



DEVELOPMENT AND INSTALLATION OF MINING CADASTRE FOR DEVELOPMENT MINERALS IN JAMAICA

TERMS OF REFERENCE

Programme Background

The ACP-EU Development Minerals Programme is a capacity building program that aims to build the profile, and improve the management, of Development Minerals. The program is an initiative of the African, Caribbean and Pacific (ACP) Group of States, financed by the European Union and the United Nations Development Programme (UNDP), and implemented by UNDP. Phase II of the ACP-EU Development Minerals Programme kicked off with a EUR 11.1 million funding from the EC and the UNDP. The Programme will strengthen the capacity of Artisanal small-scale mining enterprises (ASMEs) operating in member countries of the Organization of African, Caribbean and Pacific States (OACPS). The Programme aims to support the ASMEs to enhance productivity, create jobs, increase income and put in place environmental and social safeguards in and around mining areas. Six focus countries benefit from the Programme (Cameroon, Guinea, Uganda, Zambia, Jamaica and Fiji).

The mining of Development Minerals has important implications for sustainable development however, they have to date received inadequate attention for their potential to impact livelihoods; and few development programmes have provided support for this mining sub-sector. Often referred to as Low Value Minerals and Materials (LVMM) due to their low price as a function of their weight, and their relatively low value to international commodity markets, Development Minerals provide crucial inputs for domestic economic development (infrastructure, manufacturing, construction and agriculture to name a few) and have the potential to be high value in terms of national development.

In comparison to the metals sector, Development Minerals have closer links with the local economy, and have the potential to generate more local jobs, with a greater impact on poverty reduction. This is partly because the sector is dominated by small and medium scale domestic businesses.

¹ The ACP-EU Development Minerals Programme refers to Development Minerals as minerals and materials that have a high degree of economic linkage close to the location where the commodity is mined, i.e. they are mined for domestic use. Development Minerals include, industrial minerals, construction materials, dimension stones and semi-precious stones.

Industrial minerals: substance of economic value, exclusive of metal ores, mineral fuels, and gemstones (e.g. barite, bentonite, borates, calcium carbonate, clays, diatomite, feldspar, granite, gypsum, industrial sand, kaolin, silica, soda ash, talc, wollastonite and zeolite).

Construction material (a sub-category of industrial minerals sometimes called 'industrial rocks'): substances used in the construction of infrastructure, housing and other built structures (e.g. gravel, limestone (cement), construction sand, aggregate, scoria, glass, ceramics, bricks).

Dimension stones (a sub-category of industrial minerals and construction materials): rock quarried for the purpose of obtaining blocks or slabs that meet specifications as to size (width, length, and thickness) and shape (e.g. granite, marble, slate, sandstone).

Semi-precious stones: a mineral crystal or rock that is generally cut and polished to make jewelry, but that does not include diamond, ruby, emerald and sapphire (precious stones). Examples of semi-precious stones include quartz, amethyst, garnet, aqua-marine, opal and pearl.

Implemented by UNDP in collaboration with the Ministry of Transport and Mining of Jamaica, the Programme conducted a baseline study for the Development Minerals sector in 2017 which recommended the implementation of a computerized Mining Cadastre for Jamaica. The Consultancy therefore seeks to recruit a highly seasoned consultant to implement a cadaster system for the Development Minerals sector in Jamaica. The Cadaster will serve as a tool for improved management of the mining sector.

Objectives of the Assignment

The consultant will deliver a comprehensive, upgradable Mining Cadastre of Development Minerals including bauxite, and areas of metallic minerals exploration in Jamaica. This Cadastre will facilitate an open and accountable management of natural resources/mineral assets and will provide an improved access to mineral information for public use for rapid decision-making. This access to information will include informing investment opportunities and considerations.

The consultant will specifically:

- Review, evolve and improve on any current system such as web-maps by implementing a new and computerized functional mining cadastre using state-of-the-art software. This review will include an examination and adoption of Mining Cadastre best practices in other countries.
- Facilitate online hosting/presence and institutional ownership of the new system by the Government of Jamaica, administered by the Commissioner of Mines. The Mining Cadastre will be housed at Mines and Geology Division.
- Prepare and deliver adequate training to administrators and relevant staff for further updating, evolution and maintaining the software infrastructure.

