MINING SECTORAL ENVIRONMENTAL AND SOCIAL ASSESSMENT TERMS OF REFERENCE

1. Context of services

The strategy of mineral resources development in Burkina Faso is based on the Statement on Mining Policy and the Law N° 031-2003/AN providing for the Mining Code respectively adopted on January 17, 1996 and on May 08, 2003, which put the priority on the promotion of private investments. The ongoing review process of these two documents strengthens this option while putting emphasis on the need to protect the environment. For this purpose, it is essential to set up a regulatory framework adapted to the country’s socio-economic needs and, to build the institutional capacity for the re evaluation, monitoring and control processes.

The Burkina mining industry is currently characterized by the existence of six (6) industrial gold mines, a (1) zinc mine and a (1) manganese mine under development, and with a multitude of artisanal mines including a small number of semi-mechanized ones. While efforts are made by industrial exploitations to reduce their environmental impacts, this is not the case for the artisanal exploitations which, unfortunately and generally operate without due consideration to environmental impacts and leave behind huge negative impacts. This highlights the need to build the State’s capacity to set an environmental policy conducive of the mining sector sustainable development, and to strengthen the environmental administration of the sector.

Thus, if the development of the mining sector is useful to the social and economic development of the country through an effective contribution to the financing of the accelerated growth and sustainable development strategy (SCADD) which has been just adopted by the Government, it should not be ignored that, along its positive impacts, this mineral development can also have negative impacts in the country. Consequently, the evaluation of these impacts is essential for the implementation of the mining policy to ensure the current and future protection of the population, the protection of the ecosystem and the durability/quality of underground water resources.

The Mining Sector National Capacity Building and Environmental Management Project (PRECAGEME), funded by the World Bank and implemented from 1997 to 2004 helped the ministry of environment to establish standard and guides for studies and environmental impact assessments. Notwithstanding the existence of these guides and some training, the environmental situation in the mining sector is not well known nor well characterized within the general environmental context taking into consideration the impacts of other sectors.
forming the base the country’s socio-economic life. There is thus a pressing need for conducting a comprehensive sector study of the current situation in relation to the mining sector.

2. Objectives of services

The overall objective of the sectoral environmental and social assessment (SESA) is to inform the environmental and social assessment of current and future investments as well as their cumulative effects. The SESA has a national scope and focuses on the old or inactive, current or future mining zones, where the need for appropriate environmental and social management is markedly felt.

The specific objective of the SESA study is to assess the environmental and social impacts of current and future mining investments in the country and to propose measures to mitigate, avoid, or compensate for the negative environmental and social impacts. These measures are expected to encompass technical, social, institutional, legal and regulatory aspects. The SESA will also identify the conditions for monitoring and implementation of recommended measures. The SESA will follow the national and the World Bank’s norms and standards of sector environmental assessment.

3. Work organization

International consulting firms are thereby invited to carry out the environmental and social assessment of Burkina Faso’s mining sector.

The services will be carried out by missions of short duration of international experts in Burkina. However in order to optimize the transfer of knowledge and the training of counterparts, the important stages of the interpretation of data, and the formulation of conclusions and recommendations will have to be carried out in Burkina.

The Project Coordination Unit of the Ministry of Mines, Quarries and Energy (MMCE) will constitute the contractual interlocutor of the Consultant. Support and Supervision of the study implementation will be assured by the Mining Environmental Unit (MEU) at the MMCE, the Directorate-General of Environment and Quality of Life, as needed in a secondary order by the Project Coordination Unit (UCP).

The Client will set up before the beginning of the study a Committee made up of representatives of key organizations (8 people to the maximum representing inter alia the Ministry of Environment and Quality of Life including the Water and Forests departments, the MMCE, other interested public institutions, and NGOs active in the environmental protection in Burkina) to ensure proper supervision of the work, and to support it implementation. This committee will
support the Consultant throughout the mandate within the scope of various activities of the SESA: revision of the work plan, facilitation of information and data collection, organization of consultations, validation of results and their analysis etc. The installation of such a committee will contribute on the one hand to develop the relationships between these organizations and on the other hand to develop their capacity of managing environmental issues.

