TERMS OF REFERENCE

Training in the Application of Geographical Information System to support Sustainable Land Management

1. BACKGROUND

The Food and Agriculture Organization (FAO) in collaboration with the Government of Grenada established the Grenada Land Information System (GLIS) in 1994/95 as part of a Technical Assistance Programme. Located in the Land Use Division, Ministry of Agriculture, the GLIS represents the principal repository for land information in Grenada. It is a PC-based information platform designed to facilitate rational and efficient land use planning at national and sub-national levels.[1]

This state of the art system consists of a number of computerized and geographically referenced databases that use Geographic Information System (GIS) to show spatial distribution. These databases contain a collection of descriptive and spatial data which include the following:

- Agro-climate
- Soils/terrain
- Hydrology
- Land use and vegetative cover
- Protected areas
- Topographic information
- Plant environmental requirements
- Forestry and crop production system.[2]

The GLIS is therefore a powerful tool for providing real time information to decision makers and planners regarding land optimization and sustainable use. In fact, if use to its full potential it can drastically augment the capability for wise decision making regarding land resources among state and non-state professionals. Yet maximizing the opportunities of the GLIS is hindered by a number of factors inter alia:

- Limited knowledge among public and private sector technicians regarding the datasets contained in the GLIS;

[1] The project was originally geared towards the development of a Land Information System for agricultural land use planning and management.

[2] Refer to Appendix 1 for detail information on databases.

- Very limited capacity among state and non-state agencies in application of spatial information systems for SLM planning;

- Low level of knowledge and skills among the above target groups to manipulate the datasets using GIS to obtain desired outcomes for SLM in development planning across the principal economic sectors.

Under the above scenario, key land development decisions are made in the various economic sectors without adequately analyzing and integrating the available land information to determine the best option for implementation. This fuels land degradation, decision making that is not informed by credible science, a waste of limited financial resources and duplication of activities. The need to address these capacity constraints is therefore critical, and must be part of any comprehensive strategy designed to augment capacities for knowledge management in support of SLM.

The Government of Grenada through its Ministry of Agriculture has commenced implementation of the *Capacity Building and Mainstreaming of SLM* project. Funded by the Global Environment Facility (GEF), the United Nations Development Programme (UNDP), and the Government of Grenada, the long term goal of the project is to ensure that the agricultural, forest and other terrestrial land uses of Grenada promote sustainable systems that maintain ecosystem productivity and ecological functions while contributing to the environmental, economic and social well-being of the country. Specifically, the intervention's objective is to strengthen capacities for SLM within appropriate government, private sector and civil society institutions/user groups, and mainstream SLM principles and practices into long term development planning.

The Ministry of Agriculture is therefore seeking a qualified specialist to provide training in the use of GIS to analyze the datasets in the GLIS for sustainable land resources management in Grenada.

2. OBJECTIVE

The objective of this exercise is to train technical staff attached to the key land management agencies and select non-state institutions in the application of GIS to manipulate the datasets contained in the GLIS for wise management of land resources. Specifically, the trainer will equip the target audience with specific knowledge and skills[3] required for analysis and modeling of the datasets in the GLIS using GIS to support SLM in development planning in the agricultural, commercial, construction and tourism sectors.

[3] Including appropriate methodologies

3. ASSIGNMENT – SCOPE OF WORKS

The consultant will be required to:

a. Familiarize himself/herself with the GLIS.

b. Review relevant secondary literature and consult with key stakeholders to capture the key land management issues impacting the main economic sectors.

c. Develop a training programme including step by step manual that uses GIS to analyze the datasets in the GLIS for specific SLM applications relevant to development planning in the key economic sectors;

d. Conduct the training as prepared above for stakeholders as selected by the Ministry of Agriculture.

e. Prepare a workshop report that assesses the implementation of the activity. The report should highlight the Consultant's and participants overall perspective of the activity, limitations of the training, strengths and weaknesses, and recommendations for improving similar training sessions in the future. An assessment of additional needs required to further strengthen national capacity for integrating information emanating from the GLIS in SLM planning should also be detailed.

4. OUTPUTS

The consultant is expected to deliver the following outputs:

a. A work plan within the first five (5) days after signing the contract.

b. A detailed training plan within 3 weeks of the assignment.

c. A step by step manual detailing the knowledge, skills and methodologies needed by trainees to conduct the applications recommended by the Consultant. This should be provided during the training.

d. Final workshop report as elaborated above.

5. PROJECT MANAGEMENT AND ADMINISTRATION

The SLM Project management Unit (PMU) based in the Ministry of Agriculture in collaboration with the PSC will administer this contract. All communications regarding this assignment will be referred to the Project Manager of the PMU.

The PMU will facilitate the work of the consultant by informing all key stakeholder agencies of the impending assignment, and requesting cooperation with the Consultant in completing the assignment prior to commencement. The Land Use Division, Ministry of Agriculture will provide the datasets with detailed information on their development and attributes as requested by the Consultant. Additionally, the PMU in collaboration with the Project Implementation Team will select the participants for the training and organize in consultation with the consultant all logistics to support effective conduct of the training. The Land Use Division will provide some hardware and software support including personnel during the training as agreed in consultation with the Consultant.

The Consultant will manage his/her time and responsibilities to ensure timely delivery of the outputs required under this Terms of Reference.

6. QUALIFICATIONS AND EXPERIENCE OF CONTRACT

The Consultant is expected to possess at least a Masters Degree in GIS with over 5 years experience in the application of GIS to land resources and environmental management.

7. TIMING

It is anticipated that the contract will be undertaken during the first quarter of 2010.