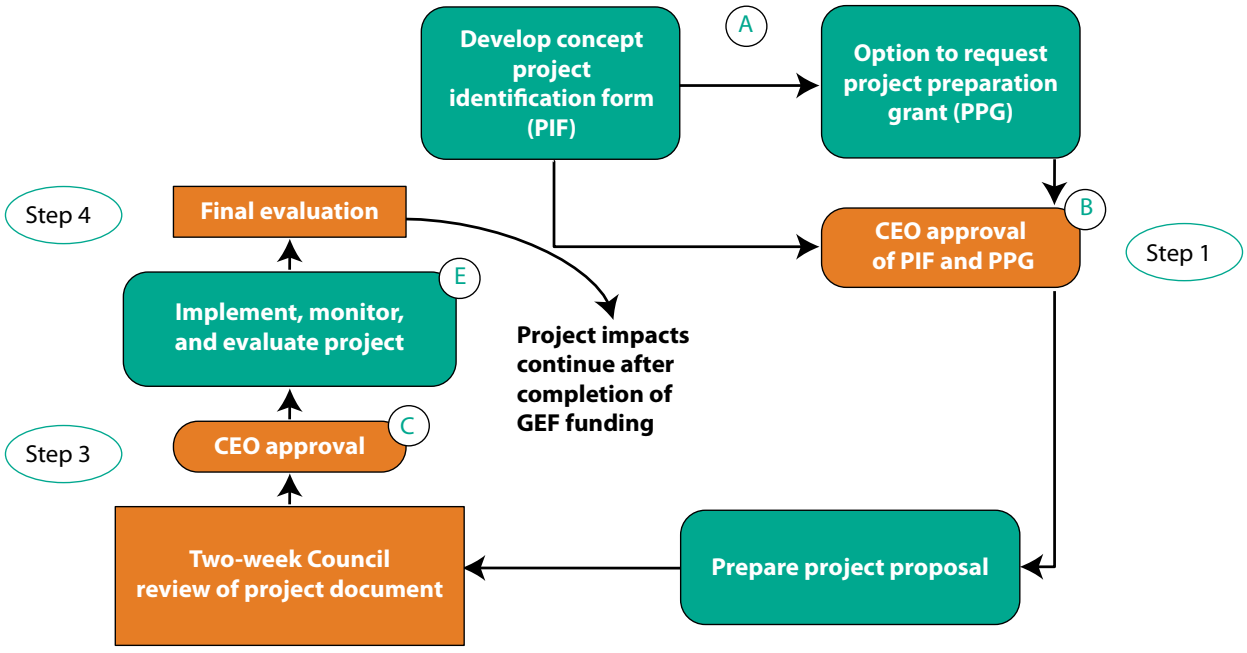

NOTE: CEO = Chief Executive Officer; IA = Implementing Agency.

FIGURE 6.2 **GEF Current Full-Size Project Cycle**




NOTE: CEO = Chief Executive Officer.

FIGURE 6.3 **GEF Current Medium-Size Project Cycle**




NOTE: CEO = Chief Executive Officer.

However, other problems at this stage of the cycle include the availability of funds within a given GEF replenishment phase, either overall or for specific focal areas. The efficiency of the activity cycle cannot be assessed simply by comparing the duration of stages across projects. This measure is mainly informative when projects and other elements of the system are compared across similar activities in similar situations.

Table 6.1 shows the project cycle times for the Sierra Leone portfolio. Enabling activities and one MSP were prepared before 2007 under the project cycles GEF-1 (1995–98) to GEF-3 (2003–06). It is important to take into consideration disruption caused by the civil war between 1992 and 2002. GEF started work in Sierra Leone in 1996, with the project to support preparation of the First National Communications to the UNFCCC. However, the project could not become effective or start implementation until the end of the civil war, meaning a long project cycle time was recorded for this enabling activity. Other GEF enabling activities and an MSP were prepared between 2001 and 2008 (i.e., after the civil war ended), and have a shorter duration—all except one being under the 22 months limit later imposed for GEF-4. For the GEF, as for all other donors active in Sierra Leone, the general slowness of project cycle times relates to the post-civil war situation; the country's fragility; and its efforts to reconstruct, among other factors.