The preliminary draft of SESA will be submitted for review and analysis to the stakeholders which include organizations representing the civil society, environmental and development NGOs, private and public companies of the mining sector and government authorities of other concerned sectors (water, fishing, agriculture and others). The comments and recommendations received will be integrated in the final report.

The study area covers the whole territory of Burkina. However based on the current knowledge and information on the development of mining activities the most prospective areas requiring more focus will be targeted as will the areas of historical mining activities (with current and past environmental contamination).

Throughout the duration of the work, the Consultant shall facilitate the participation of staff from the Directorate-General for the Environment and Quality of Life (DGEQL) and from the MEU. The consultant will finance within the scope of his contract the transportation charges and the field allowances of two counterparts from the DGEQL and the MEU during the totality of the work in the field. The financing of these expenses shall be included in the financial proposal of the bidder with the mention financing of counterparts’ field expenditures. Allowances will be decided during the negotiation of the contract and put down in the contract.

4. **Conditions for SESA preparation**

The SESA will be carried out according to international standards in force and in particular the directives of the World Bank on the matter. These relate to good practice environmental guides and standards, especially those of the World Bank, accepted and applied by public and private sectors for environmental management in the mining sector. The SESA will also integrate the concepts of environmental protection included in Burkina’s environmental legislation, its relevant ministerial decrees, the mining and the water codes.

5. **Scope of services**

The scope of services encompasses the following main activities:

   a. Confirmation of the work plan.
   b. Description of the current state of the environment in the mining sector.
   c. Evaluation of the mining policy and the legal, regulatory and institutional framework pertaining to environmental protection in Burkina.
d. Evaluation of the social and environmental conditions of the mining sector and identification of sensitive zones in which mining activities should be limited.
e. Definition of the strategic priorities for environmental protection or remediation actions regarding environmental liability; and preparation of the Terms of Reference for the studies or works to be carried in the future.
f. Training of counterparts.
g. Development of a plan for public consultation on the study

These activities are described below

5.1 Work plan confirmation

Confirmation at the beginning of SESA of the main characteristics of the study, as well as those of the work plan, including the areas and the topics which will be the subject of more specific analysis. The same will be required for the precise methods of interventions in particular with regard to the participation of affected groups, the consultation process etc.

The SESA final work plan will have to be approved by the Client before the execution of services. During the process of confirmation, the shortcomings of the bidder’s proposal will be corrected or if relevant the scope of work adjusted in accordance with these changes.

5.2 Description of the current state of the environment in mining sector

During this activity the consultant shall collect, compile, evaluate and present all baseline data concerning the environmental characteristics related to the mining sector in Burkina. This includes:

- Physical environment - basic geology, existing and potential mineral resources, topography, soils, climate and an outline of recent meteorology, the extent and hydro-geological conditions of the nappe, current sources of air, water, soil pollution, the nature of contaminants and others.
- Biological environment - flora, fauna, threatened species, and the sensitive habitats potentially affected by mining development. Emphasis shall be put on protected or currently classified zones, spaces of commercial interest and human disease generating vectors, animals and others.
- The socio-economic and cultural environment - the population and the ethnic characteristics, demography, Community structure, land use as well as the traditional and non-traditional rights, the benefits resulting from the activity of ongoing development projects, the community infrastructure and cultural properties (sacred forests or hills), archaeological goods and remains, etc.

The compilation of existing data will primarily serve as basis for the assessments described within the scope of this work. Short field visits could also be done if necessary in the case of significant zones for which data would not be available.
5.3 Evaluation of the mining policy and of the legal, regulatory and institutional framework of the environmental protection in Burkina.

The consultant will evaluate the regulatory and institutional framework which governs mining sector activities within the context of the government policies for socio-economic and environmental development. The consultant will identify those which concern sector policies from those which refer to the national or multi-sector development as well as the role played by sector policies in the use of natural resources, water and lands.

