

Prepared for:



BIODIVERSITY MANAGEMENT PLAN

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1. SCOPE

The Biodiversity Management Plan (BMP) is based on the biodiversity baseline and the related issues identified in the Environmental and Social Impact Assessment (ESIA). The BMP comprises projects aimed at the protection and enhancement of biodiversity and defines the activities, expected results, performance indicators, implementation responsibilities, schedule and budget for those activities.

The BMP covers both the construction and operational phases of the Kouilou Potash Project. It constitutes the initial document which will be modified and updated as the Project unfolds.

2. PURPOSE AND ENVIRONMENTAL OBJECTIVES

The purpose of the BMP is to define activities which can be implemented to fulfill commitments related to protection and enhancement of biodiversity, and to meet the requirements of Performance Standard 6 published by the International Finance Corporation (IFC) with respect to biodiversity conservation and sustainable natural resource management (IFC, 2007). Recognising that biodiversity conservation is one of the foundations of sustainable development, Performance Standard 6 (PS6) aims to protect and conserve biodiversity and to promote the sustainable management and use of renewable natural resources.

According to the Convention on Biological Diversity, biodiversity includes ecosystems and habitats, species and communities as well as genes and genomes. In consideration of the baseline conditions and the project's potential impacts on biodiversity, the activities, aimed at the protection and enhancement of biodiversity, are drawn around four major intervention avenues:

- Avenue 1: Protection and Enhancement of Natural Habitats and Areas Managed for Biodiversity;
- Avenue 2: Reduction of Local Population Dependency on Wild Biological Resources;
- Avenue 3: Support Implementation of the Biodiversity Management Plan;
- Avenue 4: Publication and Use of the Project's Scientific Data on the Environment.

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3. DEFINITIONS AND ABBREVIATIONS

BMP:	Biodiversity Management Plan
CDP:	Community Development Plan
ESIA:	Environmental and Social Impact Assessment
ESMP:	Environmental and Social Management Plan
ESMS:	Environmental and Social Management System
GOC:	Government of Congo
HSE:	Health, Safety and Environment
HSEC:	Health, Safety, Environment and Community
IFC:	International Finance Corporation
IMO:	International Maritime Organisation
MPC:	MagMinerals Potasses Congo SA
MTE:	Ministry of Tourism and Environment
NGO:	Non Governmental Organisation
PS6:	World Bank Performance Standard 6
ROC:	Republic of Congo
SEP:	Stakeholder Engagement Plan
SOP:	Standard Operational Procedure
IUCN:	International Union for the Conservation of Nature

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4. ACTIVITIES

4.1 Context

4.1.1 Biodiversity Baseline

The physical characteristics of the main ecosystems and the description of the baseline status of the habitats, communities and biological species are detailed in the *Volume II – Description of the Physical, Biological and Human Environments, and Impact Assessment* of the ESIA. The main biodiversity characteristics are summarised in the following section. One should refer to the ESIA for a thorough understanding of biodiversity and available information, findings and conclusions.

Continental Terrestrial Environment

The physical environment of the continental terrestrial ecosystem of the Project Area does not have any exceptional feature which would give it a particularly important value with regard to its biodiversity. The Mengo Plateau does not offer any exceptional physical habitat, due to its topography, its shape and its ferralitic surface soils, which are sandy, leached, desaturated, impoverished, fairly acid, non-cohesive and compressible, favourable to percolation of rainwater, subject to wind and rain erosion, and having low agricultural potential.

The Project Area is almost entirely covered with the following vegetation stands and in the following proportions: 59.0 % of eucalyptus plantations, 17.2 % of secondary forests, 15.4 % of fallow lands, 4.7 % of savannah, 1.2 % of wetlands and 1.0 % of felled areas.

Amongst the 295 plant species inventoried in the Study Area, five species are included in the IUCN Red List (2004). Two of the three “vulnerable” species, namely *Albizia ferruginea* and *Hallea stipulosa*, both commercial species of trees which have a widespread distribution in Africa, while the third, *Pseudosabicea batesii*, a shrub is limited to a few African countries, predominantly in Cameroun, and is threatened by deforestation resulting from agriculture and urbanisation (IUCN, 2004). The two species at “low risk”, *Milicia excelsa* and *Pinus caribaea* are much exploited commercial trees and do not appear to be threatened (IUCN, 2004). The most important plant communities of the Study Area and the Project Area are the secondary forest and the wetlands, given their higher species diversity, their small relative area and their use by the populations.

The inventories revealed the presence of 12 species of amphibians, 8 species of lizards, 15 species of snakes and one of turtle, all being common or very common to the Study Area and having a wide geographical distribution on the African continent. Amongst the 411 bird species likely to be present in the Study Area, all have a wide geographical distribution, and none is endemic to Congo except one, *Ploceus subpersonatus*. Within the mammals possibly present¹ in the Project Area only three species are endemic to Congo, namely the Pennant's red colobus *Procolobus pennantii*, the bat *Rhinolophus adami*, and the rodent *Dendroprionomys roussetoti*. However, none of them are endemic to the Study Area, as the preferential habitat of these species, primary forest for Pennant's red colobus, caves for the bat *R. adami* and ombrophilous forest for the rodent *D. roussetoti*, are absent from the Project Area.

Continental Aquatic Environment

According to the inventories of the Study Area, the freshwater benthic fauna in the Study Area is poor and not very diversified. The inventories also confirmed the presence of 47 species of freshwater fish in the Study Area, while one species, *Phenacogrammus ansorgii*, accounted for 74 % of the catches. The ichthyofauna of the Study Area is mainly concentrated in the watercourses of the Kouilou River catchment basin whereas the ichthyofauna in the centre of the Study Area and the Project Area is poor and is not very diversified.

Coastal Marine Environment

The inventories show that the benthic fauna of the Study Area is poor, with only few specimens of molluscs and Polychaeta collected during the inventory. Amongst the 150 or more marine fish species likely to be present in Congo, 33 species are included in the IUCN Red List (2004). Of this number, two species are "critically endangered", three are considered to be "endangered", six are "vulnerable" and two are "near-threatened". Generally, the marine ichthyofauna in the Pointe-Noire region seems to be both abundant and diversified. Preliminary results of the 2005 campaign to assess fishery resources suggest that the potential of the Congolese continental shelf is under-exploited (L. Maloueki. IRD pers. comm. 2007).

