MINISTRY OF PLANNING

EMERGENCY MULTISECTOR RECOVERY PROJECT (EMRP)
PROJECT MANAGEMENT IMPLEMENTATION UNIT

EMERGENCY MULTISECTOR RECOVERY PROJECT – PHASE I
RFP # PC 001 / FCI / 2005 (REF. N.° 10.C1)

ENVIRONMENTAL AND SOCIAL MANAGEMENT PROCESS FRAMEWORK REPORT

VOLUME 3 - ENVIRONMENTAL AND SOCIAL MANAGEMENT PLAN

SEPTEMBER 2007
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## ABBREVIATIONS

<table>
<thead>
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<th>Abbreviation</th>
<th>Description</th>
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<tr>
<td>AIA</td>
<td>Avaliação de Impacte Ambiental (Environmental Impact Assessment)</td>
</tr>
<tr>
<td>BM</td>
<td>Banco Mundial (World Bank)</td>
</tr>
<tr>
<td>EDA</td>
<td>Estação de Desenvolvimento Agrário (Agricultural Development Station)</td>
</tr>
<tr>
<td>EDEL</td>
<td>Empresa de Distribuição de Electricidade (Electricity Distribution Firm)</td>
</tr>
<tr>
<td>EMPR</td>
<td>Emergency Multisector Recovery Project</td>
</tr>
<tr>
<td>ENE</td>
<td>Empresa Nacional de Electricidade (National Electricity Firm)</td>
</tr>
<tr>
<td>EIA</td>
<td>Estudo de Impacte Ambiental (Environmental Impact Study)</td>
</tr>
<tr>
<td>FAO</td>
<td>Organização das Nações Unidas para a Alimentação e Agricultura</td>
</tr>
<tr>
<td>IDA</td>
<td>Instituto de Desenvolvimento Agrário (Rural Development Institute)</td>
</tr>
<tr>
<td>MINADER</td>
<td>Ministério da Agricultura e Desenvolvimento Agrário (Ministry of Agriculture and Rural Development)</td>
</tr>
<tr>
<td>MINEA</td>
<td>Ministério da Energia e Águas (Ministry of Energy and Water Affairs)</td>
</tr>
<tr>
<td>MINSA</td>
<td>Ministério da Saúde (Ministry of Health)</td>
</tr>
<tr>
<td>MINUA</td>
<td>Ministério do Urbanismo e Ambiente (Ministry of Urbanismo and Environment)</td>
</tr>
<tr>
<td>ONG</td>
<td>Organização Não Governamental (Non Governmental Organization)</td>
</tr>
<tr>
<td>SENSE</td>
<td>Sistema Nacional de Sementes (National Seed System)</td>
</tr>
<tr>
<td>UGIP</td>
<td>Unidade de Gestão e Implementação do Projecto (EMRP)</td>
</tr>
</tbody>
</table>
1 - INTRODUCTION

The present document regards Volume 3 – Environmental and Social Management Plan, concerning the contextualisation of the Emergency Environmental Multisectorial Recovery Project (EMRP), carried on by the SOAPRO / PROCESL consortium, for the Ministry of Planning of the Republic of Angola.

This Report is intended to present a environmental and social to carry on during EMRP. This document presents the environmental and social impacts and mitigation measures for EMRP and sub-projects, the necessary institutional organization and management instruments to implement the EMRP.

This document starts off in Chapter 2 by setting the objectives of the EMRP, its sectorial components, the entities responsible for the Projects, together with the present situation of project development and future expectations.
2 - **THE EMERGENCY ENVIRONMENTAL MULTISECTOR PROJECT (EMRP)**

2.1 - **EMRP’S OBJECTIVES**

EMRP’s main objective is to help lay the foundations for the long-term reconstruction of the State Administration of the Angolan Republic, following the next specific aims:

a) Increase the agricultural income and food security in the provinces most affected by the conflicts;

b) Improve the access to education and essential healthcare in the provinces most affected by the conflicts;

c) Repair and rehabilitate critical infrastructures;

d) Strengthen the institutional power at all levels to formulate, prepare, establish and manage the development of programmes in both medium and long term periods.

The EMRP aims to aid the regeneration of the transport network and improvement of the conditions of the public services. It is intended to prevent the deterioration of health and the loss of life through healthcare and other basic services by rehabilitating the services of water supply and improving public health in cities. It will also help reduce poverty in both rural and urban areas by encouraging agricultural production and reducing time and costs associated with food transportation from producers to the market.

EMRP will assist Angola in achieving legal and regulation improvements as well as more efficient institutions for a better govern. Lastly, it will lay the foundations of mid and long term institutional and political reforms needed in Angola.

2.2 - **PHASING**

World Bank finances the Project in two coherent and complementary phases.

The first phase is oriented towards the most urgent needs and includes the following activities:

- Encouragement of agricultural activities (especially the production and multiplication of seeds and equipment for plantation);
- Purchase of medicines, logistic support and training courses for nurses and nursing auxiliaries to health services;
• Purchase of educational materials and recruit of teachers and assistance to begin teacher training;
• Basic support to the rehabilitation of water supply services in Luanda and three additional capitals of province;
• Technical assistance and improvement of the Ministries and agencies capability to implement programmes and projects;
• Training courses;
• Technical assistance to strengthen the local power to prepare decentralisation;
• Social and environmental assessment of projects.

2.3 - COMPONENTS OF THE IDA PROJECT

The Projects presented in Report n.\textsuperscript{er} T 7 649–AO are grouped in four components, namely:

• Component A – Rural development and social sector support;
• Component B – Reconstruction and Rehabilitation of critical infrastructures;
• Component C – Strengthening of Institutional Capability and Sectorial Strategies Development;
• Component D – Management and Monitoring of the Programme.

Next, the Components, The Sub-components of EMRP, as well as their goals and activities, will be introduced.

2.3.1 - Component A – Rural Development and Social Services Scheme

2.3.1.1 - Sub-component A1: Agricultural and Rural Development

Objectives

Objective 1: Support small farmers who restart their agricultural production and improve the level of food security.

Objective 2: Strengthen the capability of the research and extension services.

Objective 3: Encourage the institutional progress of the Ministry of Agriculture, raising its power to coordinate and create strategies to develop agriculture and rural areas.

Objective 4: Stimulate marketing.
**Objective 1: Support small farmers who restart their agricultural production and improve the level of food security**

**Activities**

(i) **Production of basic and pre-basic seeds and vegetative material:**

- Increase EDA’s production capacity in the provinces of Malange, Bié and Huambo, thanks to the purchase of vehicles (4 vans, 2 tractors, 16 pick up vehicles and 5 4x4 Jeeps) and 20 scooters;
- Production of basic seed and vegetative materials to plant (Acquisition contract of Fertilizers for Chianga-Huambo – Part 1).