Expected Outputs/Outcomes

- A computerized mining cadastre is available and functional. The mining cadastre is hosted online with (Public and Staff components and will be administered by the Commissioner of Mines.
- Administrators and relevant staff received the required training for further updating, evolution and maintenance of the software infrastructure
- The Cadastre is to be linked to existing web-map

Mining Cadastre System Functionalities and Scope

The Mining Cadastre is expected to:

- Provide an efficient and transparent system for the management of mineral tenements and licenses, leases and permits, consistent with the Mining and Quarrying Laws of the island.
- Provide guidelines for appropriately formatted data, maps and reports for internal and external users. They should have a systematic and automatic application of backup routines and procedures.
- Provide various levels of security and access to the information, reflecting the various functional roles in administration of mining licenses. The security tools should preserve the confidentiality of the information against human errors, unauthorized access and unforeseen circumstances. Different levels of authorization and access to the data should be incorporated in the design.
- Provide reports and statistics for internal use as well as external dissemination. The system should be able to generate an audit trail of the information concerning cancelled or expired licenses and concessions.
- Provide systems for dealing with issues of non-compliance and notices to companies. Provide a client-focused, user-friendly interface with investors and other end users of the system. The system should also allow flexible adaptation to future changes in the legal and regulatory framework and modifications in licensing procedures without requiring additional re-programming work.

¹ These include Mining Leases, Quarry Licences, SEPLs, EPLs, etc

Key tasks and Scope of Work for the consultant

Under the direct supervision of Jamaica Country Coordinator and in collaboration with the Mines and Geology Division of the Government of Jamaica, the Consultant will undertake necessary tasks towards delivering the expected outcome. These will include but not necessarily limited to:

- Creating a maintainable cadastral (alphanumeric as well as graphic) database, which will be designed to be exported directly to the current computerized Mining Cadastre System. This work is ongoing by the Information Technology Unit, Mines and Geology Division, Ministry of Transport and Mining, Jamaica.
- Updating and modernizing the Mines and Geology Division's computerized database by creating and maintaining a Mining Cadastre - a relational database in collaboration with the Commissioner of Mines. Revising, simplifying and optimizing the present licensing system and procedures so that the spatial data can be readily available for the processing of licences*/leases.
- Prepare and deliver the required, appropriate and adequate training to the administrators and other staff deemed relevant by the MGD to maintain and further update the system.

The consultant will support the local team headed by the IT Unit, MGD in order to continue with the cleaning up of cadastral data and will *oversee* the complete database ensuring the following:

- Quality control of the inventory of the existing mineral rights and database, verifying the consistency between the paper files, alphanumeric and graphic files. This activity will be undertaken by IT Unit and the Mining Registry, MGD.
- Quality control of the new codification methodology and recodification procedure;
- Quality control of the linking between the alphanumeric database and graphic information in the GIS. This activity will be undertaken by IT Unit, MGD.
- Monitoring and evaluation of proposed solutions for the conflicts and overlaps in the system.

The consultant will advise the drafting of the new cadastral procedures or guidelines, establishing the steps to be automated or areas which may need modifications in order to be adapted to the computerized Mining Cadastre System. The guidelines should be consistent with best international practice. Improvements can be introduced or recommended for administration, approval, rejection of applications as well as renewals, transfers and expiration of licences.

a) Design, install, test and implement a functioning computerized system along with the recommendations for the identification, delivery and upgrade of computer facilities and network, where appropriate;

The design of the new computerized mining cadastral system must include:

1. The handling of computerization of the cadastral procedures in full conformity to the legal framework, as well as the rationale outlined in the Terms of Reference. A simulation of the system should include the functions, options, website functioning and updating routines.
2. On the job training to integrate the scanned maps with the cadastral information should be considered if necessary. This training would include relevant departments who will manage the use of the cadastre system.
3. The design of the mining cadastre system should provide all the required features and operational procedures for the various levels of users. (owners and administrators of the system; associates, which may include the parent Ministry, the Jamaica Bauxite Institute, the National Land Agency, etc.; mineral exploration entities, owners and operators of mining and quarrying entities; and the general public).