The marine reptilian fauna includes four types of sea turtles, marine green turtle *Chelonia mydas*, olive ridley turtle *Lepidochelys olivacea*, hawksbill turtle *Eretmochelys imbricata*, and leatherback turtle *Dermochelys coriacea* (Maloueki, L., 1996; PNUD, 2004). The green and olive ridley turtles are in the "endangered" species category of the IUCN Red List (2004), whereas the hawksbill and

¹ These have not been found in the Project Area but their range encompasses the Kouilou region.

leatherback turtles are “critically endangered”. These species have a very wide geographical distribution due to their migratory character but the little-inhabited beaches of the Congolese coast constitute potential egg-laying areas for the turtles. Most of the marine mammals are deep-sea species and none are endemic to Congo.

4.1.2 Impacts of the Project on Biodiversity

Continental Land Environment

The continental land environment of the Project Area does not have any exceptional habitat. The most remarkable land habitat of the Study Area and the Project Area is the secondary forest, because of its much higher species diversity and abundance, along with a higher use value by the human populations. Within the 483.2 ha of secondary forest in the Project Area, only an area of 46.5 ha, *i.e.*, 9.6 %, will be affected by the brine field, albeit in a gradual and temporary way, *i.e.*:

- Trees will be felled and the stumps removed, but the rest of the vegetation will be cut above ground, so as to leave the roots and stems intact, and thus accelerate regrowth;
- Only 6.5 ha will be cut during the first 7 years, whereas 40 ha will be cut by MPC subcontractors in the natural forest near the end of the 20-year operation period.

The area cleared for drilling will be reprofiled covered with enriched organic soil and replanted with the same dominant species when cavern exploitation is completed (2 to 5 year after initial drilling). Over 329 ha, *i.e.* 71.2 %, of the cleared areas, will be formed of eucalyptus plantations, which are characterised by relatively low species diversity and abundance.

Only one species of the Project Area deserves particular attention, *i.e.*, the “vulnerable” plant species, *Pseudosabicea batesii*. Of the mammals species, the Pennant's red colobus *Procolobus pennantii*, the bat *Rhinolophus adami*, and the rodent *Dendroprionomys roussetoti*, are endemic to Congo, but not to the Study Area; moreover, their respective preferential habitats are absent from the Study Area. The vegetation, bird fauna, herpetofauna and mammals species which are present in the Project Area are common or very common in Kouilou and they have a wide geographical distribution, which may extend to several countries.

The stakeholders give the herpetofauna, bird fauna and mammal fauna a medium value, with some species only constituting a secondary food source for the hunters, who hunt species indiscriminately, whether or not they are classified. Anthropogenic

activities, such as woodcutting, charcoal making and shifting agriculture, which are currently practised in the Project Area, or which could arise from immigration, are more likely to have a negative impact on biodiversity than the Project.

In consideration of the above, the potential impacts of the Project on the biodiversity of the continental land environment and on its use by the populations seem to be low. However, these impacts will be added to those arising from the anthropogenic activities currently practised in the Project Area. As a result, the proposed mitigation measures not only aim at reducing the impacts of the Project, but also those of current and future anthropogenic activities. Specifically, mitigation measures are:

- Planning work to minimize secondary forest cut and replant same species over equivalent area cut upon work completion in the same zone where possible or in the vicinity.
- Protection of the species *Pseudosabicea batesii* (see Programme 2);
- Prevention of the pressure of use exerted by the Project's workers, local populations and immigrants on vegetation, reptiles, birds and land mammals;
- Enhancement and/or creation of managed areas for terrestrial, freshwater and marine environments in partnership with local groups and Non Governmental Organisations (NGOs).

Continental Aquatic Environment

The continental aquatic environment of the Project Area, *i.e.*, the rivers and lakes of the Lower-Loémé, does not have any exceptional habitat for benthic or fish species, and the benthic fauna and ichthyofauna is relatively poor with little diversity.

The continental aquatic environment of the Study Area is already affected by anthropogenic activities, such as agro-forestry, woodcutting, charcoal making and shifting agriculture. The impacts of these activities are essentially caused by soil erosion and sediment transport to the watercourses. The wetlands constitute the most important aquatic habitat in the Project Area with regard to species diversity and abundance, and to their value for use by the human populations. Within the 34.6 ha of wetlands included in the Project Area, only 0.4 ha, *i.e.*, 1.2 %, will be affected by the construction of the pumping station on the right bank of the Loémé River or by the installation of the pipelines at the crossing points of watercourses, which will only affect temporarily small areas of wetlands. The Project does not involve any dam, retention or diversion works, nor any transfer of water between catchment basins.

The freshwater benthic fauna and the ichthyofauna of the Project Area are poor and have little diversity. Only two species of mammals in the Project Area deserve particular attention, namely the hippopotamus and the manatee, which will not be affected by the Project.

The stakeholders give the aquatic fauna a medium value, and species that are fished only constitute a secondary food source. Anthropogenic activities, such as woodcutting, charcoal making and shifting agriculture, which are currently practised in the Project Area, or which could arise from immigration, are more likely to have a negative impact on the aquatic biodiversity.

In consideration of the above, the potential impacts of the Project on the biodiversity of the continental aquatic environment and on its use by the populations seem to be low. However, these impacts will be added to those which arise from the anthropogenic activities which are currently practised in the Project Area. As a result, the proposed mitigation measures not only aim at reducing the impacts of the Project, but also those of current and future anthropogenic activities. Specifically, mitigation measures are:

- Avoidance of wetlands and construction of pipebridges where avoidance is impossible;
- Control of soil erosion and sedimentary transport to aquatic environments;
- Reduction of benthic and fish organisms being caught by the water intake mechanism of the pumping station;
- Prevention of the pressure of use exerted by the Project's workers, the local populations and immigrants on fish.

Coastal Marine Environment

The marine environment potentially affected by the Project does not have any exceptional habitat or benthic species, and the benthic fauna is relatively poor and has little diversity. The coastal marine environment of the Project Area is not very favourable habitat to benthic and fish species, on the one hand because of the very dynamic oceanographic conditions which cause important variations of the physico-chemical parameters and, on the other hand, because of the relatively poor quality of water and sediment.