(ii) **Multiplication of seeds and vegetative material:**

- Establishment of multiplication fields (12 EDA’s to be rehabilitated in the provinces of Malange and Bié);
- Distribution of necessary basic tools to multipliers and ready to plant materials to farmers.

**Objective 2: Strengthen the capability of the research and extension services**

**Activities**

- Training courses for MINADER professionals (SENSE, IIA and IDA).

**Objective 3: Encourage the institutional development of the Ministry of Agriculture, raising its power to coordinate and create strategies to develop agriculture and rural areas**

**Activities**

- Technical assistance to IIA, IDA and SENSE.

**Objective 4: Stimulate marketing**

**Activity**

- Detail project to repair of rural roads in the provinces of Malange and Bié.
2.3.1.2 - Sub-Component A2: Health

Objectives

<table>
<thead>
<tr>
<th>Objective 1: Increase access to essential healthcare services</th>
</tr>
</thead>
<tbody>
<tr>
<td>Objective 2: Improve the quality standards of health services</td>
</tr>
<tr>
<td>Objective 3: Increase the control over sexually transmitted infections and HIV/AIDS in target groups</td>
</tr>
<tr>
<td>Objective 4: Strengthening of healthcare institutions</td>
</tr>
</tbody>
</table>

Objective 1: Increase access to essential healthcare services

Activities

- Assessment of needs for medical attention in the province of Moxico and, in a municipal level, in three other provinces;
- Provide health facilities with proper equipment, including laboratorial material, pharmacy and furniture;
- Evaluation of the needs for medication in the Ministry of Health.

Objective 2: Improve the quality standards of health services:

Activities

- Provide medicines and essential materials:
  - Parts 1, 2 and 3 for the Acquisition of Medicines for Health Units and Centres and Referential Units;
  - Purchase of 4 ambulances and four 4 × 4 vehicles;
  - Purchase of 8 bicycles and 8 scooters
  - Human Resources Training.

Objective 3: Increase control of sexually transmitted infections and HIV/AIDS in target groups

Activities

- Various projects about hiring advisory services.
- Radio campaigns.
Objective 4: Strengthening of healthcare institutions

Activities

- Support the revision of Health policies.
- Strengthen the ability of provincial and municipal health groups:
  a) Technical Assistance to the four Provincial Health Delegations;
  b) Detail design of Infrastructures in Health.

2.3.1.3 - Sub-Component A3: Education

Objectives

<table>
<thead>
<tr>
<th>Objective</th>
<th>Description</th>
</tr>
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<tbody>
<tr>
<td>1</td>
<td>Improve the quality standards of the educational services</td>
</tr>
<tr>
<td>2</td>
<td>Strengthen the institutional capabilities of the education sector</td>
</tr>
<tr>
<td>3</td>
<td>Prepare Phase 2 for the educational component of the project</td>
</tr>
</tbody>
</table>

Objective 1: Improve the quality standards of the educational services

Activities

- Supply of pedagogical resources – printing and distributing school books and teachers’ guides;
- Supply of didactical materials;
- Purchase of study kits for students and teachers and other classroom materials;
- Teacher training.

Objective 2: Strengthen the institutional capabilities of the education sector

- Nomination of a focal point in the Ministry of Education for EMPR’s issues.

Objective 3: Prepare Phase 2 for the educational component of the project

Activities

- Construction of Primary Schools;
- Acquisition of school manuals, teachers’ guides and other learning materials.
2.3.2 - Component B – Reconstruction and Rehabilitation of critical Infrastructures

2.3.2.1 - Sub-Component B1: Water

Objectives

| Objective 1: Drinking water supply to Kuito |
| Objective 2: Drinking water supply to Malange |
| Objective 3: Drinking water supply to N’Dalatando |

**Objective 1: Drinking water supply to Kuito**

Activities

- Studies, detail design and tender documents for the water supply works for Kuito city.

**Objective 2: Drinking water supply to Malange**

Activities

- Studies, detailed design and tender documents for the water supply works for Malange city.

**Objective 3: Drinking water supply to N’Dalatando**

Activities

- Studies, detailed design and tender documents for the water supply works for N’Dalatando city – Part 1;
- Studies, detailed design and tender documents for the water supply works for N’Dalatando city – Part 2.

2.3.2.2 - Sub-Component B2: Power

Objective

| Objective 1: Rehabilitate electrical power distribution network in 5 provinces |
| Objective 2: Rehabilitate electrical power distribution network in the city of Luanda |
Objective 1: Rehabilitate electrical power distribution network in 5 provinces

Activities

- Studies, detailed design and tender documents for the network, under the supervision of Empresa Nacional de Electricidade, ENE.
- Studies, detailed design and tender documents for the electrical power distribution network of high, medium and low tension for some areas of the city of Luanda, under the supervision of EDEL (Empresa de Distribuição de Electricidade de Luanda).

2.3.2.3 - Sub-Component B3: Urbanism

Objective 1: Rehabilitate focal zones of the sewerage and drainage system of Luanda

Objective 2: Control erosion in Moxico

2.4 - RESPONSIBLE ENTITIES

The Ministry of Planning is the entity in charge of the coordination of EMRP. Nevertheless there are other entities involved in its execution, specifically:

- Ministry of Energy and Water (MINEA);
- Ministry of Agriculture and Rural Development (MINADER);
- Ministry of Health (MINSA);
- Ministry of Education (MED);
- Provincial Government of Luanda;
- Empresa Nacional de Electricidade;
• Empresa de Distribuição de Electricidade.

Regarding EMPR’s local agricultural development component, it is expected to contribute to reorganizing and strengthening of SNS – National Seed System, which will consist of three entities:

| TABLE 2.1 |
| Entities of the National Seeds System |
| IIA (Instituto Investigação Agronómica) | Investigation and production of genetically-enhanced, pre-basic and basic seeds. |
| SENSE (Serviço Nacional de Sementes) | Production policies control, certification, quality, imports and exports of seeds from/to Angola. |
| IDA / EDA (Instituto de Desenvolvimento Agrícola / Estação de Desenvolvimento Agrícola) | Technology trading through the use of seeds from public and private producers. |

This Social and Environmental Diagnosis demands the contribution of the Ministry of Urbanism and Environment, entity dealing with environment in the Republic of Angola.

2.5 - PRESENT SITUATION OF PROJECT’S DEVELOPMENT AND FUTURE PERSPECTIVES

The EMRP sub-projects will be developed during two phases; the present situation is summarized on the Tables in Annexes, where they are presented, by sub-component and by time deadline. The EMRP’s activities are actually in development and will have the contribution of environmental and social component.

The sub-projects that start in phase 2, and did not start yet, will have a more contribution of the environmental and social component.
3 - THE EMRP’S ENVIRONMENTAL AND SOCIAL ASSESSMENT PROCESS

3.1 - INTRODUCTION

The environmental and social assessment is included in the project cycle. It begins with the integration of environmental clauses in the Project Terms of Reference and lasts until its deactivation.