This activity will be carried out mainly through the evaluation and updating of previous studies of the same scope, as is the case for example the documents prepared within the framework of the mining and environmental project sponsored by the World Bank – the PRECAGEME.

5.4 Assessment of social and environmental conditions of the mining sector and identification of sensitive zones within which mining activities should be limited.

Within the scope of this activity, the consultant will proceed to the determination of past, current and potential impacts of the mining policy led by the Government. The consultant shall identify, qualify and quantify, if possible in physical as well as economic terms, the impacts whether positive or negative that could be generated by the Government mining policy. It will be important to distinguish direct and indirect impacts on the one hand and immediate and future impacts on the other hand. The assessment shall keep a sub regional strategic character, taking especially care of the cumulative effects of the various mining activities inside the same area.

The consultant will ascertain the position of the mining sector within the government environmental policy. This positioning of the mining sector will cover the past, current or planned industrial exploitations of primary and secondary deposits and artisanal exploitations, mainly of gold. This assessment of the environmental liability, the flows of contamination and the potential impacts in the future of the development of the mining sector will cover inter alia the following aspects:

- The exhaustion of scarce or non renewable natural resources: land use, exploitation of mineral resources, use of water resources (surface or underground), etc.
- The degradation of landscapes: open-cast mines, dredging, disposal of wastes and tailings of treatment plant, etc.
- Specific impacts resulting from mining operations such as the use and transportation of explosives.
✓ Contamination of surface or underground waters and soils by the drainage of acid water, the discharge of treatment water, the suspended particles and the lixiviation of the old tailings and deposition of mineral processing discharges or other sources related to mining.
✓ Problems relating to the storage, use and elimination of toxic or hazardous substances.
✓ The emission of dust and particles containing heavy metals which may contaminate water and soils, gas and other emanations from the processes of ore processing or smelters and refineries.
✓ Safety and industrial accidents including in the case of artisanal mining.
✓ Landslides or depressions engendered by mining.
✓ The closing and rehabilitation of mining sites or quarries.

The consultant will present a qualitative and quantitative estimate of flows of contamination of current mining and the environmental liabilities of the historical exploitation within the principal mining regions of the country. The storage of tailings and wastes produced by mining shall be evaluated in relation to their possible impacts on public health, and strategic sanitation measures shall be recommended for the rehabilitation of old mining sites.

In the context of the promotion and development of the mining sector, the following aspects shall be examined:

✓ growth of the production and diversification and their possible effect on the loss of habitat, use of resources, increase in water demand, pressure on the institutions, etc;
✓ The increase of environmental and social pressures in the development areas;
✓ Generally, environmental assessment will review all the negative impacts likely to be observed as consequence of the implementation of the mining policy. A particular attention will be given to all the induced impacts likely to be irreversible or very expensive to compensate.
✓ Macro-zoning, indicating the principal zones of exclusion and buffer zones of the country with regard to exploration and mining development and the areas where the mining activity should be subject to very particular conditions.

The consultant shall recommend preventive measures, realistic management and follow-up and economically effective measures intended to reduce or avoid the negative impacts identified concerning the mining sector in particular relatively to artisanal exploitation. Monitoring indicators will be proposed, as well as related relevant assessment procedures and methodology.

This diagnosis will also cover the social and cultural impacts of both industrial and informal artisanal mining activities on community development, the principal urban centers and the population in general. The potential impact of mine closure or the prohibition of mining activity on the social and economic development of the populations, and likewise the effect of uncontrolled migrations towards mine regions on the cultural development of indigenous
5.5 Definition of the strategic priorities concerning protection and future actions

On the basis of diagnosis, the consultant will establish the strategic priorities of future works and studies to be completed within the scope of environmental protection as well as the rehabilitation works to be carried out in priority and will make recommendations concerning the establishment of a master plan for the management of the national mining sector environmental and social aspects.

The future studies could include pilot baseline studies of the environmental conditions of the ecologically sensitive areas with potential for large scale mining, as well as social and economic impact studies and their monitoring within the principal mining districts.