TABLE 6.1 **Duration of the Activity Cycle for National Projects (Days)**

| Project | A→B | B→C | C→D | D→E | A→C | A→E |
|---|---|---|---|---|---|---|
| **Enabling activities** | | | | | | |
| Enabling Sierra Leone to Prepare Its First National Communication in Response to Its Commitments to UNFCCC | n.a. | n.a. | 2,036 | 0 | 14 | 2,050 |
| National Biodiversity Strategy and Action Plan and Country Report to the COP | n.a. | n.a. | 170 | 0 | 42 | 212 |
| National Capacity Self-Assessment (NCSA) for Global Environmental Management | n.a. | n.a. | 96 | 0 | 47 | 143 |
| Preparation of a National Programme of Action for Adaptation to Climate Change | n.a. | n.a. | 542 | 0 | 17 | 559 |
| Enabling Activities to Facilitate Early Action on the Implementation of the Stockholm Convention on POPs in Sierra Leone | n.a. | n.a. | 83 | 8 | 677 | 768 |
| Average, enabling activities | n.a. | n.a. | 585 | 2 | 159 | 746 |
| **MSP** | | | | | | |
| LDC/SIDS Portfolio Project: Capacity Building for Sustainable Land Management in Sierra Leone | — | — | — | — | — | 245 |
| **FSPs** | | | | | | |
| Biodiversity Conservation Project | 293 | 1,198 | — | — | 1,491 | 1,688 |
| Integrating Adaptation to Climate Change into Agricultural Production and Food Security in Sierra Leone | 84 | 813 | 45 | 413 | 897 | 1,355 |
| SPWA-CC Promoting Mini Grids Based on Small Hydropower for Productive Uses in Sierra Leone | 83 | 974 | — | 119 | 1,057 | 1070 |
| SPWA-BD Wetlands Conservation Project | 183 | 316 | — | — | 499 | 624 |
| Average, FSPs | 149 | 728 | 45 | 266 | 867 | 1,184 |
| Overall average | 149 | 728 | 495 | 77 | 546 | 899 |

NOTE: — = not available; n.a. = not applicable. See figure 6.1 for stages of the GEF project cycle A–E.

The FSPs under implementation were designed under GEF-4 and GEF-5. The data in tables 6.1 and 6.2 show that project cycle times were significantly longer than the GEF established limit of 22 months under GEF-4 and 18 months under GEF-5.

Although six GEF-implementing agencies are implementing projects in Sierra Leone, the largest part of the national portfolio has been implemented through UNDP, which implemented all but one of the enabling activities. All GEF agencies have experienced delays in the project cycles. The main causes of the delays being

- difficulties in collecting background data for stakeholder analysis for project design. The poor state of agricultural statistics in the country means it is often necessary to do some primary data collection involving gathering of environmental and socioeconomic data from local communities which is a time consuming process,
- delays in recruiting staff for project designs, as well as project implementation, a feature of the procurement processes of the agencies, e.g., minimum duration for local or international advertisements, the time to get no-objections from headquarters staff, etc.,
- difficulties in identifying suitably qualified local staff, often requiring the use of international consultants whose recruitment usually causes long delays.

As shown in table 6.2, UNDP has the lowest average project cycle average. Of the six GEF implementing agencies, it is the only one with professional staff based in the country office who can manage the GEF portfolio. Other agencies have task managers who are located at headquarters and therefore experience longer communication delays. The latest FSP, the World Bank Wetlands Project, became effective in 624 days showing that GEF Agencies and national authorities are becoming more efficient in preparing GEF-supported projects, which is a desirable trend.

## 6.2 Distribution of Project Costs

Table 6.3 presents the distribution of the costs of effective the GEF-funded projects. Project preparation grant/project development facility costs account for 1.8 percent of GEF funds for enabling activities and 3.7 percent for FSPs, which are reasonable. For FSPs, significant cofinancing was leveraged (84 percent of total project costs), implying that grants have been effectively used to achieve one of the aims of GEF support to national projects. Project management costs amount to 5 percent of GEF funding on average, which is within accepted GEF limits. However, the three enabling activities where project management costs were stated separately had an average 28.1 percent.

TABLE 6.2 **Duration of the Activity Cycle for GEF-Supported National Projects by GEF Agency (Days)**

| GEF Agency | Number of projects | A→B | B→C | C→D | D→E | A→C | A→E |
|---|---|---|---|---|---|---|---|
| AfDB | 1 | 107 | — | — | — | — | — |
| IFAD | 1 | 84 | 813 | 45 | 413 | 897 | 1,355 |
| UNDP | 7 | 148 | 534 | 916 | 0 | 267 | 767 |
| UNEP | 1 | n.a. | n.a. | 96 | 0 | 47 | 143 |
| UNIDO | 2 | 83 | 974 | 83 | 64 | 867 | 919 |
| World Bank | 2 | 238 | 757 | | | 995 | 1,156 |

NOTE: — = not available; n.a. = not applicable; AfDB = African Development Bank. See figure 6.1 for stages of the GEF project cycle A–E. Global project (GEF ID 4498) has not been included in this analysis.