During the phase when EMPR is implemented, since it consists of rehabilitation projects, not every stage of the Project, namely the feasibility study, the previous study and detailed design, are considered. However, given the Project urgent status, all World Bank safeguard policies will be respected.

The stage of development of EMPR’s different projects is diverse; there are projects yet to begin, project being planned, and projects in execution.

The environmental and social assessment adopted by EMPR is part of the project cycle and can be divided in the activities mentioned in Diagram 3.1.

![Diagram 3.1](source: Adapted from World Bank (1999))
Relation between the Project Cycle and the Environmental and Social Assessment

The suggested EMRP activities are the following.

3.2 - ENVIRONMENTAL AND SOCIAL ASSESSMENT PROCESS ACTIVITIES

3.2.1 - Activity 1: Project Classification

The project classification is intended to assign the project a category A, B or C, so as to identify the need for further environmental studies and their level of development.

CATEGORY A PROJECT (World Bank) – A category A project is likely to cause significant, irreversible, diversified or unprecedented negative environmental impacts. These impacts may affect an area larger than the place or infrastructure subject to intervention. The Environmental Impact Study of a category A project analyses the potential positive and negative impacts, compares them with alternative project solutions (including a “no project” scenario), recommends measures to prevent, minimise, moderate or make up for the negative impacts and improves the environmental performance. In a category A project, the client is responsible for the elaboration of a report, an Environmental Impact Study, in general, or an adequate regional or sectorial environmental assessment (that should include an Environmental Audit, a Risk Analysis or an Environmental Management Plan, if necessary).

CATEGORY B PROJECT (World Bank) – A project is rated category B if there is a chance of causing negative environment impacts over the population or areas with ecological significance, including wetlands, forests, pastures or other natural habitats. These impacts are less harmful than those of category A. These restricted impacts, with few or no irreversible effects, can be easily moderated in opposition to those of category A. The focus of category B project is more limited than category A’s. Like an Environmental Impact Study of a category A project, it analyses the potential positive and negative impacts, recommends measures to prevent, minimise, moderate or make up for the negative impacts and improves the environmental performance.

CATEGORY C PROJECT (World Bank) – A category C project has minimal or no expected environmental impact. After the Preliminary Analysis, no additional Environmental Assessment action is required.

3.2.2 - Activity 2: Environmental Analysis

This analysis must compile a chapter of the Project preliminary contextualisation report.
The environmental analysis must simply describe the current environmental status of the project location, the environmental impacts and the moderating, upgrading and compensatory measures.

It may, as well, establish the terms of reference and the conditions for the Environmental Impact Study – Level 1 (category A rated project) or the referential terms of reference and the conditions for the Environmental Impact Study – Level 2 (category B rated project).

### 3.2.3 - Activity 3: Level 1 or 2 Environmental Impact Studies

This action is associated with the presentation of a Level 1 Environmental Impact Study for category A projects or a Level 2 Environmental Impact Study for category B projects.

The Level 1 Environmental Impact Study is done considering the alternative project chosen in former actions. It must describe the project, provide a full detailed explanation of the environmental status of the project location, evaluate the foreseen environmental impacts and indicate minimising, upgrading and compensatory measures. It must also present a monitoring plan to several environmental components and define an environmental management plan to works to be adopted by the construction company.

Level 2 Environmental Impact Study shares the Level 1 Environmental Impact Study technical content but in less detail.

These two types of studies are both an independent report and the results of the studies determine the project’s approval.

### 3.2.4 - Activity 4: Environmental Management of Works

The environmental management of works is intended to monitor the works in order to ensure that damaging impacts minimising measures are adopted during the works.

The interventions are performed by the civil construction company hired by the promoter. This company must agree to adopt the Environment Management Plan presented in its technical proposal of environment protection organisational scheme and answer the demands of the Work Incumbency Book’s clauses.

### 3.2.5 - Activity 5: Environmental Management of the Project

The environmental management of the enterprise takes place during the project lifetime. The goal is to supervise and determine if the environmental concerns are daily integrated on the management of the project, particularly maintenance tasks. In large works or ecologically sensitive areas, this intervention must result in periodic reports on the environmental situation of the enterprise.
The managing entity (company or public organism) is held responsible for needed intervention. An Environmental and Social Management Plan that answers all environmental terms must be elaborated.

3.2.6 - Activity 6: Public Consultation

The goal of public consultation is to inform all interested parties (citizens, residents in areas affected by the project and traditional power) about the consequences of the project implementation, the foreseen minimizing measures, the compensations they may take advantage of, as well to collect suggestions and complaints.

The public discussion is a stage that is included in the Environmental Impact Study process and is of the responsibility of MINUA.

3.3 - ADAPTATION OF THE ENVIRONMENTAL AND SOCIAL ASSESSMENT PROCESS IN FUNCTION OF THE DEVELOPMENT STAGE OF EMRP SUBPROJECTS

As mentioned above, the subprojects fit in three different stages, which determine different levels of intervention. Consequently, the following actions are suggested according to the stage of development of each subproject (Table 3.1).

<table>
<thead>
<tr>
<th>STAGE OF DEVELOPMENT</th>
<th>PROGRAMMED ACTIONS</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sub-project in phase of preparation of Terms of Reference</td>
<td>Subproject classification Integration of model environmental clauses in Terms of Reference Preparation of the bases for an environmental analysis Preparation the bases for an environmental management plan Monitoring and control</td>
</tr>
<tr>
<td>Sub-project in study development phase</td>
<td>Subproject classification Production of an environmental analysis Preparation of an environmental management plan Monitoring and control</td>
</tr>
<tr>
<td>Sub-project in execution</td>
<td>Subproject classification Production of an environmental analysis Preparation of an environmental management plan Monitoring and control</td>
</tr>
</tbody>
</table>

The procedures for each subproject are presented in Volume 4 – Operational Handbook.
4 - **EMRP ENVIRONMENTAL IMPACT ASSESSMENT AND MITIGATION MEASURES**

**4.1 - INTRODUCTION**

The present Chapter pretends characterize and assess the environmental impacts resulting of the EMRP implementation, in order to propose efficient mitigation measures for the potential negative impacts.

**4.2 - EMRP ALTERNATIVES**

The EMRP proposes help to build the basis for the reconstruction, in the long term, of state administration at Republic of Angola, inside the development of a group of sub-projects whose objectives are the increase of basic life conditions in the provinces most affected by conflicts and the promotion of the repair / rehabilitation of critical infrastructures, in parallel with the strengthen of the management capacity for the development and implementation of these subprojects, including namely one important training plan for human resources.