The potential impacts during construction will be low, limited in extent and temporary, and will only affect very small areas on the beach and seabed, and in the port. Only an accidental spillage of potash or hydrocarbons from ships would likely have a local or regional impact on the Congolese coastal marine environment. The

marine environment which is potentially affected by the Project is limited, on the one hand, to the internal port area and, on the other hand, to the brine effluent dispersion plume. Two species of fish which have a special IUCN status, namely the goliath grouper, *Epinephelus itajara* and the smalltooth sawfish, *Pristis pectinata* potentially transit by the marine environment of the Study Area at limited depth of around 50 to 100 m. The turtles, birds and marine mammals are not likely to be affected by the Project.

In consideration of the above, the potential impacts of the Project on the biodiversity of the marine environment and on its use by the populations seem to be low. Mitigation measures are proposed to reduce the potential impacts on the biodiversity of the marine species, *i.e.*, a reduction of the area of influence of the brine effluent plume through maximising the backfilling of spent caverns and appropriate management of ballast waters from ships loading potash when approaching the port.

4.1.3 General Biodiversity Issue Addressed in Other Plans

Various aspects of the project may affect the biodiversity of habitats and biological communities of the Study Area but constitute more general environmental issues of concern and are addressed in engineering or other management plans such as:

- Responsible management and prevention of accidental spillages of chemicals, hydrocarbons, brine, brine effluent and potash;(HazMat Management Plan and general SOPs);
- Reduction of atmospheric emissions and dust; (Air Quality Management Plan);
- Water management and conservation and responsible management of liquid effluents; (Water Management Plan);
- Reduction and responsible management of solid waste; (Waste Management Plan);
- Control of erosion and sediment washout to streams (Soil and Erosion Control Management Plan);
- Reduction of areas cleared of vegetation or affected by the Project; (Engineering);
- Reduction of noise and disturbance of animal species; (Engineering);
- Prevention of impacts linked to the presence of workers and local populations, and to the arrival of immigrants in the Project Area. (see the MagMinerals' Influx and Migration Plan.);
- Reduction of amphibians, benthic and fish organisms capture by the water feeder channel for the pumping station; (Engineering);

- Reduction of the area of influence of the brine effluent plume; (Engineering).

4.2 Programmes

In order to ensure implementation of actions within the four intervention avenues, a total of thirteen programmes are proposed.

4.2.1 Protection and Enhancement of Natural Habitats and Areas Managed for Biodiversity

Protection of biodiversity will be partly achieved through the implementation of projects aimed at the protection and enhancement of terrestrial and marine habitats. To favor long-term results, habitat protection and biodiversity enhancement should be discussed with the communities and be implemented with the collaboration of local groups, NGOs and government representatives. Discussions have already taken place with local groups, including RÉNATURA and RAMSAR Focal Point, but the proposed list of projects will evolve as proponents are identified.

Programme 1: Revegetation of Degraded Forests and Wetlands with Indigenous Species

Objectives

- Mitigate the degradation caused by the Project to secondary forests and wetlands;
- Reverse the degradation caused by the Project to secondary forests and wetlands;
- Prevent unintended invasive species settlement or spreading in natural habitats of the Study Area.

Expected Results

- At the end of the Project, there will be no net loss of forest habitat or wetlands;
- The 0.4 ha of wetlands affected by the construction of the pumping station will be compensated by the rehabilitation of a degraded wetland, creation of a new similar habitat or by providing protection to equivalent area to be identified by ROC gov/RAMSAR;
- Vegetation in the 6.5 ha of secondary forest affected on the Mengo Plateau during the first 5 years of mining will be replanted;
- Vegetation in the 40 ha of secondary forest affected in the northwest section of the mining field during the years 15 to 20 will be replanted.

Priorities

- The natural vegetation habitats outside of the planned Project footprint will not be infringed upon by Project activities;
- The rehabilitation of the compensatory wetlands will be initiated during the year following the end of construction work and completed in three years or less;
- The revegetation of the areas felled or stripped for the installation of the brine field infrastructure will be initiated progressively as the wells are closed and the infrastructure dismantled, and completed in three years or less.

Activities

- Determine and measure the surface areas of secondary forest and wetlands to be felled or stripped;
- Prepare, for the workers, felling instructions to prevent encroachment on areas outside of the planned Project footprint by vehicles and all Project activities;
- Conduct a preliminary quantitative inventory, by sub-sampling, of the species composition and density of the dominant species in the tree, shrub, grass and moss strata;
- Prepare, for the workers, felling instructions to preserve as many plant species as possible for replanting or translocation;
- Collect, if needed, specimens for transplantation or nursery reproduction;
- Keep record of lost biodiversity, in terms of forest, savannah and wetland areas, as the Project works progress through construction and operational phases.
- Participation of stakeholders for reporting biodiversity changes through a grievance mechanism implemented within the Stakeholder Engagement Plan (SEP);
- Identification of local groups and NGOs involved in projects aimed at biodiversity enhancement, and provision of support and collaboration to ongoing projects;
- Regularly Inspect sea carriers' logs to determine compliance with the International Maritime Organisation's (IMO) guidelines relative to offshore ballast water exchange; Congo is a member of IMO since 1975;
- Determine the surface areas to be replanted;
- Prepare a revegetation protocol, taking into account the results of the initial inventory;
- Produce some specimens required for revegetation;
- Prepare the soil, *i.e.* ripping, contouring, adding soil conditioners as required;

- Replant vegetation;
- Remove invasive plant species and maintain native vegetation;
- Give required care and monitor revegetation success.

Programme 2: Protection of the Species *Pseudosabicea batesii*

Objectives

- Avoid the destruction of any specimen of *Pseudosabicea batesii*² caused by the Project;
- Document the habitat and the plant associations which include *Pseudosabicea batesii* in the Project Area.

Expected results

- At the end of the Project, the specimens of *Pseudosabicea batesii* present initially in the Project Area are still present in their initial habitat or in a similar habitat.

Priority

- The inventory and transfer of the specimens of *Pseudosabicea batesii* will be completed before the felling or stripping work in the forest.

Activities

- Determine and measure the surface areas of secondary forest to be felled or stripped;
- Conduct a systematic inventory of the surface areas of secondary forest to be felled or stripped, locate and mark all specimens of *Pseudosabicea batesii*;
- Determine the areas of high density and evaluate the following options:
 - Transfer the specimens to a similar habitat nearby;
 - Reduce the area to be stripped;
 - Move the area to be stripped.
- Determine the receiving habitat;
- Collect the specimens for transplantation or nursery reproduction;
- Transplant the specimens;
- Provide required aftercare and monitor revegetation success.

