



Organisation of Eastern Caribbean States



ORGANISATION OF EASTERN CARIBBEAN STATES (OECS) COMMISSION

TERMS OF REFERENCE

GEOGRAPHIC INFORMATION SYSTEM (GIS) SPECIALIST

1. BACKGROUND

1.01 The **Organisation of Eastern Caribbean States (OECS)** comprises the territories of Anguilla, Antigua and Barbuda, British Virgin Islands, Dominica, Grenada, Montserrat, St. Kitts and Nevis, Saint Lucia, and St. Vincent and the Grenadines. On January 21, 2011, the OECS achieved a major milestone in its integration process when the Revised Treaty of Basseterre Establishing the Organisation of Eastern Caribbean States Economic Union came into effect. The Revised Treaty seeks to deepen the level of integration and functional cooperation, and to coordinate policies for harmonious and optimal development of sectors, including agriculture, manufacturing, tourism, other services, construction, information and communications technology, education and health. This commitment to common policy development extends to reducing poverty and improving living conditions across the Economic Union. This would include interventions to improve social protection services, designing better pro-poor programmes with particular attention to gender equality based on multi-dimensional poverty measurement indicators.

1.02 Within the context of the above undertakings, the generation of relevant statistics is crucial to support the functioning and monitoring of the OECS Economic Union, as well as the provisions contained within the Revised Treaty. Strengthening capacity and institutional arrangements for the production, analysis and use of statistics in policy development are areas of continuing concern. The OECS Region persistently takes advantage of opportunities for technical and financial assistance. In the OECS Region, the need to develop evidence-based policy and programming has broad acceptance by development partners and beneficiary countries. This need is particularly significant when viewed in the context of the vulnerabilities of the OECS Region, including their small, open economies; high levels of poverty and unemployment, particularly among youth; vulnerability to natural hazards and climate change impacts; and HIV/AIDS prevalence. Two (2) initiatives have been created to support the OECS Commission in making available the requisite

data to inform policies and programmes for poverty reduction and to improve living conditions: the OECS Sustainable Household Data Collection Programme (SDP) and the Enhanced Country Poverty Assessment (CPA) Programme.

1.03 The OECS SDP aims to improve the frequency and quality of information available on living conditions in the OECS Region. In a context of weak technical capacity and limited financial resources, the SDP proposes to achieve its goal by implementing a new regional sustainable survey plan that promises to generate economies of scale, improve the efficiency of resource allocation, and use information technology to contribute to data quality improvements and production costs minimisation.

1.04 The Enhanced CPA is a five (5)-year programme funded by the Caribbean Development Bank (CDB) scheduled to be completed by June 2025. The overall goal of the Programme is to provide Borrowing Member Countries (BMCs) with an enhanced capacity to conduct regular and timely household research that utilises monetary and multidimensional poverty indicators from the Survey of Living Conditions and Household Budgets (SLC-HBS) and the 2020-2023 round of Censuses to update poverty and social indicators and to use the data for evidence-based decision-making at the policy and programme levels. The Enhanced CPA, which has the analysis of SLC-HBS and Census Data as core components will be aligned to the SDP to respond to the increasing demands for relevant and timely data to inform a wide range of socio-economic issues. It will incorporate new and emerging methodologies for the multidimensional approach to poverty measurement. and vulnerability mapping.

1.05 While GIS capacity in the OECS region has been developing in the physical planning aspect, it has had limited success in its use for the dissemination of vulnerability and poverty-related indicators. The Enhanced CPA Project is facilitating the development of multi-dimensional poverty indicators (MPI), which will be disaggregated at the enumeration district, community, parish/district level. The MPI indicators, in tandem with the use of GIS data, will allow for further capacity development in GIS in the OECS member states. The capacity and use of GIS will improve the utility of data from the Enhanced CPA project.

2. OBJECTIVE

The specific objectives of the consultancy assignment are to:

- manage the OECS GIS database to ensure that it serves as a platform for OECS spatial and statistical databases;
- integrate geo-referenced maps of administrative districts, communities, villages, enumeration areas/districts, and other spatial data of OECS Member States with Monetary and Multi-Dimensional Poverty Indicators derived from the SLC-HBS and the 2020 – 2023 round of Censuses;
- maintain computer-generated maps, reports, and data in a well-organised format and assist OECS Member States with the use of the information in the GIS format;
- develop and implement long-term and short-term GIS plans; and

- coordinate these GIS functions and related services with all OECS Member States' stakeholders and partners to maintain a sustainable OECS GIS platform.

3. SCOPE OF SERVICES

The GIS Specialist will oversee the design, development, and implementation of a GIS system and a set of GIS outputs for integration with the Enhanced CPA and Census data and indicators across the OECS Region, based on inputs from Member States and GIS Consultant's recommendations. The responsibilities will include, but not necessarily limited to, the following:

DESIGN

- (a) design a database to include monetary and multi-dimensional poverty indicators from the SLC-HBS and Census data, applying additional knowledge of spatial feature representations, this must include spatial representations of administrative regions, enumeration areas, communities, and villages based on data available within the OECS Member States;
- (b) design new maps through the use of a digitiser or by direct input of coordinate information using the principles of cartography;
- (c) integrate GIS with other computer applications, review user requests, develop and tailor applications to meet the various user needs;
- (d) design and maintain the GIS web applications for internal and external use and other supporting GIS tools (Open Source and Proprietary) for the display and dissemination of the Enhanced CPA and Census Indicators