The satisfaction of pretended objectives is based on the involvement, at various intervention levels, of institutional structures of diverse sectors of Public Administration, with a coordinated enforce with the help of World Bank.

This is consequently one initiative of the most social, environmental and economic interest for Angola, with potential advantages an opportunity for creating one future alternative, which will to the Country, in the long term, in one model of socio–economic balanced and sustainable use of natural resources, and besides benefits the support of one credible international institution with a large experience in similar situations.

Considering the problems of the territory development of Angola, the non realization of EMRP involved loosing one important opportunity enhancement for social, environmental and economic poor regions, delaying initiatives of urgent character and decreasing the fragile sanitary conditions and social conditions of populated areas.

**4.3 - ENVIRONMENTAL IMPACTS**

The main EMPR potential environmental and social impacts are synthesized in the Table 4.1 per Project objectives and the followings comments can be done:
### TABLE 4.1
Global Analysis for EMPR Environmental and Social Impacts (medium and long term period)

<table>
<thead>
<tr>
<th>OBJECTIVES</th>
<th>SOIL</th>
<th>HIDROLOGY</th>
<th>WATER QUALITY</th>
<th>ECOLOGICAL ASPECTS</th>
<th>AIR QUALITY</th>
<th>PUBLIC HEALTH</th>
<th>SOCIO–ECONOMIC AND CULTURAL ASPECTS</th>
</tr>
</thead>
<tbody>
<tr>
<td>(a) Increase the agricultural incomes and food security in the provinces most affected by the conflicts</td>
<td></td>
<td></td>
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<td></td>
</tr>
<tr>
<td>(b) Improve the access to basic education and the essential health care in the provinces most affected by the conflicts</td>
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<td></td>
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<td></td>
<td></td>
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<td>(c) Repair and rehabilitation critical infrastructures</td>
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<tr>
<td>(d) Strengthen the institutional power at all levels to formulate, prepare, establish and manage the development of programmes in both medium and long term periods</td>
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</table>

**Legend:**
- Positive significant impacts
- Negative significant impacts
- Positive and low significant impacts
- Negative and low significant impacts
- Nulls or very low significant impacts
SOIL IMPACTS

Besides some negative and low significant impacts associated to the land movement during construction phase, mainly in the infra-structures for subprojects because there are essentially for rehabilitation at medium/long term the impacts are mainly positive and significant, particularly in relation to subprojects concerning objective a), because they can promote conditions for fight against desertification of agricultural lands and for fixing rural populations.

HIDROLOGY IMPACTS

It can happen with some probability that some negative impacts, occur not only in the construction period, but also during the operation phase, mainly in the case of subprojects concerning objectives a) and c), because in the first case, the increase of farmers incomes can induce the expansion of cultivated areas and implicate consequently a increase in water consumption for irrigation, and in the second case, because the use of water supply and sewerage systems lead normally to a increase of consumption of treated water.

WATER QUALITY IMPACTS

After the construction period, when some negative impacts could occur near the affected sites, there will be certainly positive impacts as consequence of water supply and sewage infrastructures (subprojects concerning objective c)).

ECOLOGICAL IMPACTS

There will be probably negative impacts associated to this component, during construction phase – that will involve lost of habitats – and during operation phase, because accessibility improvements and conditions to fix rural populations, resulting from various subprojects, will involve an increase of automobile traffic, degradation of air quality and increase of noise levels, that will contribute locally to decrease biodiversity.

AIR QUALITY IMPACTS

Negative impacts will probably resulting from various subprojects with different objectives, mainly during construction phase, resulting of land movements and vehicles circulation, but also locally during operation phase, for the same reasons appointed for the previous environmental component.
PUBLIC HEALTH IMPACTS

In this environmental component there will be very significant advantages from all the sub-projects, because there will be more accessibility to health services and the increase of water supply and sewerage services, and also the increase of agricultural population income and promotion of food security, that will involve respectively a significant decrease of transmissible diseases, high decrease of child mortality tax and an increase of nutritional conditions of people, with increase of resistance to some diseases.

SOCIO-ECONOMIC AND CULTURAL ASPECTS

Similarly to the previous environmental component, very positive impacts are foreseen in various levels: increase of jobs, increase of productivity, development of the population level of education, fight against land leasing and desertification, increase of the capacities of by the competent authorities, better knowledge of natural resources, cohesion strength of local communities and promotion of local cultural values.

4.4 - MITIGATION MEASURES

Considering the environmental and social negative impacts previously presented, the respective mitigation measures are proposed:

MEASURES REFERRING TO BIOPHYSICAL IMPACTS DURING CONSTRUCTION PHASE

The elaboration and implementation of an Environmental and Social Management Plan for each project, adequate to its area characteristics and specification of the best way of reduce these type of impacts to prevent the occurrence of some of them:

In the case of works going without the Environmental Management Plan the following general measures can be adopted:

- According to the dimension and diversification of various components of EMRP, the impacts with more difficulties for being measured in socio-economic framework are, unquestionable, the “Socio–economic Impacts”. In an attempt to overcome the negative aspects of these impacts envisaging to place adequately socio–cultural sphere inside the global parameters for the project, the following mitigation measures are recommended:
  - Development of significant efforts to inform resident people, in the most complete possible way, about the various subprojects that constitute EMRP,
  - Turn available, in appropriated sites, adequate supports to inform inhabitants in order they can better understand the realities presented,
- Attention and perspicacity of EMRP promoters, in the permanent assessment of socio-cultural impacts and design of ways of fight negative impacts and increase positive impacts,

- Large diffusion of information about questions of local project.

In practice these measures are supported essentially in three types of actions:

- **Information** – given mainly to local residents about the projects to develop and the involvement that is expected to be obtained from people,

- **Preferable local recruitment of workers to this project**– constitutes one of the main ways of resident people’s involvement on study area; the creation of eventual jobs must also take in attention to contract of local people as measure to compensate negative impacts on the population,

- **Formation** – the workers and responsible at the works must be informed of the adoption of adequate environmental procedures, with support on procedures established in the scope of a correct Environmental Management;

- The use of some materials for construction and machinery rent should be done preferable in the localities nearer the projects, and will result in the increase of commercial activities, with immediately direct benefits on the population,

- The sites of construction works and eventually areas for temporary storage of lands and materials it will be carefully limited, in order of avoid the occupation of watercourses and ecological sensitive areas;

- The works sites must have security areas with interdict access, for the decrease of the risk of accidents

- Rehabilitation of areas and access roads affected by machinery and vehicles movement and work areas;

- Decrease of deforestation, vegetation cut, minimum movement of soils scraping for works execution, the reconstitution of vegetation coverage being done in each intervention work area;

- Measures must be taken to protected more sensitive floristic unities and with more conservationist value that can be affected during the works contemplated in the Projects;

- Adopted management and monitoring measures about affected areas to recover, with the aim of increase, in long term, the floristic and region landscaping values;