2 A woody plant, liana or creeping type, which can reach several metres in length at maturity.

Programme 3: Protection and Monitoring of Sea Turtles Nesting Area of Djeno

Objectives

- Protect and provide a secure nesting area for turtle species conservation and enhancement;
- Monitor nesting habits, reproduction and biometric datas for different species of sea turtles in the area of Djeno.

Expected results

- The programme will provide a better knowledge of sea turtle populations and their nesting success in the area of Djeno. The need for active protection of the area and species conservation will be better documented and appropriate protection actions undertaken. The presence of agents will provide surveillance and protection against killing of females, nest poaching and egg collection.

Priority

- The monitoring activities will be carried out during the construction and operational phases, to maintain uninterrupted efforts expended during the last six years. Active protection of the area will be supported from the beginning of construction works.

Activities

- Provide financial support to local NGO to conduct a programme that will:
 - Recruit and train monitoring personnel from the local workforce;
 - Describe sea turtles populations, mark individuals, measure biometric components, monitor nesting activity and egg hatching;
 - Reduce or eliminate egg collection;
 - Protect the nesting area;
 - Report the findings and communicate the results to local communities;
 - Develop interpretative activities and potential for tourism.

Programme 4: Revegetation of Areas subject to Erosion with Vetiver

Objective

- Prevent or stop soil erosion at sites particularly prone to erosion or affected in the Project Area.³

³ This will be cross-referenced with the Erosion Control of the Brine field Management Plan which is designed to prevent the occurrence of erosion during construction and other activities.

Expected results

- In the Project Area, there will be no severe soil erosion likely to induce sediment transport to aquatic environment;
- The four erosion sites known around the Mengo Plateau, which all drain into the Tienga River, will be re-profiled and replanted with Vetiver.

Priority

- Erosion control around the Mengo Plateau, *i.e.*, along the Tienga and Patra Rivers, will be completed during the construction phase and the operational phase (see the Soil and Erosion Control Management Plan).

Activities

- Determine and measure the erosion gullies to be replanted;
- Elaborate the excavation/backfilling or re-profiling strategy;
- Carry out the backfilling, if needed; or
- Plot the re-profiling to be done and stake the site;
- Re-profile the walls of the gullies in benches – manual work carried out using shovels;
- Produce or buy the specimens needed for revegetation;
- Prepare the soil;
- Replant vegetation;
- Provide required aftercare and monitor revegetation success.

Programme 5: Revegetation of Degraded Riparian Strip of Vegetation with Indigenous Species*Objectives*

- Prevent or stop silting up of streams caused by soil erosion in the operational areas of the Project;
- Prevent or stop unintended invasive species settlement or spreading in natural habitats of the Study Area;

Expected results

- In the Project Area, a shore strip of natural vegetation 20 m wide will be re-established along the banks of the Tienga and Patra Rivers wherever the width of the strip has been reduced to less than 20 m by any Project-related activity.

Priority

- The restoration of the stream banks affected by anthropogenic activity around the Mengo Plateau will be completed during the construction phase as far as possible.

Activities

- Determine and measure the surface areas of stream banks which have been narrowed to less than 20 m in width by Project anthropogenic activity;
- Conduct a quantitative inventory, by sub-sampling, of the species composition and density of the dominant species on the banks, by stratum;
- Collect specimens for transplantation or nursery reproduction;
- Prepare a revegetation protocol, taking into account the results of the initial inventory;
- Produce the specimens needed for revegetation;
- Prepare the soil;
- Replant vegetation;
- Remove invasive species and encourage indigenous plant species;
- Provide required aftercare and monitor revegetation success.

4.2.2 Reduction of Local Population Dependency on Wild Biological Resources***Programme 6: Development and Implementation of a Household Exploitation Model for Market Gardening and Poultry Farming****Objective*

- Implement an integrated technical model for market gardening and poultry farming which is economically viable and allows an average family in the Project Area to reach food self-sufficiency and generate profits to provide for other needs. This will be implemented as part of the Community Development Plan (CDP), should the communities agree that it is a project that they wish to pursue.

Expected results

- Before the end of the 3rd year of the operational phase of the Project, several families in the Project Area will operate their integrated market gardening and poultry farming small business in a self-sufficient, self-financing and profitable manner;

- Before the end of the 8th year of the operational phase of the Project, a significant number of families in the Project Area will operate their integrated market gardening and poultry farming small business in a self-sufficient, self-financing and profitable manner;
- Before the end of the 20th year of the operational phase of the Project, the integrated exploitation model will be commonly implemented in most of the villages within the Project Area.

Priorities

- As far as possible, the exploitation model will be developed and implemented as a pilot project during the construction phase;
- The exploitation model will be implemented during the operational phase of the Project.

Activities

- Identify and involve a non-governmental organisation having past experience in the implementation of agro-farming projects in the Study Area;
- Conduct a targeted agro-socio-economic investigation to determine the food requirements and preferences of an average family, the seasonal patterns and possible rotations, and the yields of the stocks and lineages used for the production in relation to the agricultural capacity of their soil;
- Develop an economically viable agro-technical model which brings to an average family in the Project Area remuneration for the work done, food self-sufficiency, and generates profits to provide for other needs;
- Publicise the Project, call for candidates and select the participants for the implementation of the first family exploitations as pilot projects;
- Provide technical support for the implementation of the first family exploitations as pilot projects, follow-up/evaluation, and publicise the results;
- Adjust the integrated exploitation model according to the results obtained, and prepare training and implementation tools;
- Iteratively implement the three preceding steps until the expected results are achieved.

Programme 7: Establishment of a Small Animal Husbandry and Orchard Production – Fruit Trees and Pineapple

Objectives

- Implement a pilot model of small animal husbandry which is economically viable;

- Implement a pilot model of orchard production – fruit trees and pineapple – which is economically viable.

These will be implemented as part of the CDP, should the communities agree that these are projects that they wish to pursue.

Expected results

- Before the end of the 10th year of the operational phase of the Project, at least five producers in five different villages in the Project Area operate their small animal husbandry and orchard in a self-sufficient, self-financing and profitable manner;
- Before the end of the 20th year of the operational phase of the Project, at least 20 producers in at least 10 different villages in the Project Area operate their small animal husbandry and orchard in a self-sufficient, self-financing and profitable manner.

Priorities

- As far as possible the exploitation model will be developed and implemented as a pilot project during the construction phase of the Project;
- The exploitation model will be implemented during the operational phase of the Project.