The consultant will identify the priority areas for this kind of studies or rehabilitation works and will prepare the terms of reference and technical specifications for the recruitment of companies or consulting firms for the completion of the studies or work.

The fundamental objectives of the studies or pilot works will include inter alia: i) the development of multidisciplinary methodologies of environmental assessment adapted to the specific conditions of Burkina mining sector, ii) the definition of the fundamental parameters reflecting the environmental conditions of Burkina for a possible update of the mining sector regulatory framework accordingly; iii) the institutional capacity building of central and decentralized mining environmental administration.

The consultant will also prepare the terms of reference for the development of a social management plan for the mining sector aligned to the current situation and to the implementation of the mining policy.

The consultant will develop a framework of monitoring & evaluation program of measures recommended by specifying the environmental and social standard indicators for their monitoring & evaluation, as well as the methodology of their implementation (benchmark data, frequency of collections, responsibilities, etc). The program of monitoring & evaluation will comprise moreover a specific environmental and social monitoring plan to ensure an effective control of environmental and social issues.

The final report of the consultant will include all the terms of references and technical specifications for the realization of recommended studies or rehabilitation works. Among the strategic priorities the consultant will present the relevant recommendations for the promotion of sustainable development of Burkina mining sector. These recommendations will include the
Assessment of the mining sector social and environmental conditions with the determination of environmental liabilities of the current and potential impacts resulting from the mining policy and the management of the sector, with the qualitative and quantitative identification if possible in physical as well as economic terms of the impacts. This assessment will cover industrial exploitations as well as artisanal mining and will provide a description of the current state of the environment in the mining sector with the main environmental and social impacts, by order of importance.

- Realistic and economically effective measures of prevention, management and monitoring aimed at reducing or avoiding the identified negative impacts.
- Macro-zoning, indicating the principal zones of exclusion and buffer zones of the country with regard to exploration and mining development, and the zones where mining activity should be subject to very particular conditions.
- Definition of the strategic priorities for environmental protection, and recommendation of future actions to contribute to the improvement of the situation of the environment in the mining sector and the rehabilitation of the environmental and social liability of past and current activity. These priorities should include recommendations for the establishment of a master plan for the management of the national mining sector environmental and social aspects. Studies and works required for follow up activities, including all terms of reference and technical specifications for the execution of suggested actions.
- Recommendations concerning the institutional development, the identification of human resources and the requirements in training.

The report of the study shall be concise and restricted to the significant aspects of the social environment and aspects. The principal text shall focus on the diagnostic, the conclusions and the actions recommended and enriched by the collected data and the references used for the interpretation of these data. The details or the non-interpreted data must appear in appendix or in a separate volume.

### 6. Recommended team of consultants

The volume of work is estimated to a total 10 man-months of international specialists. The required specialties are as follows:

<table>
<thead>
<tr>
<th>Specialty</th>
<th>Person-Month</th>
</tr>
</thead>
<tbody>
<tr>
<td>International mining sector Environmental specialist</td>
<td>2.0</td>
</tr>
<tr>
<td>International Economist in extractive industry sector</td>
<td>1.5</td>
</tr>
<tr>
<td>International Legal and institutional environmental specialist</td>
<td>1.0</td>
</tr>
<tr>
<td>Sociologist/Anthropologist (national or international)</td>
<td>2.5</td>
</tr>
<tr>
<td>Specialist in water resource use (national or international)</td>
<td>1.0</td>
</tr>
<tr>
<td>Ecologist/Biologist (national or international)</td>
<td>2.0</td>
</tr>
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Total estimated 10
outline of a national master plan for environmental management in the mining sector.

5.6 Training

Throughout the duration of the services the consultant shall provide an on-the-job training to the counterparts from MEU and DGEQL and the counterparts at the level of the decentralized authorities and communities concerned by the works in the field.

On-the-job training will include methodologies of sector environmental assessment, monitoring and definition of indicators.