- Cover the deposits of waste and thin materials to avoid in their spreading with the action of erosive agents and, eventually, adopt systems of water aspersion on unpaved roads and
significant areas of uncovered soil during large periods, especially in dry season of year and in windy days. Transport the materials, like borrowed land, sand and stones, in closed trucks, or with a the charge covered;

- The maintenance of the operational conditions of machinery and vehicles must be done to mitigate gas emissions and decrease the risk of oils contamination, for the lost of oils and hydrocarbonets;

- In maintenance activities materials substitution and equipments, or demolition of some infrastructure, the wastes it will be conducted to approved deposit, to avoid its spread or mixture with soil, what can be origin negative significant impacts in soil and for the water resources;

- For reduce the physic degradation in water quality define internal roads far away far from rivers

- During construction works, the first recommendation is integrate requirements to the contractors that produced wastes. The wastes shall be placed in a final disposal with respect to environmental rules. In other side, the works must have a supervision, that gives the possibility to implement a waste management correct politic. The following general measures can be adopted:

  - The used oils from vehicles and machinery used in Works could be collect. If this wastes had hazardous characteristics must be send for treatment by authorized companies;
  - The recyclable wastes like plastics, paper, and metallic wastes must be collect selectively and send for the municipal collect system, and the wastes like urban solids wastes;
  - The lands wastes, if its characteristics permits must be used at other works, can be used in land regularization, if another works have necessity of land;

- A general measure is the elaboration of Environmental Management Plan for the works phases, with waste management for the wastes produced, including the storage conditions in the works site and the transport to the final deposit.

**MEASURES RELATED WITH SOIL IMPACTS**

The measures listed previously contemplate widely the mitigation of soil negative impacts.

Adequate interventions which permits promote the better possible integration of the project in this surrounding and valorise its landscaping integration could constitute interesting complementary measures.
MEASURES RELATED WITH HIDROLOGY IMPACTS

In relation to agricultural area projects, the relevant measure is the elaboration and implementation of an Agricultural Good Practices Manual, which will include measures to promote the water rational use, to avoid wastes, without prejudice to crops development pretended. This Manual must be elaborated in an accessible language, containing depositions applicable to several types of soils in presence and must be publicised adequately to farmers in specific information sessions, its implementation being supervisioned for technicians of official services.

In respect to impacts water and sewage infrastructure projects impacts, the mitigation measures include control of volume supplied and, if necessary, the preparation and divulgence of adequate simple measures with the objective of sparing water houses habitations in the public uses.

MEASURES RELATED WITH WATER QUALITY

The control of the water quality in the aquatic systems- surface and underground - which can be significantly affected by the projects, is a way of controlling this type of impacts. This control involves the planning and execution of monitorization programmes adapted to each specific case and the elaboration of regular reports during a significant period, which permits to assess the evolution of the situation evolution to fundament the decisions relatively to some corrective interventions.

MEASURES RELATED WITH ECOLOGICAL IMPACTS

This type of measures involves the protection of ecological sensitive zones or ecosystems with interest to nature conservation, either by restricting access restricted to this systems, or by forbidding some activities in this zone and in a surrounding zone of protection or by driving away from this systems the origins of hydric, atmospheric or noise pollution (motorized traffic, for example).

MEASURES RELATED WITH AIR QUALITY IMPACTS

These measures are namely, to drive away or to decrease the traffic in zones with more sensitive the receptors– hospitals, asylums, baby centres, schools– or in zones interesting for the nature conservation, or to create barriers of trees or bushes for the protection of this zones.
MEASURES RELATED WITH THE SOCIO–ECONOMIC IMPACTS

The main negative impacts in this context occur mainly during the construction phase, in association with the temporary presence of workers displaced from their family homes. These mitigation measures include the preference for recruiting local workers for construction and local initiatives which facilitate their social relationship with communities which in a period of time receive them and professional training actions which enable acquisition of new competences and upgrading of life conditions.
5 - **ENVIRONMENTAL IMPACT ASSESSMENT AND THE IDENTIFICATION OF MITIGATION MEASURES BY SUBPROJECT TYPE**

5.1 - **SUBPROJECTS ALTERNATIVES**

The subprojects integrated in the EMRP are in very different phases of development, so this analysis must be individual order to take in consider on the effective stages of progression for each process. So:

- Taken the necessity of urgent entry into the service of the respective systems, the projects of water supply to Kuito, Malange and N’Dalatando are already under construction. Considering the state of development of the work, there are no need for alternatives of projects in this cases;
- They are still waiting for selection of proposals presented or contest launching the elaboration of projects for electric energy distribution (Malange, Uíge, Kuito, Luena and N’Dalatando and part of Luanda), as well as Luanda sewerage and a erosion control in Mexico. In these situations there are no alternatives because the studies didn’t initiate yet;
- The others sub-projects are in different study phases, so we are waiting for the development of the works to clarify the alternatives.

In any case they are, in the general, rehabilitation and reconstruction works, alternatives with a significant expression are not foreseen.

5.2 - **DOMINION AND ASSESSMENT CRITERIA**

Nevertheless the identification of potential environmental impacts are inherent to each subprojects and based on the local characteristics, there are some criteria that must be considered for the establishment of the correct assessment of their implications in the environment, namely:

- The negative impacts on water quality, air and noise will be considered significant if they condition the quality levels establish in law or normally used, are very significant if they violate the levels established by law or normally used, or if the regions affected are important, or also if they occur are in a large time period;
- The negative impacts on soils are considered significant if important areas are affected, namely if the soils are good for objectives different previewed in the projects, and are considered very significant if the Projects will affected a large extension of agricultural areas;
• The negative impacts on flora, vegetation and fauna will be considered significant if they result in important damages on the balance of the existent ecosystems, with introduction of ruptures and changes in ecological processes, affecting or destroying effectives, diversity or stability of populations, animals or vegetal species endemics, rare or endangered or affect the natural heritage protected by specific legislation; the impacts will be considered very significant if there are great important to the balance or the species affected or if the extension of the affected areas is considerable;

• In respect to landscape, nevertheless is an environmental component with more subjectivity, it is commonly acceptable that impacts must be considered negative and significant those which determine changes in areas of recognised scenic value, in function of this value or rarity, considering the intrusion level resultant, the extension of the affected areas and a number of potential watchers involved, and they must be considered very significant if those parameters have an important expression;

• In relation to territorial planning and socio-economic aspects, the impacts will be considered significant (positive or negative depending on the sense of change introduced when they interfere with instruments, plans or territorial policies previously established, inducing changes over the form and living standards of populations, determine changes in pattern of mobility, economic activity and employment of populations or when they involve large investments and must be considered very significant when the extension of affected regions or populations so determines.