Activities

- Identify and involve a non-governmental organisation having past experience in the implementation of agro-farming projects in the Study Area;
- Conduct a targeted agro-socio-economic investigation to determine the technical production parameters, input costs and retail prices, seasonal patterns of activity, and the yields of the stocks and lineages used for the production;
- Develop an agro-technical model of small animal husbandry which is feasible and viable in the environmental, human and economic context of the Project Area;
- Develop an agro-technical model of orchard production which is feasible and viable in the environmental, human and economic context of the Project Area;
- Publicise the project, call for candidates and select the participants for the implementation of the first exploitations as pilot projects;
- Provide technical support for the implementation of the first exploitations as pilot projects, follow-up/evaluation, and publicise the results;

- Adjust the exploitation model according to the results obtained, and prepare training and implementation tools;
- Implement iteratively the three preceding steps until the expected results are reached.

Programme 8: Promotion of High-Efficiency Charcoal Ovens Usage

Objectives

- Promote the use of high-efficiency wood/charcoal ovens in the populations of the Project Area.⁴

Expected results

- At the end of the construction phase, at least 10 families in 5 different villages in the Project Area will use a wood/charcoal oven in a self-sufficient and self-financing manner;
- Before the end of the 3rd year of the operational phase of the Project, at least 30 families in 5 different villages in the Project Area will use a wood/charcoal oven in a self-sufficient and self-financing manner;
- Before the end of the 5th year of the operational phase of the Project, at least 100 families in 10 different villages in the Project Area will use a wood/charcoal oven in a self-sufficient, self-financing and profitable manner;
- Before the end of the 20th year of the operational phase of the Project, the use of the wood/charcoal oven will be common in most of the villages of the Project Area.

Priorities

- Identify a suitable design for a wood/charcoal oven that can be made cheaply from locally available materials;
- The use of the wood/charcoal oven will be promoted and implemented as a pilot project during the construction phase;
- The promotion of the use of the wood/charcoal oven will continue during the whole operational phase of the Project.

Activities

- Publicise the project, call for candidates and select the participants for the use of wood/charcoal ovens as demonstration projects;

⁴ In conjunction with this project, discussions will be held with EFC to determine the feasibility of providing a source of wood to the target communities.

- Conduct a quantitative investigation on the viability of using high-efficiency ovens as well as the payback period;
- Provide technical support for the construction and utilization of high-efficiency ovens;
- Conduct follow-up/evaluation, and publicise the demonstration projects and their economical and environmental benefits in the villages of the Project Area.

4.2.3 Support Implementation of the Biodiversity Management Plan

Programme 9: Supply Technical Support to the Local Populations for the Implementation of Projects proposed

Objectives

- Provide technical support in agro-economy for the development and follow-up of the exploitation models;
- Provide technical support in agronomy to the participants for the implementation of their exploitations.

Expected results

- Before the end of the first year after production commences, the following exploitation models will be developed by an agro-economist:
 - Integrated model of a family exploitation of market gardening and poultry farming;
 - Exploitation model of small animals husbandry;
 - Exploitation model of orchards – fruit-trees and pineapples.
- During the operational phase of the Project, technical support will be provided by an agronomist at a regular interval to the participants in the projects of Avenue 2 for the implementation of their exploitations;
- During the first three years of the operational phase of the Project, technical support will be provided by an agro-economist at regular intervals to supervise the agronomist and, if needed, to adjust the models.

Priorities

- The exploitation models will be developed by an agronomist and implemented as a few pilot projects during the early years of operations;
- Technical support will be provided by an agronomist during the entire operational phase of the Project.

Activities

- Work with local or international NGOs or appoint an agro-economist to develop the exploitation models in collaboration with the project agronomist, and to supervise the latter in the implementation of the pilot projects and the permanent exploitations;
- The agronomist used for land compensation issues to provide technical support to the participants for the implementation of their exploitations.

Programme 10: Creation of a Micro-Credit Fund to support Local Populations in the Implementation of Projects proposed.

Objective

- Create and implement a micro-credit fund to finance the investments and the cash flow required by the participants in the projects.

Expected results

- A micro-credit fund provides financing for the participants' projects from programmes 6 to 9 as home vegetal nursery or wood/charcoal oven.

Priority

- The micro-credit fund, as well as the organisation responsible for its implementation, will be created during the first year of the operational phase.

Activities

- Commission a local financial institution, a mutual fund for example, if such an institution exists in Pointe-Noire, to:
 - Develop the credit products adapted to the exploitation models developed;
 - Manage and implement the micro-credit fund.
- If no suitable financial institution exists, to explore matched funding with an international NGO or other organisation with experience of setting up and running such a scheme;
- Conduct the follow-up and evaluation of the performance of the financial institution;
- Conduct regular audits of the financial institution.

Programme 11: Implementation of an Education Programme on the Protection of Biodiversity and the Environment

Objectives

- Reduce the impact of subsistence activities of the populations on biodiversity and the environment;
- Promote awareness about the Study Area's remarkable sites, including the recently-declared Cayo-Loufoualeba Ramsar Site.

Expected results

- Discourage the populations to hunt species listed by IUCN or protected by Congolese law;
- Encourage the populations to stop slash and burn practices in the forest and bush fire practices in the savannah;
- Reduce the impact of charcoal makers on soil erosion and sediment transport to water bodies;
- Reduce the impact of manioc growers on soil erosion and sediment transport to water bodies.

Priority

- The education programme on the protection of biodiversity and the environment will be implemented during the construction phase and carried throughout the operational phase.

Activities

- Develop the content of the messages and the communication tools;
- Conduct meetings in the villages and on the sites of activities;
- Conduct a follow-up/evaluation of the activities and the results;
- Publicise the results.

4.2.4 Publication and Use of the Project's Scientific Data on the Environment

Programme 12: Involvement of the GOC Experts and Ramsar Focal Point in the Implementation of the ESMS

Objective

- Improve the capacity of the experts of the government of Congo, in particular those of the MTE and the Ramsar Focal Point, to use the scientific knowledge produced by the Project.

Expected results

- Experts of the government of Congo and of the Ramsar Focal Point participate in the gathering and analysis of environmental data of the Project;
- Experts of the government of Congo and of the Ramsar Focal Point use the scientific data of the Project as references in their regular work functions.

Priority

- Experts of the government of Congo and of the Ramsar Focal Point are involved in the implementation of the Environmental and Social Management System (ESMS), from the beginning of the construction phase and for the whole duration of the Project.