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4. The technical specifications and quantities of the equipment (hardware and software) to be used in the development of the Mining Cadastre. The specifications should include the design of the cadastre local area network (LAN), the server, web server as well as the equipment required for the implementation of the cadastral Unit office.(removed) A checklist must be included for such equipment and shared with the IT Unit, MGD in order to ensure that existing equipment are adequate and that any requirements can be acquired, as soon as possible during the consultancy period. If equipment are unavailable at MGD, in order to commence the project, this should be indicated as soon as possible.

The cost of the computer equipment and expenses associated with their purchase, should not be included in the budget for execution of the works included in the technical description and financial proposal. The equipment configuration should be flexible in order to absorb the increase in activity in the short term and should permit the future expansion of the system when the potential growth of mining opportunities materializes.

5. The strategy for implementation, including the Mining Cadastre being published on MGD's web site.
6. The Consultant will be responsible for supervising the delivery, installation, review of current equipment. He or she can make recommendations for the replacement of the defective components or those which do not correspond to the approved specifications.
Where off the shelf software is installed, this will have to be adapted and be consistent with the functionality required for the Mining Cadastre System. The checklist will guide the current status of equipment in use and to be acquired, for the development of the Cadastre System.

Professional training.

The Consultant will be responsible for the training of the counterparts. A detailed plan and schedule for training for the effective transition of both new and existing staff to their new functions will be undertaken. Training of a local technician as well as other relevant staff, in order to support the maintenance of the system for routine operations.

Training should be addressed to mainly technical staff responsible for the cadastral duties. Senior Managers of MGD should also receive training in order to improve their understanding and perception of cadastral issues. A specific workshop explaining the concepts and operations of the cadastre addressed to Senior Managers and other administrative staff is recommended.

The consultant should present details on training and technical support, specifying the budget costs of the training activities in their proposal.

The Consultant may be required to provide additional training, technical support and supervision of the functionality of the Mining Cadastre System for a duration of 3-6 months, subject to availability of funds.

TIMEFRAME OF THE ASSIGNMENT

The assignment will be undertaken from the 1st September, 2020 to 1st November 2020 in four phases: preparatory phase (within 1 week of contract signing); implementation of the cadastral system and

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briefing phase (within 4 weeks of contracting signing); reporting and review phase (within 6 weeks of contracting signing); finalization phase (within 8 weeks of contract signing).

D. DELIVERABLES / TIME FRAMES AND PAYMENTS SCHEDULE

#	Deliverables/Duties	Estimated time of delivery from contract commencement date	Payment percentage
1	<i>Inception Report</i> covering the current licensing situation, present operational mining titles/licenses procedures and guidelines, pre-cadastre database situation of the cadastral information, GIS applications, system used to code the database and any other item affecting the licensing, and the addition of licenses for bauxite companies (can be added later) if not available now. Proposed plan for implementation - Draft outline of the Mining Cadastre System report.	Within first week	25%
2	<i>Progress Reports</i> covering weekly description of the advance of the project, listing activities carried out and personnel who participated. The reports should also compare the project development with the proposed planning explaining any deviations from the initial plan. The reports will contain any suggestions and recommendations for the project development during the time period.	Within four weeks	
3	<i>(a)Draft Description report</i> of the structure and content of the new cadastre database and the conceptual design of the new system. <i>(b)Presentaiton and description of the computerized system.</i> <i>© Design and installation of the centralized cadastral system:</i> 1) Presentation and description of the design of the final computerized mining cadastre system. 2)Technical specifications of the system as well as the complete configuration and the required software. 3)Description of the loading and validation of the information inside the system as well as the results of the tests for full functionality. 4) A Handbook/User Guide for the utilization of the system. This can be completed with the assistance of staff from MGD. The consultant will present a briefing of the findings to the programme stakeholders for feedback.	Within six weeks	50%