5.3 - CONSTRUCTION PHASE

During the works execution the environmental impacts are very similar for the various projects, and so, in large part, these mitigation measures of negative impacts do not justify the individualization for subprojects in this phase of EMRP.

(A) ENVIRONMENTAL IMPACTS

• Generation of jobs associated to the necessity of human resources for the placement of the infra-structures in terrain;

• Risk of Personal Accidents by presence of the construction yards and materials and by the movement of heavy vehicles;

• Visual Intrusion inherent to the construction of the new structures or edifications;

• Compactation of soils resulting of the vehicles and machinery movements, machinery parking, construction materials deposit and soil occupation by construction yards;
- Destruction of vegetal cover and potential habitats with conservationist interest;
- Accidental spills of substances derived from hydrocarbons (gas oil, new or used oil, etc.), associated to temporary storage operations of these substances and of machinery and vehicles maintenance;
- Dust release to the atmosphere, originated specially by excavations and landfills and by movement of machinery and trucks;
- Production and accumulation of wastes; solid and liquid;
- Increase of continuous noise levels, which can have values in the order of 80 dB (A) to 90 dB (A), by the use of heavy machinery and by trucks traffic for transportation of materials and equipments.

(B) MITIGATION MEASURES

- Reduce the work period or localize the construction yards far from existing houses, in order that the intense activity which will develop do not produce a significant impact on life quality of resident population;
- In work fronts create, in front, security areas, duly signalized, with interdict access, for reduction of the risk of accident;
- Restrict the necessary activities of construction on soils with high agricultural;
- Preserve, as most as possible, the existing vegetation, decreasing the cut of vegetation and deforestation to the minimum necessary, to decrease the affected area and the negative effects to landscape, with the simultaneous guarantee of the soil protection against erosion;
- Seed the embankments to avoid the land movements and decrease its movements;
- Foresee dispositions to collect and send produced solid and liquid wastes to treatment;
- Define internal roads far away far from rivers;
- Cover the deposits of waste and thin materials for avoid their spreading with the action of erosive agents and, eventually, adopt systems of water aspersion on unpaved roads and significant areas of uncovered soil during large periods, specially in dry season of year and in windy days;
- Transport the materials, like borrowed land, sand and stones, in closed trucks, or with a the charge covered;
- Implement an Environmental and Social Management Plan of the work.
5.4 - **OPERATION PHASE**

5.4.1 - *Rehabilitation of Estações de Desenvolvimento Agrário and Laboratories*

**(A) ENVIRONMENTAL IMPACTS**

- Creation of new jobs;
- Potentiation of agricultural development due to better conditions in investigation and seeds production;
- Production of laboratorial wastes and organic wastes;
- Eventual dispersion of species produced at laboratory for the environment, that may induce competition with indigenous species;
- Potential affectation of soils for fertilisers and fit pharmaceutical products used in investigation and production.

**(B) MITIGATION MEASURES**

- Interdict the entry of persons strange to the installations;
- Implement a waste management system;
- Implement the measure that will be previewed in Pest Management Plan related to soils and underground potentially affected.

5.4.2 - *Rural Access Rehabilitatives*

**(A) ENVIRONMENTAL IMPACTS**

- Reducing of travelling time;
- Increase of safety transport for passengers and goods;
- Pollutant release from vehicles, which will deposit on pavement and which will be transported by rain, and can pollute waterways crossed by roads;
- Increase of atmospheric and noise pollutants, caused by the increase of automobile circulation, affecting the populations which live in the surroundings of the news roads;
- Loss of habitats and potential destruction of floristic and faunistic species with interest for conservation;
- Barrier effect for animals, difﬁculting their free movementation in their territory and their migration to other sites;
• Soil impermeabilization, with decrease of aquifers recharge, increase of surface run-off and decrease of concentration time in the respective hydrographic basin;
• Eventual erosion of embankments.

(B) MITIGATION MEASURES

• Seed the embankments, for avoiding land movement and reducing its movementations to the minimum.

5.4.3 - Rehabilitation and Construction of Hospitals, Health Centers and Health Posts

(A) ENVIRONMENTAL IMPACTS

• Increase of sanitary conditions to populations involved in the project;
• Creation of jobs;
• Production of hospitals wastes.

(B) MITIGATION MEASURES

• Implement measures for road traffic control in surroundings of project edifications to protect users from noise and to promote security and the public access;
• Implement a Management Plan for Hospitals Wastes;
• Implement compensation measures, in case of potential incompatibility of soil uses.

5.4.4 - Rehabilitation and School Construction

(A) ENVIRONMENTAL IMPACTS

• Increase of the basic level of education of the populations involved by project;
• Creation of jobs.

(B) MITIGATION MEASURES

• Prevent adequate signalization for local traffic to avoid accidents;
• Implement compensation measures, in case of potential incompatibility of soil uses
5.4.5 - Distribution of Electric Energy

(A) ENVIRONMENTAL IMPACTS

- Increase of sanitary conditions to populations involved in the project
- Increase the transports and distributions conditions of electric energy production;
- Degradation of visual quality and changes of landscapes characteristics, resulting of the effect of intrusion created by the presence of supports;
- Substitution of autochthones species, and decrease of attraction to original zone;
- Potential occurrence of accidents with flying vertebrates, mainly birds, resulting of barriers caused by the presence of pole lines;
- Eventual affectation of agricultural areas with high potential or relevant heritage elements to the presence of supports.

(B) MITIGATION MEASURES

- Put Bird Flight Diverters (BDF) in zones when could occur birds collisions with poles lines;
- Integrate the project with existent restrictions public to the poles lines alignment;
- Use equipments with adequate characteristics to their respective functions and in good conservation conditions to accomplish the desirable requirements for noise emissions;
- Drive poles away from zones with relevant heritage.

5.4.6 - Water Supply and Sewerage Collection Infrastructures

(A) ENVIRONMENTAL IMPACTS

- Increase of sanitary conditions to populations and the levels of productivity for the users of the water supply system;
- Increased of sanitary levels to populations served with domestic waste water;
- Occurrence of bad smell zone where is the urban discharge of waste water;
- Eventual impacts in fauna in aquatic environment resulting of the presence of a water abstraction in a water course, in case of flows extracted will be significant relatively to the flow.
(B) MITIGATION MEASURES

• Preview the construction of one residual water treatment plant;
• Implement a water quality Monitoring Programme of the water supplied, in the case of water supply systems projects and in the case of sewerage drainage;
• Make the existing project compatible with the restrictions of the ditches alignment;
• Enforce the compensation measures, in case of potential incompatibilities of soil uses exist.

5.4.7 - Erosion Control

(A) ENVIRONMENTAL IMPACTS

• Changes in landscape and land morphology;
• Changes in the course or flow regime of watercourses;
• Potential affectation of agricultural soils;
• Eventual introduction of non autochthones vegetal species.