Activities

- Identify, in collaboration with Congolese authorities, the experts who will be involved in the implementation of the ESMS. This step is completed. RAMSAR Focal Point participated in ESIA data collection at Lake Cayo and met with HSE Manager to discuss future collaboration;
- Appoint specific tasks to the experts of the government of Congo within the Project team;
- Develop collaboration with RAMSAR Focal Point on sharing data and sponsoring the creation of bird watching sites and interpretation sites. Loémé monitoring data will be shared with RAMSAR in quarterly report. Sponsoring of activities will be depended of orientations in the Management Plan to be developed by ROC government. Assistance in developing and implementing their plan has already been offered (lending environmental technicians for data collection).

Programme 13: Diffusion of the Project's Scientific Data on Environment*Objective*

- Transmit to international and national experts, government or private, the scientific knowledge acquired by the Project regarding the environment.

Expected results

- Congolese experts have access to the environmental data of the Project;
- International experts have access to the environmental data of the Project.

Priorities

- The ESIA will be published on the MagIndustries website and those of various Lenders before the beginning of the construction phase of the Project;
- Environmental data of interest to stakeholders, collected in the course of the ESMS, will be published on the MagIndustries website.

Activities

- Identify the organisations and public sites where the Kouilou Potash Project ESIA can be accessed by any expert or citizen upon request;
- Provide the aforementioned organisations with a copy of the ESIA at a reasonable cost and if a technical need can be demonstrated;
- Assist scientists by providing them, if possible, the supplementary information required for their publication;
- Publish with ROC authorities the lists of micro-mammals, amphibians, reptiles and fish caught in the Study Area, in order to document their geographical distribution with international scientific organisations, including the IUCN and FishBase.

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5. PROGRESS MONITORING

Indicators of progress for each programme will be monitored on a semi-annual basis. Performance will be evaluated from regular inspections measuring actual state and evolution of specified indicators. The performance will be evaluated on the basis of expected results (Table 1).

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Table 1 Expected results for the various Biodiversity Management Programmes.

Avenue	Programme	Expected Results
1. Protection and Enhancement of Natural Habitats and Areas Managed for Biodiversity	Programme 1. Revegetation of Degraded Forests and Wetlands with Indigenous Species	<ul style="list-style-type: none"> No net loss of forest habitats or wetlands; Compensation of the 0.4 ha wetland loss by the rehabilitation of a degraded wetland , creation of a new similar habitat or by providing protection to equivalent area; Revegetation, in the first 5 years, of 6.5 ha secondary forest affected in the Mengo Plateau; Revegetation, in the years 15-20, of 40 ha secondary forest affected in the northwest section of the mining field.
	Programme 2. Protection of the Species <i>Pseudosabicea batesii</i>	<ul style="list-style-type: none"> Presence of <i>Pseudosabicea batesii</i> in the Project Area, either in their initial habitat or in a similar habitat.
	Programme 3. Protection and Monitoring of Sea turtles Nesting Area of Djeno	<ul style="list-style-type: none"> Protection of the nesting area and species conservation; Better knowledge of sea turtles populations.
	Programme 4. Revegetation of Areas subject to Erosion with Vetiver	<ul style="list-style-type: none"> No severe soil erosion or sediment transport to aquatic environments in the Project Area; Re-profiling and transplantation of Vetiver of the four identified sites around the Mengo Plateau, draining into the Tienga River.
	Programme 5. Revegetation of Degraded Riparian Strip of Vegetation with indigenous Species	<ul style="list-style-type: none"> Re-establishment of a 20 m wide shore strip of natural vegetation, along the banks of the Tienga and Patra Rivers in the Project Area, for every spot where the width has been reduced to less than 20 m by Project-related activity.
2. Reduction of Local Population Dependency on Wild Biological Resources	Programme 6. Development and Implementation of a Household Exploitation Model for Market Gardening and Poultry Farming	<ul style="list-style-type: none"> Operation, by some families of the Project Area, of an integrated market gardening and a poultry farming small business, in a self-sufficient, self-financing and profitable manner; of the families in the Project Area are operating their before the end of year 3 of the operational phase of the Project; Operation, by several families of the Prjoect Area, of an integrated market gardening and a poultry farming small business, in a self-sufficient, self-financing and profitable manner; of the families in the Project Area are operating their before the end of year 8 of the operational phase of the Project; By year 20 of the operational phase of the Project, the integrated exploitation model is commonly implemented in the majority of the villages of the Project Area.
	Programme 7. Establishment of a Small Animals Husbandry and Orchard Production – Fruit Trees and Pineapple	<ul style="list-style-type: none"> Operation, by at least five producers in five different villages in the Project Area, of small animals husbandry and orchard in a self-sufficient, self-financing and profitable manner, by the 10th year of the operational phase of the Project; Operation, by at least 20 producers in 10 different villages on the Project Area, of small animals husbandry and orchard in a self-sufficient, self-financing and profitable manner, by the 20th year of the operational phase of the Project.

Table 1 (cont.) Expected results for the various Biodiversity Management Programmes.

	Programme	Expected Results
2. Reduction of Local Population Dependency on Wild Biological Resources (continued)	Programme 8. Promotion of High-Efficiency Charcoal Ovens Usage	<ul style="list-style-type: none"> • Use, by at least 10 families in 5 different villages, of a wood/charcoal oven in a self-sufficient and self-financing manner before the end of the construction phase of the Project; • Use, by at least 30 families in 5 different villages, of a wood/charcoal oven in a self-sufficient and self-financing manner before the end of the 3rd year of the operational phase of the Project; • Use, by at least 100 families in 10 different villages, of a wood/charcoal oven in a self-sufficient, self-financing manner and profitable manner before the end of the 8th year of the operational phase of the Project; • Common use, in most of the villages of the Project Area, of a wood/charcoal oven before the end of the 20th year of the operational phase of the Project.
3. Support Implementation of the Biodiversity Management Plan	Programme 9. Supply Technical Support to the Local Populations for the Implementation of Projects proposed	<ul style="list-style-type: none"> • Development of exploitation models for small animals husbandry, orchards and integrated market gardening and poultry farming; • Technical assistance provided implementation of Avenue 2 exploitations.
	Programme 10. Creation of a Micro-Credit Fund to support Local Populations in the Implementation of Projects proposed	<ul style="list-style-type: none"> • Financial assistance of the projects, from programmes 6 to 9, obtained from the micro-credit fund.
	Programme 11. Implementation of an Education Programme on the Protection of Biodiversity and the Environment	<ul style="list-style-type: none"> • Dissuasion of IUCN or Congolese protected species hunting; • Dissuasion of slash and burn practices in forest and savannah; • Reduction of the impact from the charcoal makers on soil erosion and sediment transport toward water bodies; • Reduction of the impact of manioc growers on soil erosion and sediment transport toward water bodies.
4. Publication and Use of the Project's Scientific Data on the Environment	Programme 12. Involvement of the GOC Experts and Ramsar Focal Point in the Implementation of the ESMS	<ul style="list-style-type: none"> • Participation of experts from the government of Congo and of Ramsar Focal Point in the Project's data gathering and analysis; • Use by the experts of the government of Congo and the Ramsar Focal Point, of the Project's scientific data as references in their regular work functions.
	Programme 13. Diffusion of the Project's Scientific Data on Environment	<ul style="list-style-type: none"> • Access to the environmental data of the Project by Congolese experts; • Access to the environmental data of the Project by international experts.