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4	Final Report – the report should describe the general results of the consultancy that were obtained during the project, instructions for the routine operation of the system. The operations related to the future maintenance, development and updating of the system could also be included. A short summary report can be included for communication purposes	Within eight weeks	25%
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Reporting Line

The Service Provider will be awarded a contract with UNDP Jamaica and will work under the overall supervision of the Technical Specialist of the ACP-EU Development Minerals Programme and the UNDP Jamaica Programme Specialist, under the guidance of the Resident Representative. The Jamaica Country Coordinator of the ACP-EU Development Minerals Programme will directly supervise the consultant. Technical review and initial approval of the deliverables will be undertaken by the Jamaica Country Working Group of the ACP-EU Development Minerals Programme with final approval by the Technical Specialist, ACP-EU Development Minerals Programme Manager, based in Addis Ababa, Ethiopia. The Service Provider will not be eligible for any payment without the approval of the Technical Specialist.

Reporting Language

Deliverables will be prepared and submitted in English.

Title Rights

The title rights, copyrights and all other rights whatsoever nature in any material produced under the provisions of this ToR will be vested exclusively in UNDP.

E. DUTY STATION

The Service Provider will not be located in the UNDP office for the provision of the tasks. The Service Provider is expected to carry out research that should *not* involve country travel to Jamaica. This is as a result of the current travel restrictions due to impact of COVID-19.

F. QUALIFICATIONS OF THE SUCCESSFUL SERVICE PROVIDER

Minimum qualification and experience requirements:

Corporate Competencies

- Officially registered legal entity;
- Minimum 5 years of experience in planning, co-ordination and implementation of multidisciplinary projects at international level.
- Knowledge of modern techniques for the management of mining titles and practical experience in the Mineral Rights Cadastre implementation, including development of cadastral procedures;
- At least three (3) years of experience working in the Caribbean or Pacific countries.

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Criteria for the evaluation of the Task Manager

- Excellent writing and communication skills in English;
- Extensive experience conducting research (quantitative/qualitative) and writing research reports;
- Minimum 3 years of experience in supervising teams in similar assignments;
- Minimum 10 years of relevant international experience in issues related to mining (minimum 5 years), and one of either: environment, health and safety, socio-economic assessment, law and policy, market analysis, value chain analysis (minimum 5 years).
- Previous work for similar development projects/programs/studies of UNDP.
- University degree in earth sciences or geography. Minimum experience of 5 years in design and configuration of computerized applications based on PC or laptop platforms and local area networks, with data base applications integrated with data banks and geographical information system (GIS). Experience in software applications related to the treatment of alphanumeric and graphic data for mining or earth sciences in a GIS.
- Excellent writing and communication skills in English
- Minimum 5 years of experience in large scale GIS applications. Participation in the design and installation of computerized mining cadastral systems. The knowledge of the mining sector and the earth sciences in general is required.
- Ability and experience to deliver quality reports within the given time
- Minimum 5 years of relevant experience in design of web pages and data processing applications on the internet.

Assets:

Corporate Competencies

- Sound understanding of the social and economic development situation in Jamaica;
- Good understanding of the challenges experienced by the mining and quarry sector;
- Previous work for similar development projects/programs/studies of UNDP and/or other major international development actors;
- Official presence and/or active operations in Jamaica.

Criteria for the evaluation of the Task Manager

- In-depth knowledge of mining and quarrying and the potential of the sector to contribute to development;
- Experience in use of GIS technology and computerized mining cadastral systems. Knowledge of earth sciences is desirable.
- Experience in undertaking professional work with development minerals and the application of geo-data and database management.
- Previous work for similar development projects/programs/studies of UNDP;
- Sound knowledge and understanding of the development context in Jamaica, specifically with regard to mining and quarrying.

Notes:

- Internships (paid/unpaid) are not considered professional experience.
- Obligatory military service is not considered professional experience.
- Professional experience gained in an international setting is considered international experience.

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- Experience gained prior to completion of undergraduate studies is not considered professional experience.
- Documents that demonstrate participation to project cycle management are not considered an internationally recognized project management certificate.

Signature:

Date: 05-Aug-2020



Denise Antonio
Resident Representative
UNDP Jamaica

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