(B) MITIGATION MEASURES

• Use of natural and local materials, preferably to artificial materials;
• Introduction of contention basin for the drainage of water;
• Use of autochthones species in seeding.
• Implement an Integrating Landscape Plan.
6 - **THE INTEGRATION OF ENVIRONMENTAL AND SOCIAL MANAGEMENT INTO THE SUBPROJECTS OF EMRP**

EMRP is a Multi-sector Project which respective subprojects have different nature and are in several stages of development.

As the environmental and social component is intended to be integrated into the several stages of development of the subprojects it is then necessary to define actions to be applied and adapted to each case, following Table 6.1

<table>
<thead>
<tr>
<th>STATE OF DEVELOPMENT</th>
<th>ACTIONS</th>
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</thead>
<tbody>
<tr>
<td>Sub-project in phase of preparation of Terms of Reference</td>
<td>Classify the subproject A, B or C. If there are many subprojects they may be classified by subcomponent (for instance, energy) and the classification may be re-evaluated later. Apply Operational Manual (Volume 4)</td>
</tr>
<tr>
<td>Sub-project in study development phase</td>
<td>Prepare a simple Environmental Analysis and define minimizing measures to apply at the construction stage and in the Project management plan.</td>
</tr>
<tr>
<td>Sub-project in execution</td>
<td>Define measures to minimize impacts.</td>
</tr>
</tbody>
</table>

The environmental and social management of EMRP includes the preparation of the following management plans:

- Environmental and Social Management for the Construction Works;
- Environmental Management Plan for the Project;
- Pesticide Management Plan;
- Involuntary Resettlement Plan.

These plans will be prepared whenever necessary, according to the specific characteristics of each subproject.
7 - **INSTITUTIONAL FRAMEWORK FOR ENVIRONMENTAL AND SOCIAL MANAGEMENT OF EMRP**

7.1 - **INSTITUTIONAL FRAMEWORK**

It Volume 2 – Environmental and Social Diagnosis and Institutional Framework, a first approach was presented of the institutional framework that may integrate the function of environmental and social assessment into the organization of Ministry of Urbanism and Environment (MINUA) and of the relations existing with all the other entities involved in EMRP based on the information presently available about the staff of MINUA.

The institutional organization presented at this chapter, which is defined in Diagram 7.1, constitutes a proposal for the integration of the environmental and social component into the development and appraisal of projects.

![Diagram 7.1](image)

**DIAGRAM 7.1**

General Organogram for the Institutional Organization of EMRP – Proposal

During the execution of EMRP the Consulting Company must lead the environmental assessment of the Project. When EMRP finishes structures and jobs must have been created to enable the execution of the whole process.
Taking into account the short number of technicians working in the ministries, in a first stage of EMRP the institutional organization proposed includes the following elements:

- The Unidade de Gestão e Implementação do Projecto (UGIP, of MINPLAN), which will coordinate the Project;
- The Ministério do Urbanismo e Ambiente (MINUA);
- The entities involved in EMRP: Ministries, provincial governments, EDEL and ENE;
- The people in charge for environment in the entities involved;
- The firms in charge of the design, construction, supervision and auditing;
- The environmental consulting firm, which will be the Consortium SOAPRO / PROCESL.

In each entity involved in EMRP a responsible for environment must be assigned; in case there are no environmental technicians in one of the referred entities, they must recruit a qualified technician for this job.

Each of those elements will have certain assignments and functions along the environmental and social assessment process.

7.1.1 - UGIP – Unidade de Gestão e Implementação do Projecto

In Angola the UGIP Project Management Implementation Unit is represented by the Ministry of Planning, the Project Coordinator being the Vice-Minister for Planning, besides IDA.

**GENERAL ASSIGNMENT**

Integrates the environmental and social assessment into the activities of EMRP, coordinate and intervene, if required, as a referee towards the several actors.

**SPECIFIC ASSIGNMENTS**

- Validates the approval of the several entities involved in the environmental and social assessment, issuing a final appraisal with suggestions and comments;
- Provides for the integration of environmental and social assessment into the subprojects, whatever is their stage of development, since the preparation of the terms of reference for the Project until the Project management;
- Follows the execution of the environmental impact assessment studies and all the activities of the environmental and social component;
• Promotes the cooperation with the several entities involved in EMRP and asks for their specific intervention, whenever necessary;

• Guarantees any articulation that will be considered necessary during the EMRP process with the Comissão Técnica Multi-Sectorial para o Ambiente (CTMA).

7.1.2 - Ministério do Urbanismo e Ambiente (MINUA)

GENERAL ASSIGNMENT

MINUA will follow, in a pro-active way, the development of the process and will propose, if required, the adaptations of technical character it considers necessary.

SPECIFIC ASSIGNMENTS

• Contributes to provide for the satisfaction of the objectives defined in the Operational Manual for Environmental and Social Assessment of EMRP;

• Contributes to introduce improvements and adaptations into the Manual for Environmental and Social Assessment of EMRP;

• Contributes to the public participation and to the transparency of decisions and activities concerning environmental evaluation;

• Follows the execution of the works and the environmental management of the projects;

• Contributes to planning and schedule of the training actions to realize.

7.1.3 - Entities Involved in EMRP: Ministries, Provincial Governments, EDEL and ENE

GENERAL ASSIGNMENT

They guarantee the reinforcement of the capacity of the institutions in order to participate into the environmental and social management process of EMRP and ensure that the environmental and social component is made compatible with the character of urgency of the projects.

SPECIFIC ASSIGNMENTS

• Prepare a programme of activities, including the environmental and social component into the planning, execution, and follow of works and projects;

• Examine administrative questions related to the functioning and to the available resources, resulting from the integration of the environmental and social component into the projects.
7.1.4 - **Environmental Responsible of the Entities Involved**

**GENERAL ASSIGNMENT**

Follow the environmental and social assessment of EMRP subprojects, having an important role in the classification of subprojects, in the appraisal of environmental studies, in inspection and in control of the application of minimizing measures.

**SPECIFIC ASSIGNMENTS**

- Have obligations of technical, informative and logistic nature;
- Validate the Environmental Assessments and the Environmental Impact Studies of levels 1 or 2 for the subprojects;
- Participate in the technical environmental assessment of Environmental Impact Assessment Studies of level 1 or 2;
- Ensure that the mitigation measures proposed for the environmental management of referred works are respected;
- Issue suggestions and recommendations;
- Provide that the inspection reports are integrated into the data base.

7.1.5 - **Firms In Charge of Design, Construction, Fiscalization and Environmental Audit**

**GENERAL ASSIGNMENT**

Contribute to the integration of the environmental and social component into the projects.