TABLE 6.3 **Distribution of Costs of National Projects**

| | EA | FSP | MSP | Total |
|---|---|---|---|---|
| GEF project grant ($) | 1,370,500 | 24,316,164 | 475,000 | 26,161,664 |
| PDF/PPG GEF amount ($) | 25,000 | 930,000 | 25,000 | 980,000 |
| Total GEF amount ($)[a] | 1,395,500 | 24,896,164 | 500,000 | 27,141,664 |
| Cofinancing ($) | 36,000 | 129,060,378 | 442,000 | 129,538,378 |
| Total project cost ($) | 1,431,500 | 153,956,542 | 1,203,000 | 156,680,042 |
| Total project management cost ($) | 324,900[b] | 7,758,600 | 102,500 | 8,034,500 |
| PDF/PPG as % of total GEF funding | 1.79 | 3.68 | 5.00 | 3.61 |
| PDF/PPG as % of total project cost | 1.75 | 0.60 | 2.65 | 0.63 |
| Total project management cost as % of total project cost[c] | 28.09[b] | 5.04 | 8.52 | 5.24 |

NOTE: EA = enabling activity; PDF/PPG = project development facility/project preparation grant.
a. GEF grant + PDF/PPG.
b. Project management costs were only stated for 4 of the 5 EAs.
c. Project Management Cost: Operational Guidance Note 1.1 (2011) states PMCs should not exceed 5% for grants of US$2 m and over and 10% for US$2 m and under.

## 6.3 Partnership, Collaboration and Synergies

The Environmental Protection Agency is the immediate counterpart for GEF-funded activities, and is where the political and operational focal points are located. Previously, responsibility was with the Ministry of Lands, Country Planning, and Environment that was established as the main body to implement environmental policy, including the sustainable management of land resources in Sierra Leone. The other important partner, particularly for biodiversity issues, is the Ministry of Agriculture, Forestry, and Food Security. Within the ministry, the Forestry Division is charged with the implementation of most environmental activities (including conservation and wildlife management), and the Land and Water Development Department is mandated to create an enabling environment for increased food production through sustainable development, and utilization of land and water resources. They are both particularly important.

Most GEF projects have required cross-ministerial collaboration and coordination as climate change, land degradation, and biodiversity are cross-cutting issues. It was common for projects to obtain support across ministries and agencies through a broad participatory process using cross-sectoral steering committees and working groups.

Enabling activities were implemented by a management team that maintained strong linkages with all relevant stakeholders through committees and workshops. There were little or no formal linkages with civil society organizations or private sector organizations, but there were full and effective consultations with all relevant local stakeholders

Projects generally coordinated and synergized with all necessary actors including the university and ministerial departments and agencies. There was also some interaction with other donor projects in the same focal area, particularly in biodiversity.

All MSPs and FSPs are implemented by dedicated project management units that report to project steering committees where relevant government agencies and other stakeholders are represented. For example, the National Project Coordinating Unit of the IFAD-implemented project is responsible for overall planning, coordination, supervision, and monitoring, while most activities in the field will be carried out by implementing

partners (contractors, NGOs, community-based organizations, and government agencies) on the basis of performance-based contracts and memorandums of understanding.

The nature of the FSPs that are carrying out activities in local communities, require more effective collaboration mechanisms at local levels than enabling activities. GEF projects have strong arrangements for interaction with local communities. Local site management teams have been set up for co-management between the project management units and local authorities in all the projects. For example, the Sustainable Land Management Project contracted two local NGOs (Pasantigi Conte Farmers' Association Community and Green Scenery) to manage its pilot sites. Local management committees were also established for each site, consisting of local stakeholders such as chiefdom and village council members, representatives of beneficiaries, etc. This was done for each sustainable land management site (called local steering committee); World Bank biodiversity conservation and wetlands projects sites (called conservation site management committees that include a number of different agencies including relevant line ministries and district councils, traditional authorities, NGOs and community-based organizations, and local communities); and for the IFAD sustainable agriculture project sites (called village development committees through which community management plans are developed); among others.

The projects have no formal links with private sector organizations, nor can project activities count on private sector involvement in supporting conservation site management, financing, or other environmental management activities. However, there are full and effective consultations with all relevant private sector institutions, and efforts are made to sensitize them to the effect of their activities on biodiversity conservation and land degradation. For future biodiversity projects, it seems feasible to attract private sector participation, e.g., in the area of ecotourism support and processing and marketing of high value agricultural crops, as long as market alternatives are available. For example, intercropped cashew plantations or small-scale pineapple production with a secured market outlet could increase smallholders' income and reduce pressure on natural resources in the protected areas. Furthermore, it is expected that mining companies operating close to protected areas could be interested in coming to an agreement that would include financial support for conservation site management to offset the costs of the environmental damages caused by their activities.