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6. PERFORMANCE INDICATORS

Performance indicators help organisations to define and measure progress towards their goals. The results reflect current conditions and allow orientation and coordination of further actions towards sustainable exploitation.

6.1 Biodiversity Performance Indicators

Each of the BMP's programmes will be evaluated according to the performance indicators specified in Table 2.

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Table 2 Performance Indicators for the Biodiversity Management Plan's Activities.

Avenue	Programme	Performance Indicators
1. Protection and Enhancement of Natural Habitats and Areas Managed for Biodiversity	Programme 1. Revegetation of Degraded Forests and Wetlands with Indigenous Species	<ul style="list-style-type: none"> • Replanted surfaces are equivalent or greater than the surfaces felled or stripped; • The revegetation activities are coordinated with the work schedule of the mining operations and are completed in the three years following the end of the operation; • The typical indigenous species are present after revegetation; • The survival rate of replanted specimens is at least 80 %.
	Programme 2. Protection of the Species <i>Pseudosabicea batesii</i>	<ul style="list-style-type: none"> • A minimum of 80 % of all the specimens recorded are saved, either through avoided or successful transplantation; • The inventory and transplantation activities are coordinated with the mining work schedule and are completed before any felling or stripping occur in the forest environment; • The survival rate of the replanted specimens is at least 80 %.
	Programme 3. Protection and Monitoring of Sea turtles Nesting Area of Djeno	<ul style="list-style-type: none"> • Surveying and monitoring activities of the nesting area are maintained throughout the Project; • Reliable data describing sea turtles nesting behavior in the area of Djeno are obtained; • Importance of this site for sea turtles nesting, conservation and enhancement of sea turtles populations is documented and demonstrated; • Reduction of female killing in the nesting area and improved survival rate of sea turtles
	Programme 4. Revegetation of Areas subject to Erosion with Vetiver	<ul style="list-style-type: none"> • The four known erosion sites will be completely under control and will not contribute further to the silting up of the Tienga River; • There will be no other active erosion gullies in the Project Area, along the Tienga and Patra Rivers; • Revegetation work will be completed before the end of construction work; • The survival rate of the replanted specimens is at least 80 %.
	Programme 5. Revegetation of Degraded Riparian Strip of Vegetation with Indigenous Species	<ul style="list-style-type: none"> • At the end of construction work, the Project Area along the Tienga and Patra Rivers no longer have any areas where the bank vegetation has been reduced to less than 20 m in width by anthropogenic activity; • The species characteristics of the vegetation of undisturbed banks are present after revegetation; • The survival rate of the replanted specimens is at least 80 %.
2. Reduction of Local Population on Dependency on Wild Biological Resources	Programme 6. Development and Implementation of a Household Exploitation Model for Market Gardening and Poultry Farming	<ul style="list-style-type: none"> • The families involved in the integrated exploitation model have completely abandoned their traditional nomadic practice of slash and burn manioc culture; • The families involved in the integrated exploitation model have completely abandoned the consumption of bush meat as a source of animal protein.
	Programme 7. Establishment of a Small Animal Husbandry and Orchard Production – Fruit Trees and Pineapple	<ul style="list-style-type: none"> • Small animal meat is available to local populations priced competitively compared to bush meat as a source of animal proteins, which will reduce the local consumption of bush meat. • Availability of local fruits on markets.

Table 2 (cont.) Performance Indicators for the Biodiversity Management Plan's Activities.

Avenue	Programme	Performance Indicators
2. Reduction of Local Population Dependency on Wild Biological Resources (cont.)	<p>Programme 8. Promotion of High-Efficiency Charcoal Ovens Usage</p>	<ul style="list-style-type: none"> Charcoal consumption by families using high-efficiency ovens has decreased significantly.
	3. Support Implementation of the Biodiversity Management Plan	<p>Programme 9. Supply Technical Support to the Local Populations for the Implementation of Projects proposed</p>
<p>Programme 10. Creation of a Micro-Credit Fund to support Local Populations in the Implementation of Projects proposed</p>		<ul style="list-style-type: none"> More than 80 % of the requests for financing are met by the micro-credit fund; The micro-credit fund is viable and covers all management and overhead fees.
<p>Programme 11. Implementation of an Education Programme on the Protection of Biodiversity and the Environment</p>		<ul style="list-style-type: none"> The populations of the Project Area no longer hunt and actively protect the species listed by IUCN or protected by Congolese law; The populations of the Project Area have ended their slash and burn practices in the forest and bush fire practices in the savannah; The charcoal makers of the Project Area choose the sites of the ovens, protect the surrounding vegetation and do land filling so as to reduce soil erosion and sediment transport toward the water bodies; The manioc growers of the Project Area choose the sites of the fields and protect the surrounding vegetation so as to reduce soil erosion and sediment transport toward the water bodies.
4. Publication and Use of the Project's Scientific Data on the Environment	<p>Programme 12. Involvement of the GOC Experts and Ramsar Focal Point in the Implementation of the ESMS</p>	<ul style="list-style-type: none"> Experts of the government of Congo and of the Ramsar Focal Point have been identified for the implementation of the ESMS and agreement on data sharing and programme implementation are established; Experts of the government of Congo and of the Ramsar Focal Point use the data produced by the Project in their regular work functions.
	<p>Programme 13. Diffusion of the Project's Scientific Data on Environment</p>	<ul style="list-style-type: none"> The ESIA data are published.