DEVELOP

- (e) develop an OECS Spatial and Metadata Database to support a monetary and multidimensional assessment of poverty and the inter-relationship with social, economic, and physical vulnerabilities, e.g., Natural Hazards and HIV/AIDS. This database will provide the evidence base for the design of targeted project interventions and development assistance for OECS Member States;
- (f) develop protocols among Member States to support the provision of high-quality data and the timely update of spatial and geo-referenced data;
- (g) develop data standards for GIS deployment to ensure inter-operability and use within the OECS Region and strategies for maintaining database security; and
- (h) create new GIS layers along with relevant agencies (and users) when necessary, representing the OECS GIS asset;

IMPLEMENT

- (i) advise and assist individual OECS Member States in developing ‘fit for purpose’ datasets, including SLC-HBS and Census indicators on monetary and multi-dimensional poverty to support analysis of trends, patterns, and relationships for poverty and vulnerability mapping;
- (j) implement cloud- and mobile-based GIS solutions where appropriate to facilitate interoperability of GIS applications with mobile data collection applications in order to enable more efficient data collection processes and improve the efficiency of management of GIS data and metadata databases at the national and regional level;
- (k) establish an OECS regional GIS User Group and directly support their ongoing activities, including meetings and awareness; and
- (l) review existing server hosting specifications to recommend any upgrades if necessary.

GENERAL

- (m) provide GIS training, instruction, and support to users within stakeholder agencies in GIS systems, methodology, and technology, including the development of GIS course outlines and training material and tutorials, as required;
- (n) compile geographic data from a variety of sources, including population census, field observation, satellite imagery, aerial photographs, and existing maps;
- (o) provide guidance to OECS Staff and Member States to compile and generate geographical data for better decision-making from multiple sources in preparation for the digital conversion process;
- (p) advise on GIS equipment to be procured to assist in the preparation of the tender dossiers for the procurement of GIS equipment;
- (q) manage the OECS GIS database to ensure that it serves as a platform for OECS spatial and statistical databases;
- (r) oversee the governance of the OECS GIS to facilitate data-sharing between data producers and users.

COMMUNICATION

- (s) prepare and deliver GIS demonstrations and presentations to stakeholders, agencies, and partners;
- (t) liaise directly with the staff of the OECS Member States’ National Statistical Offices, Survey and Mapping Units, Physical Planning Sections, Disaster Management Agencies specifically and with key line managers, GIS suppliers, and spatial data and software providers in specifying and securing cost-effective systems and data for use within the OECS regional GIS platform (system); and

- (u) work closely with the Project Coordinator, Research and Survey Statistician, the Information Officer, and Social and Gender Analyst to ensure an integrated system for data storage, access, and dissemination.

EXPECTED DELIVERABLES

- (a) generation of country poverty and vulnerability maps
- (b) training manuals
- (c) training
- (d) OECS spatial and metadata databases
- (e) assessment reports
- (f) data submission protocols
- (g) geodata analyses and presentations, including maps on poverty and vulnerability
- (h) progress reports

4 . EDUCATION AND EXPERIENCE

The GIS Specialist shall possess:

- a) a Master's degree in GIS Geography, Earth Science, Engineering, Computer Science, or a related field from an accredited college or university with at least five (5) years' experience using GIS software and mapping services at a professional level;
OR
a Bachelor's degree in Geography, Earth Science, Engineering, Computer Science or a related field from an accredited college or university with at least eight (8) years' experience using GIS software and mapping services;
- b) At least three (3) years of demonstrated experience developing technical training material and conducting training in the GIS area;
- c) Demonstrated knowledge of remote sensing technology, mapping and/or surveying equipment, spatial data management software, and working (theoretical and practical) knowledge of ArcGIS, database design and administration, AutoCAD, and surveying principles;
- d) At least five (5) years of professional experience with GIS application (OECS Government GIS applications would be an asset) particularly similar projects successfully completed, especially in relation to planning, decision-making, policy formulation, and analytical exercise;
- e) Demonstrated ability to work with and negotiate with regional and international agencies;
- f) Knowledge and understanding of statistical software; and
- g) Knowledge of the OECS and its Commission mandate and role would be an asset.

5. SKILLS, ABILITIES AND OTHER MERIT CRITERIA

The GIS Specialist is also required to have the ability to:

- a) work in a fast-paced environment with tight competing deadlines.

- b) analyse, make recommendations, and make decisions.
- c) communicate clearly (orally and in writing) in English.
- d) apply sound judgment and possess a positive working attitude.
- e) solve problems using the GIS suite of tools.
- f) knowledge of various methods of describing locations, relationships, and characteristics.
- g) convey GIS/spatial information to non-GIS/technical people.
- h) demonstrate capacity to work independently and in a group environment.

6. REPORTING REQUIREMENTS/PROCEDURES

The assignment is expected to be undertaken for forty (40) professional days over a 5.5-month period in the consultant's home country. The OECS Commission will cover travel costs to three (3) OECS countries during the period of the consultancy under this project:

6.01 The GIS Specialist shall report on a day-to-day basis to the Project Coordinator – Enhanced CPA and Head of the Human & Social Division on matters relating to work progress and resources. The GIS specialist is also expected to interact with development partners to include *inter alia*, CDB, United Nations Development Programme, World Bank, UNWOMEN and United Nations Children's Fund.

6.02 Quarterly Progress Reports are to be submitted the Project Coordinator and include the following:

- (a) Activities executed and current status;
- (b) Challenges and Action Required; and
- (c) Schedule and plans for activities to be executed.

The copies of the quarterly progress reports would be made available to the CDB supervision mission.