Gender issues are not explicitly addressed in the portfolio but implementation activities are usually gender neutral, and alternative livelihood activities usually include women's activities. For example, in the IFAD/LDCF project, participatory M&E involves women-only focus groups to ascertain the extent of women's participation in program activities, the constraints they face, the benefits they gained, the aspirations met, the impact on women's status in the family, their involvement in community affairs, and the climate-proofing of their agriculture. On UNDP sustainable land management sites, women participated in composting for vegetable gardening and this is expected to partially compensate for the negative impact on the income of both men and women from reduced charcoal burning production.

There are strong synergies and projects that generally maintain strong linkages with other similar projects, and are often embedded in ongoing activities of the implementing agency in a synergistic manner that facilitates access to cofinancing sources. For example, management of the GEF-financed component of the IFAD project Integrating Adaptation to Climate Change into Agricultural Production and Food Security, which became effective in 2011, is embedded in the Rehabilitation and Community-based Poverty Reduction Project that became effective in 2006. It has also been recommended that the joint national project

coordinating unit lead and coordinate related climate change activities being conducted by other agencies (UNDP, FAO, the Environmental Protection Agency, and the meteorological department) to avoid duplicating efforts and expenses.

Another example of project synergies is the World Bank Biodiversity Conservation Project that is directly linked to the Bumbuna Hydroelectric Offset Project in Loma Mountains National Park. The latter was supported by the World Bank before effective operations of the Biodiversity Conservation Project began in June 2011. Regular coordination meetings were organized throughout the implementation phase, with the objective to avoid duplication and harmonize activities, agree on budgets, and facilitate the continuation of recurrent or pending activities after the end of the Bumbuna Project. The components and key activities of the GEF-funded Wetlands Conservation Project, which began operations in May 2013, are similar to the Biodiversity Conservation Project and is being managed by the same project management unit who can build on their experience and subsequently promote best practices in other conservation site areas of the country, including inland wetlands and the coastal areas of biodiversity interest.

## 6.4 Monitoring and Evaluation

In terms of Sierra Leone's GEF portfolio as a whole, M&E have played a limited role. Agencies manage their projects on the basis of monitoring data, most of which concerns progress against input and output targets, with some consideration of progress toward outcomes. Terminal evaluations are not required for enabling activities and, since all the FSPs in Sierra Leone are currently under evaluation, the only terminal evaluation report available is for the UNDP-implemented MSP on sustainable land management. Therefore, only the appropriateness of the designs of M&E systems and the budgetary provisions for medium- and full-size projects are discussed in the rest of this section.

In general, M&E designs for projects are satisfactory. Project documents outline a set of objectively verifiable indicators for all expected outcomes and baseline information on the status of indicators at project inception. The M&E systems include participatory elements to ensure that local communities (including project beneficiaries) and partners are involved in the process. In biodiversity projects, the GEF biodiversity tracking tool is being used to measure the achievement of the project objectives.

Adequate budgetary provisions have been made for project management, which includes M&E, in all GEF projects and allocations are within the established guidelines for GEF-4 and GEF-5 (see table 6.3).

The quality of M&E system implementation so far is satisfactory. Project coordinators are carrying out their responsibilities for the day-to-day monitoring of implementation progress based on the logframe indicators, and project annual work plans and milestones. The review of project documentation by the consultant confirmed that all GEF Agencies undertake periodic monitoring of implementation progress through quarterly meetings with the project management teams and external supervision missions. Midterm evaluations are undertaken (with the exception of the sole MSP in the portfolio) to systematically determine any midcourse corrections needed.

## 6.5 Country Ownership

The GEF operational focal point has provided continuous support to the portfolio development process and had a major effect on the allocation of GEF funding, both when located previously in the Ministry of Lands, Country Planning, and Environment, and now in the Environmental Protection Agency. Acting on behalf of the Environmental Protection Agency, the GEF operational focal point influences decisions as to which focal areas and institutions receive GEF allocations. Funds are directed to areas of national priority. For example,

most of Sierra Leone's GEF allocation has been directed to the energy and water sectors (climate change focal area), the areas of highest priority in the country's PRSP II and III. According to the GEF operational focal point, funding of such renewable energy and climate resilient water systems projects will improve the level of deforestation in the country and reduce GHG emission levels.[1] The GEF operational focal point has tried to stimulate projects from relevant local agencies and explained that underfunding of the land degradation focal area reflects the lack of responsiveness of the relevant ministries compared to those in the energy and water resources ministries.

Once initiated, the GEF operational focal point has little influence or role in the project cycle. The GEF portfolio was designed by the GEF Agencies in response to stated national priorities. Although the government and other stakeholders have committed to activities at various stages of design and implementation, they have not led the project design and implementation process, except in the case of the enabling activities for the National Communications to the UNFCCC in which they were heavily involved in the preparation and drafting of key enabling activity reports. A high degree of partnership exists between the GEF Agencies and national partners, even when there are no program officers in country offices.