The expenses in the field of counterparts relatively to their participation in field activities will be directly financed by the consultant.

5.7 Consultation Plan

The consultant will develop a plan of public consultation, involving all project stakeholders including beneficiaries and people affected by the project. This consultation plan extends to the whole stakeholders, including development sectors and government agencies, civil society, industries and communities, interested or deemed to play a role in the implementation of environmental measures. The consultation plan should be supplemented by a research-analysis approach, including an analysis of the initial situation of the mining sector, industrial or artisanal, the analysis of the various groups of stakeholders and the analysis of scenario. The plan of consultation should state the concerns, suggestions and recommendations of stakeholders and incorporate them in the report.

6 Report

The consultant will present the following reports:

Confirmation report of the work plan.

Progress report: brief monthly progress reports (approximately 5 pages) describing the activities carried out during the month and the work plan for the next period.

Final report of the sectoral environmental and social assessment with as a minimum the following content:

- Short description of the legal and institutional framework of environmental protection in the mining sector and analysis of the influence of this framework on the principal problems identified.

- Analysis of the Government mining policy in relation to the sustainable development of the mining sector, the environmental protection and the social and cultural impact of the mining activity, and the situation of the mining sector relatively to the other sectors environmental policy.
However; the bidder can propose the number of people month and the specialties which it considers necessary for the completion of planned activities and will be the only responsible for this estimate.

The profiles of the specialists who will carry out the SESA will have to match the following descriptions: Environmental specialist in the mining sectors:

- Environmental specialist with more than 10 years of experience in environmental assessment with a focus on the problems of industrial contamination in the mining sector. A good knowledge of the social and environmental policy contexts will be required. University education in natural resources management and/or geology or mine with environmental specialization will be required.

- Extractive industry sector economist: Experience (minimum 10 years) in micro-economic analyses of the local communities on economic activities (mining, agricultural or others) at a small and large scale and good knowledge of the rural and regional conditions in Sub-Saharan Africa. This experience shall include labor market study; the evaluation of the rate of short-time working and real unemployment in regional communities; local and regional rates of inflation; supply and demand of consumer goods and services; industrial integration of mining and oil activities; tax income distribution and economic aspect of environmental protection. This experience shall also include the modeling of the social and economic impacts of the mining and/or oil activity in developing countries and the studies of economic systems at the regional level and in particular in relation with the extractive industries, with market structure, trade flows (consumption, investments and exports) and the management of generated wealth. University education with experience in micro-finance, diversification of productive activities and in administration of incomes ("revenue management").

- Legal and institutional environmental specialist: experience (minimum 15 years) in analysis of the legal framework in relation with the environment and with its protection, with knowledge of the operation of sector entities (mines and/or oil) as well as supra-sector. University legal formation with specialization in environment.

- Sociologist/Anthropologist: Experience (minimum 10 years) in economic and social surveys in relation to environment, both in the public and private sectors and in relation to NGOs. In particular a good knowledge of vulnerable ethnic and social groups will be required as well as experience in development of strategy for the processes of consultation and community participation in relation to extractive industries. Good knowledge of rural and urban problems in Sub Saharan Africa.

- Specialist in the use of water resources: Experience (minimum 10 years) in the use of water resources and in conflict resolution linked to the exploitation of such resources by sectors having different interests. University education.
- Environmentalist/Biologist: Experience (minimum 15 years) in environmental studies & impacts with specialization in the impact and the contamination on the fauna and the flora. Experience in the assessment of the sensitivity of the ecosystems to mining and oil contamination (on- and offshore) is considered essential.

All the personnel must have good knowledge of the French language and preferably a professional experience in Africa.

**Implementation schedule**

The services shall be initiated at the latest on June 30, 2012 and carried out at most for four months.

**REQUIREMENTS IN MATERIAL AND SERVICE**

The Consultant shall include in his tender offering the requirements in material and services required for the completion of the contract objectives.

The bidder shall consider in the financial offer all the financing of field expenditures of MEU and DGEQL counterparts.