**SPECIFIC ASSIGNMENTS**

- Guarantee compliance with Terms of Reference or Work Incumbency Book (firm in charge of design, firm in charge of construction and firm in charge of supervision);
- Ensure the organization and execution of actions for minimizing the impacts (firm in charge of design, firm in charge of construction and firm in charge of supervision);
- Prepare environmental management plans (firm in charge of construction);
- Prepare reports of environmental audits (firm in charge of environmental audit).
7.1.6 - Firm in charge of Environmental Consultancy

GENERAL ASSIGNMENT

Ensures that legislation of Angola and the policies of the World Bank are taken into account in the subprojects.

Organizes and executes training actions in order that the actors may integrate the environmental and social component into their projects.

SPECIFIC ASSIGNMENTS

• Defines measures to minimize and to compensate for environmental impacts;
• Develops the process for environmental and social assessment complying with legislation of Angola and the safeguard policies of the World Bank;
• Follows the execution of the works;
• Follows inspections and environmental audits;
• Follows the subprojects permanently;
•Plans and manages training actions within EMRP.

7.2 - FINANCIAL RESOURCES

For the implementation of the proposed organizational structure for the environmental and social management training of human resources is required, as well as the purchase of equipment and all the logistic structure to support their functioning.

In more detail, financial resources shall relate namely to:

• Reinforcement of human resources in the entities involved in EMRP;
• Time affectation to training actions of human resources recruited outside those entities;
• Availability of facilities and logistic support for training actions, including preparation, editing and reproduction of documents and other informative supports;
• Acquisition, assistance and maintenance of computerized equipment;
• Acquisition, assistance and maintenance of equipment for measuring or analyse environmental variables;
• Communications;
• Stays, meals and use of vehicles in the travels during training courses or for following of works and other travels.

Considering the time development of the EMRP activities, financial resources required will be evaluated later when the needs are clearly identified.

7.3 - **STRENGTHENING OF CAPACITIES**

The shortage of technicians at MINUA and in the entities involved leads to the recruit of environmental technicians highly qualified, that will be trained in order to become a network of experts concerning environmental management.

Training will help to strength the technical competences in respect to environmental evaluation of projects, namely EMRP projects.

A Training Plan for Environmental Management will be designed, oriented to the several stages of the environmental assessment process and to the several participants.

Among the matters of fundamental interest are the following:

• The Procedures for Environmental Impact Assessment;
• The Public Consultation and the Public Participation into the Environmental Impact Assessment;
• The Environmental Management of Construction Works;
• The Environmental Management of Projects.
8 - **TOOLS FOR EMRP FOLLOW-UP**

Considering the multi-sector nature of EMRP and the numerous subprojects involved in it, it is mandatory to follow up the environmental and social impact assessment with a data base to enable, at any moment, to know the stage of a certain Project and the measures recommended for reducing its more significant potential negative impacts. An example of a table for the data base is presented next.

By another hand, it is important to follow EMRP with indicators in order to evaluate if the minimizing measures for impacts are being applied.

To integrate the tri-monthly progress reports the following indicators are suggested:

- Indicators for subproject follow-up;

  and

- Indicators for the strengthening of capacities.

The first ones are included in Table 8.1.

<table>
<thead>
<tr>
<th>Study phase</th>
<th>Number of EA carried out / Number foreseen</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Number of EIA’s carried out / Number foreseen</td>
</tr>
<tr>
<td>Construction phase</td>
<td>Number of inspections carried out</td>
</tr>
<tr>
<td></td>
<td>Number of Non- Compliances registered</td>
</tr>
<tr>
<td></td>
<td>Percentage of mitigation measures enforced</td>
</tr>
<tr>
<td>Operation phase</td>
<td>Number of audits carried out</td>
</tr>
<tr>
<td></td>
<td>Number of good practices written and distributed</td>
</tr>
</tbody>
</table>

EA – Environmental Assessment  
EIA’s – Environmental Impact Assessment Studies
### TABLE WITH EXAMPLE OF DATA BASE

<table>
<thead>
<tr>
<th>CODE</th>
<th>PROPONENT ENTITY</th>
<th>SUBPROJECT</th>
<th>CLASSIFICATION WORLD BANK</th>
<th>STUDY PHASE</th>
<th>CONSTRUCTION PHASE</th>
<th>OPERATION PHASE</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td>EIA’s</td>
<td>Plan for Resettlement</td>
<td>Environmental and Social Management Plan</td>
<td>Visits</td>
</tr>
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Some of the indicators suggested in relation to capacities strengthening are the following:

- Number of environmental responsible at the entities involved in ERMP;
- Number of training actions carried out for environmental responsible;
- Number of hours for training;
- Number of participants in training actions;
- Number of visits prepared to construction works.
## ANNEX

*EMRP Subprojects Activities by Sub-component and by Time Period*
### Sub-component AI – Agriculture

<table>
<thead>
<tr>
<th>Objective</th>
<th>Activity</th>
<th>REF. PP</th>
<th>REF. CONTRACT</th>
<th>Year 2006</th>
<th>2007</th>
<th>2008</th>
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<tbody>
<tr>
<td><strong>Objective 1:</strong> Help small farmers reinitiate their agricultural production and enhance the level of alimentary security</td>
<td>1.1- Production of basic and pre-basic seeds and vegetative material (Malange and Huambo)</td>
<td>TA for Details Design for EDAs Malange Province and Laboratory of Luanda</td>
<td>1A, C4</td>
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<td>EDAs Building Rehabilitation of Bie Province (6 units)</td>
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<td><strong>Objective 2:</strong> Facilitate marketing</td>
<td>1.1.1- Enhancement of Malange and Huambo Research Centers</td>
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<td><strong>Objective 3:</strong> Increase productivity</td>
<td>1.1.2- Scale-up production of basic seeds and vegetative planting materials</td>
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<td>Pesticides on 210 ha (3 years) - 3 lots</td>
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<td><strong>Objective 4:</strong> Facilitate marketing</td>
<td>1.2- Multiply seeds and vegetative material to be planted (Chianga, province of Huambo)</td>
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<td>1.2.1- EDAs/IDA of Bie</td>
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<td>1.2.1.1- Establishment of multiplication fields</td>
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<td>Works of rehabilitation of 6 EDAs (Kuito, Katabola, Camacupa, Nhame, Chinguar, Andulo)</td>
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<td><strong>Objective 6:</strong> Improve the quality of the infrastructure</td>
<td>1.2.2- EDAs/IDA of Malange</td>
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<td><strong>Objective 7:</strong> Improve the quality of the infrastructure</td>
<td>1.2.1.2- Diffusion of basic materials to multipliers</td>
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### SUB-COMPONENT A2 – HEALTH

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### SUB-COMPONENT A3 – EDUCATION

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<tr>
<td>Objective 1: Medium and low-voltage electricity distribution systems for Malanje, Uíge, Kuito, Luena e N’Dalaia</td>
<td>Engineering studies to design and prepare tender documents for medium and low-voltage distribution systems</td>
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