[1] UNIDO SPWA-CC, Promoting Mini-Grids Based on Small Hydropower for Productive Uses in Sierra Leone; UNDP, Energy Efficient Production and Utilization of Charcoal through innovative Technologies and Private Sector Involvement (GEF ID 4840); UNDP, Building Adaptive Capacity to Catalyze Active Public and Private Sector Participation to Manage the Exposure and Sensitivity of Water Supply Services to Climate Change in Sierra Leone (GEF ID 4599); AfDB, Building Resilience to Climate Change in the Water and Sanitation Sector (GEF ID 5209).

# Annex A: Standard Terms of Reference for GEF Country Portfolio Studies

## A.1 Background

Country portfolio evaluations (CPEs) are one of the main evaluation streams of work of the GEF Independent Evaluation Office.[1] By capturing aggregate portfolio results and performance of the GEF at the country-level they provide useful information for both the GEF Council and the countries. CPEs relevance and utility will increase in GEF-5 with the increased emphasis on country ownership and portfolio development at the country level.

This document updates the 2006 standard terms of reference (ToRs) for CPEs. The way CPEs are conducted will remain consistent throughout GEF-5, so at the end of the phase, there is an opportunity to compare across countries. Nevertheless, each of these evaluations will include particular questions relevant to other evaluations under implementation in the GEF Independent Evaluation Office at the time of the evaluation and other questions specifically relevant to the country under review. As during GEF, CPEs will be fully and independently conducted by the GEF Independent Evaluation Office, and when possible in partnership with other evaluation offices of GEF Agencies, and governments or nongovernmental sectors. Country-specific ToRs for each CPE will be prepared, based on the standard ones described in this document, at the time it is conducted.

[1] Countries having undergone CPEs during GEF-4 are: Costa Rica, Samoa, the Philippines, Benin, Cameroon, Madagascar, South Africa, Egypt, Syria, Turkey and Moldova.

## A.2 Objectives

The purpose of GEF CPEs is to provide the GEF Council with an assessment of how GEF projects are implemented at the country-level, a report on results from projects and assess how these projects are linked to national environmental and sustainable development agendas as well as to the GEF mandate of generating global environmental benefits within its focal areas. These evaluations will have the following objectives:

- Independently evaluate the *relevance* and *efficiency*[2] of the GEF support in a country from several points of view: national environmental frameworks and decision-making processes; the GEF mandate and the achievement of global environmental benefits; and GEF policies and procedures;
- Assess the *effectiveness* and *results*[3] of completed projects aggregated at the focal area;

[2] *Relevance:* the extent to which the objectives of the GEF activity are consistent with beneficiaries' requirements, country needs, global priorities and partners' and donors' policies; *efficiency:* a measure of how economically resources/inputs (funds, expertise, time, etc.) are converted to results.

[3] *Results:* the output, outcome or impact (intended or unintended, positive and/or negative) of a GEF activity; *effectiveness:* the extent to which the GEF activity's objectives were achieved, or are expected to be achieved, taking into account their relative importance.

- Provide additional evaluative evidence to other evaluations conducted or sponsored by the Office; and
- Provide **feedback** and **knowledge** sharing to: (1) the GEF Council in its decision-making process to allocate resources and to develop policies and strategies; (2) the country on its participation in, or collaboration with the GEF; and (3) the different agencies and organizations involved in the preparation and implementation of GEF-funded projects and activities.

Furthermore, these evaluations are conducted to bring to the attention of Council different experiences and lessons on how the GEF is implemented at the national level from a wide variety of countries. CPEs do not aim to evaluate the performance of GEF Agencies, national entities (agencies/departments, national governments or involved civil society organizations), or individual projects.

## A.3 Key Evaluation Questions

GEF CPEs are guided by a set of key questions that should be answered based on the quantitative and qualitative analysis of the evaluative information and perceptions collected during the evaluation exercise. These questions are:

### Effectiveness, results, and sustainability

- Is GEF support effective in producing results at the project level?
- Is GEF support effective in producing results at the aggregate level (portfolio and program) by focal area?
- Is GEF support effective in producing results at the country level?
- Is GEF support effective in producing results related to the dissemination of lessons learned in GEF projects and with partners?
- Is GEF support effective in producing results which last in time and continue after project completion?

### Relevance

- Is GEF support relevant to the national sustainability development agenda and environmental priorities?
- Is GEF support relevant to the country development needs and challenges?
- Is GEF support relevant to national GEF focal area action plans?
- Is the GEF support in the country relevant to the objectives linked to the different Global Environmental Benefits (GEBs) in biodiversity, greenhouse gases, international waters, land degradation, and chemicals focal areas?
- Are the GEF and its Agencies supporting environmental and sustainable development prioritization, country ownership and decision-making process of the country?
- Is the country supporting the GEF mandate and focal areas programs and strategies with its own resources and/or with the support from other donors?