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7. RESPONSIBILITIES

The responsibilities of the BMP interveners are presented herein (Table 3).

Overall execution and implementation of BMP projects will be mostly managed by the HSE Department. The department's responsibilities will include:

- Identification, recruitment and training of groups/local communities collaborating in the projects;
- Coordination and supervision of habitat protection and enhancement actions as well as revegetation works;
- Monitoring and control of the BMP projects by providing both human and financial resources;
- Supporting the creation of a micro-credit fund;
- Provision of support and expertise for initiatives aimed at reducing population reliance on wild biological resources;
- Implementation of an education programme, the publication and diffusion of relevant scientific information on the environment and on the Project.

The Procurement Department is responsible for:

- Contractor selection and ensuring that contractors have all the required licences.

The projects of Avenue 1 (programmes 1 to 5), which need to be coordinated with the operations in the brine field, will entail the participation of the Operation Director. The HSE Manager as appropriate, may rely on the participation of the technical staff and could supervise operational activities limiting soil erosion or collection of plant species.

The projects of Avenues 2 and 3 (programmes 6 to 11) will involve, as appropriate, the participation of consultants, technical staff and local organisations.

The projects of Avenue 4 (programmes 12 and 13) will involve the participation of experts from the government of Congo, including the Ramsar Focal Point.

Table 3 Responsibilities of the BMP interveners.

Avenue / Programme	Site General Superintendent	General Mine Foreman / Field Coordinator	Community Liaison Officer	Engineering	Procurement	HSEC Director	HSE Manager	Technician Environment	Suppliers and logistics services	Agronomist/Consultant	Contractor	Foundation	NGO	GOC Experts	Ramsar Authority Experts
<i>Avenue 1 – Protection and Enhancement of Natural Habitats and Areas Managed for Biodiversity</i>															
1						A	C	P		E	P				
2		P					A	P		E					
3						A	C						E		
4			P	A			C	P		E					
5				A		P	P	P		E	P				P
<i>Avenue 2 – Reduction of Local Population Dependency on Wild Biological Resources</i>															
6			E			A	P			P					
7			E			A	P			P					
8			E			A	P			P					
<i>Avenue 3 – Support Implementation of the Biodiversity Management Plan</i>															
9			C			A	P					E			
10			C			A						E			
11			P			A	C			E					
<i>Avenue 4 – Publication and Use of the Project's Scientific Data on the Environment</i>															
12						A	E							P	P
13			P			A	E							P	P

Legend: A Approves
 E Executes
 P Participates
 C Coordinates

8. SCHEDULE AND BUDGET

An implementation schedule is defined for the various activities of the BMP (Table 4). This provisional version will be updated as new project schedules are produced by the project team. Most activities will be initiated towards the end of the construction phase and carried throughout the operational phase.

The budget for the implementation of the BMP is included in the overall ESMS budget presented in the ESMS main document.

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Table 4 Implementation Schedule for the Biodiversity Management Plan

Avenue/Program		Prior to construction	During construction	Project start-up	During operations
<i>Avenue 1 – Protection and Enhancement of Natural Habitats and Areas Managed for Biodiversity</i>					
1	Revegetation of Degraded Forests and Wetlands with Indigenous Species				X
2	Protection of the Species <i>Pseudosabicea batesii</i>		X		X
3	Protection and Monitoring of Sea Turtles Nesting Area of Djeno		X		X
4	Revegetation of Areas subject to Erosion with Vetiver		X		X
5	Revegetation of Degraded Riparian Strip of Vegetation with Indigenous Species		X		
<i>Avenue 2 – Reduction of Local Population Dependency on Wild Biological Resources</i>					
6	Development and Implementation of a Household Exploitation Model for Market Gardening and Poultry Farming		X		X
7	Establishment of a Small Animals Husbandry and Orchard Production – Fruit Trees and Pineapple		X		X
8	Promotion of high-efficiency charcoal Ovens usage		X		X
<i>Avenue 3 – Support Implementation of the Biodiversity Management Plan</i>					
9	Supply Technical Support to the Local Populations for the Implementation of Projects proposed				X
10	Creation of a Micro-Credit Fund to support Local Populations in the Implementation of Projects proposed				X
11	Implementation of an Education Programme on the Protection of Biodiversity and the Environment		X		X
<i>Avenue 4 – Publication and Use of the Project's Scientific Data on the Environment</i>					
12	Involvement of the GOC Experts and Ramsar Focal Point in the Implementation of the ESMS	X	X		X
13	Diffusion of the Project's Scientific Data on Environment		X		X

9. LIST OF SOPs

- Prevention of encroachment of land outside of the planned Project footprint by vehicles and Project activities;
- Sampling and inventories protocols; including for riparian strips vegetation, *Pseudosabicea batesii* and indigenous species of degraded forests and wetlands;
- Felling instructions for workers to preserve as many plants as possible;
- Revegetation species production, transplantation directives and aftercare instructions;
- Biodiversity monitoring;
- Gardening and poultry farming management practices;
- High-efficiency ovens construction and user's instructions.

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10. RECORD KEEPING

The records related to the BMP will include:

- Inventories:
 - Biodiversity changes and/or losses for forest, savannah and wetlands;
 - *Pseudosabicea batesii*;
 - Turtles from the Djeno site;
 - Eroded streambanks;
- Yields and returns from agro-technical projects family exploitations;
- High-efficiency ovens follow-up;
- Micro-credit fund financial statements;
- Wildlife Register;
- Site Inspection sheets.

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11. REFERENCES

INTERNATIONAL FINANCE CORPORATION (IFC). 2007. *Biodiversity Conservation and Sustainable Natural Resource Management*. Guidance Note 6. July 31, 2007. p. 125-142. In : IFC. 2007. Guidance notes : Performance Standards on Social & Environmental Sustainability. July 2007.

INTERNATIONAL UNION FOR THE CONSERVATION OF NATURE (IUCN) 2004. *Red list of threatened species*. (www.redlist.org). Site consulted on January 9, 2006.

MALOUÉKI, L. 1996. *Études des tortues marines dans la réserve de faune de Conkouati*. Rapport d'étude UICN. 28 p.

PROGRAMME DES NATIONS UNIES POUR LE DÉVELOPPEMENT (PNUD). 2004. *Atténuation des risques sur les écosystèmes marins et côtiers du Congo, cadre opérationnel des activités en matière de gestion durable des ressources*. Organisation des Nations Unies pour l'Alimentation et l'Agriculture. 111 p.

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