### Efficiency

- How much time, effort and financial resources does it take to formulate and implement projects, by type of GEF support modality?
- What are the roles, types of engagement and coordination among different stakeholders in project implementation?
- Are there synergies among GEF Agencies in GEF programming and implementation?
- Are there synergies between national institutions for GEF support in programming and implementation?
- Are there synergies between GEF support and other donors' support?
- What role does monitoring and evaluation (M&E) play in increasing project adaptive management and overall efficiency?

Each of these questions is complemented by indicators, potential sources of information and methods in an evaluation matrix.

## A.4 Scope and Limitations

CPEs will cover all types of GEF supported activities in the country at different stages of the project cycle (pipeline, ongoing and completed) and implemented by all GEF Agencies in all focal areas, including applicable GEF corporate activities such as the SGP and a selection of regional and global programs that are of special relevance to the country. However, the main focus of the evaluation will be the projects implemented within the country boundaries, i.e., the national projects, be these full-size, medium-size, or enabling activities.[4]

The stage of the project will determine the expected CPE focus (see table A.1).

CPEs are challenging as the GEF does not establish country programs that specify expected achievements through programmatic objectives, indicators, and targets.[5] In general, CPEs entail some degree of retrofitting of frameworks to be able to judge the relevance of the aggregated results of a diverse portfolio of projects. Accordingly, the standard CPE evaluation framework described here will be adapted along with the other relevant national and GEF Agencies' strategies, country programs and/or planning frameworks as a basis for assessing the aggregate results, efficiency and relevance of the GEF country portfolio.

GEF support is provided through partnerships with many institutions operating at many levels, from local to national and international level. It is therefore challenging to consider GEF support separately. The CPE will not attempt to provide a direct attribution of development results to the GEF, but address the contribution of the GEF support to the overall achievements, i.e., to establish a credible link between what GEF supported activities and its implications. The evaluation will address how GEF support has contributed to overall achievements in partnership with others, by questions on roles and coordination, synergies and complementarities and knowledge sharing.

The assessment of results will be focused, where possible, at the level of outcomes and impacts rather than outputs. Project-level results will be measured against the overall expected impact and outcomes from each project. Progress toward impact of a representative sample of mature enough projects (i.e., completed at least since two years) will be looked at through field Reviews of Outcome to Impact (ROtI) studies. Expected impacts at the focal area level will be assessed in the context of GEF objectives and indicators of global environmental benefits. Outcomes at the focal area level will be primarily assessed in

[4] The review of selected regional projects will feed in the aggregate assessment of the national GEF portfolio described above.

[5] Voluntary National Portfolio Formulation Exercises (NPFEs) are being introduced in GEF-5. CPEs that will be conducted in countries having chosen to do an NPFE will use it as a basis for assessing the aggregate results, efficiency and relevance of the GEF country portfolio.

TABLE A.1 **Focus of Evaluation by Project Status**

| Status | Relevance | Efficiency | Effectiveness[a] | Results[a] |
|---|---|---|---|---|
| Completed | Full | Full | Full | Full |
| Ongoing | Full | Partially | Likelihood | Likelihood |
| Pipeline | Expected | Processes | n.a. | n.a. |

NOTE: n.a. = not applicable.
a. On an exploratory basis.

relation to catalytic and replication effects, institutional sustainability and capacity building, and awareness. The inclusion of regional and global projects increases the complexity of this type of evaluations since these projects are developed and approved under different context (i.e., regional or global policies and strategies) than national countries. However, a representative number of regional and global projects will be included based on criteria such as the relevance of the regional project for the country, the implementation unit being located in the country, among others.

The context in which these projects were developed, approved and are being implemented constitutes another focus of the evaluation. This includes a historic assessment of the national sustainable development and environmental policies, strategies and priorities, legal environment in which these policies are implemented and enforced, GEF Agencies country strategies and programs and the GEF policies, principles, programs and strategies.

## A.5 Methodology

CPEs will be conducted by staff of the GEF Independent Evaluation Office and national and international consultants, i.e., the evaluation team, led by a task manager from the Office.[6] The team includes technical expertise on the national environmental and sustainable development strategies, evaluation methodologies, and GEF. The consultants selected must qualify under the GEF Independent Evaluation Office Ethical Guidelines, and are requested to sign a declaration of interest to indicate no recent (last 3–5 years) relationship with GEF support in the country. Operational focal points in the country are asked to act as resource persons in facilitating the CPE process by identifying interviewees and source documents, organizing interviews, meetings, and field visits.

The methodology includes a series of components using a combination of qualitative and quantitative evaluation methods and tools. The expected sources of information include:

- *Project level:* project documents, project implementation reports, terminal evaluations, terminal evaluation reviews, reports from monitoring visits, and any other technical documents produced by projects;
- *Country level:* national sustainable development agendas, environmental priorities and strategies, GEF-wide, focal area strategies and action plans, global and national environmental indicators;
- *Agency level:* country assistance strategies and frameworks and their evaluations and reviews;
- *Evaluative evidence* at country level from other evaluations implemented either by the Office, by the independent evaluation offices of GEF Agencies, or by other national or international evaluation departments;
- *Interviews* with GEF stakeholders, including the GEF operational focal point and all other relevant government departments, bilateral and multilateral donors, civil society organizations and academia (including both local and international nongovernmental organizations with a presence in the country), GEF Agencies, SGP and the national United Nations conventions' focal points;
- *Interviews* with GEF beneficiaries and supported institutions, municipal governments and associations, and local communities and authorities;
- *Surveys* with GEF stakeholders in the country;
- *Field visits* to selected project sites, using methods and tools developed by the Office such as the Guidelines for Terminal Evaluation Reviews or the ROtI Handbook; and

[6] Preference will be given to local consultants wherever possible.

- Information from *national consultation workshops*.

The quantitative analysis will use indicators to assess the relevance and efficiency of GEF support using projects as the unit of analysis (that is, linkages with national priorities, time and cost of preparing and implementing projects, etc.) and to measure GEF results (that is, progress toward achieving global environmental impacts) and performance of projects (such as implementation and completion ratings). Available statistics and scientific sources, especially for national environmental indicators, will also be used.

The evaluation team will use standard tools and protocols for the CPEs and adapt these to the national context. These tools include a project review protocol to conduct the desk and field reviews of GEF projects and interview guides to conduct interviews with different stakeholders.

The CPE will include visits to project sites. The criteria for selecting the sites will be finalized during the implementation of the evaluation, with emphasis placed on both ongoing and completed projects. The evaluation team will decide on specific sites to visit based on the initial review of documentation and balancing needs of representation as well as cost-effectiveness of conducting the field visits.

Quality assurance on evaluation methods, tools and processes used will be performed at key stages of the process (ToRs, draft and final CPE reports) by two external experts renowned in the international evaluation community and academia. To this end, memorandums of understanding will be prepared and signed by the Office and appropriate institutions to which the experts belong.

## A.6 Process and Outputs

Once the country is selected and has agreed to undergo the CPE, and other preparatory work and preliminary data gathering is undertaken, the CPE process includes the following steps:

- Initial Office visit to:
  - Scope the evaluation, i.e., define precisely what the evaluation should cover, and identify through consultations with national stakeholders what key issues should be included in the analysis;
  - Secure government support, in particular from GEF operational focal points. The focal point will be requested to provide support to the evaluation such as: identification of key people to be interviewed, support to organize interviews, field visits and meetings, and identification of main documents;
  - Conduct a first stakeholder consultation workshop to present evaluation and receive comments to develop country specific terms of reference; and
  - Conduct individual meetings as a follow up of the consultation workshop, to fine tune the information gathered during the initial stakeholder consultation workshop.
- Prepare country specific ToRs with annexed evaluation matrix, and submit it to peer reviewers for quality control, before finalization and disclosure;
- Launch the evaluative phase, collect information and review literature to extract existing reliable evaluative evidence;
- Prepare specific inputs to the CPE, including:
  - The *GEF Portfolio Database* that describes all GEF support activities within the country, basic information (GEF Agency, focal area, implementation status), project cycle information, GEF and cofinancing financial information, major objectives and expected (or actual) results, key partners per project, etc.
  - *Country Environmental Legal Framework* that provides an historical perspective of the

context in which the GEF projects have been developed and implemented. This document will be based on information on environmental legislation, environmental policies of each government administration (plans, strategies and similar), and the international agreements signed by the country presented and analyzed through time so to be able to connect with particular GEF support.

  - *Global environmental benefits assessment* that provides an assessment of the country's contribution to the GEF mandate and its focal areas based on appropriate indicators, such as those used in the System for the Transparent Allocation of Resources (STAR) (biodiversity, climate change and land degradation) and others used in projects documents.

- Conduct field studies (case studies, terminal evaluation reports, ROtIs, other) of completed national projects, selected in consultation with the Office staff, which will contribute to strengthen the information gathering and analysis on results.
- Conduct the evaluation analysis and triangulation of collected information and evidence from various sources, tools and methods. This will be done during a second mission in the country by the Office staff to consolidate the evidence gathered so far and fill in any eventual information and analysis gaps before getting to findings, conclusions and preliminary recommendations. During this mission, additional analysis, meetings, document reviews and/or field work might be undertaken as needed;
- Conduct a national stakeholder consultation workshop for the Government and national stakeholders, including project staff, donors and GEF Agencies, to present and gather stakeholders' feedback on the main CPE findings, conclusions and preliminary recommendations to be included in an *aide-mémoire*. The workshop will also be an opportunity to verify eventual errors of facts or analysis in case these are supported by adequate additional evidence brought to the attention of the evaluation team;
- Prepare and circulate to stakeholders and peer reviewers a draft CPE report, which incorporates comments received at the national stakeholder consultation workshop; and
- Consider the eventual incorporation of comments received to the draft report and prepare the final CPE report, and submit it to peer reviewers for the last quality control.[7]

[7] The GEF Independent Evaluation Office will bear full responsibility for the content of the report.

# Annex B: Interviewees

## B.1 UNDP Office

Sudipto Mukerjee, Country Director

Mohamed Abchir, Deputy Country Director

Mariatu Swarray, Portfolio Manager, Environment and Disaster Management

Saskia Marijnissen, Program Manager, Environment

Abu-Bakar S. Massaquoi, National Coordinator, Small Grants Programme

## B.2 Government of Sierra Leone

Kolleh Bangura, Director, Environmental Protection Agency

Lahai Keita, Environment Officer, Project Manager, Sustainable Land Management, Environmental Protection Agency

Mary Mye Kamara, Director Disaster Management, Office of National Security

Victor H. O. Sawyerr, Deputy Director, Environmental Protection Agency, and National Ozone Officer

Haddijatou Jallow, Executive Chairperson, Environmental Protection Agency

Alie D. Jalloh, Head, Chemicals Control and Management, Environmental Protection Agency

Steven Syril Jusu, Chief Environment Officer, Ministry of Lands, Country Planning and Environment

Alpha Bockari, Acting Director, Meteorological Office, Ministry of Transport and Aviation

Raynold Johnson, University of Sierra Leone, National Coordinators, Climate Change Program

Ogunlade Davidson, University of Sierra Leone, National Coordinator, Climate Change Program

Alie D. Turay, Head Chemical Controls and Management, Environmental Protection Agency

Kate Barnett, Assistant Director and Head, Conservation and Wildlife Unit, Forestry Division, Ministry of Agriculture, Forestry and Food Security

## B.3 IFAD

Michael Kouda, International Consultant, Agriculture, Environment, Water Resources Management and Remote Sensing, IFAD Supervision Mission

Naoufrl Telahigue, Program Manager, Global Environment and Climate Change Unit, IFAD Supervision Mission

Vasiliki Klaasen, IFAD supervision mission

Mohamed Tejan Kella, Project Manager, IFAD Projects Office

Borley Sillah, M&E Assistant, IFAD Projects Office

## b.3 Local Communities

Pa Sorie Conteh, Acting Paramount Chief, Makari-Gbanti Chiefdom

Usman Wurie Sesay, Assistant Regional Coordinator, Pasantigi Conte Farmers' Association Community (PASACOFAS)

Pa Abdulai Conteh, Headman, Makari Village

William Kamara, Sustainable Land Management, Makari Site Landowner

Baba Mansaray, Fire Guard, Makari Site

John Kamara, Fire Guard, Makari Site

Pa Sorie Bangura, Committee Member, Makari Site

Usman Bangura, Committee Member, Makari Site

Sgt 249 Lansana Bangura, National Fire Force, Makeni

Mohamed Kamara, Field Officer, Makoth Site, Green Scenery, Makeni

Edie Sesay, Project Animator, Makoth Site, Green Scenery, Makeni

Abdulai bangura, Fire Guard, Makoth Site

Pa Santigie Sesay, Fire Guard, Makoth Site

Abu Kargbo, Fire Guard, Makoth Site

Ayi Sesay, Fire Guard, Makoth Site

Kadie Bruyah, Fire Guard, Makoth Site

Miatta Kamara, Fire Guard, Makoth Site

Moses Kargbo, Fire Guard, Makoth Site

Paramount Chief Kande Sei II, Gbendembu Ngowahun Chiefdom

Amadu Dante Toure, Principle, Government Technical Institute, Maburka

# Annex C: Sites Visited

Sustainable Land Management Project: Makari Pilot Site, Makari-Gbanti Chiefdom, Bombali District

Sustainable Land Management Project: Makoth Pilot Site, Makari-Gbanti Chiefdom, Bombali District

Sustainable Land Management Project: Gbendembu Ngowahun Pilot Site, Gbendembu Ngowahun Chiefdom, Bombali District

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