



TERMS OF REFERENCE

Consultancy: GIS Developer

Consultancy reference number: CCD/24/C/45

Background

Desertification, along with climate change and the loss of biodiversity were identified as the greatest challenges to sustainable development during the 1992 Rio Earth Summit. Established in 1994, the United Nations Convention to Combat Desertification (UNCCD) is the sole legally binding international agreement linking environment and development to sustainable land management. The Convention seeks to support countries to address Desertification, Land Degradation, and Drought (DLDD). (www.unccd.int)

The G20 (or Group of Twenty) is the annual international forum for the governments of 19 industrialized countries and the European Union (EU). The G20 Leaders' Declaration, issued in November 2020, launched the "Global Initiative on Reducing Land Degradation and Enhancing Conservation of Terrestrial Habitats" (G20 Global Land Initiative). Building on existing initiatives and on a voluntary basis, the G20 countries share the ambition to achieve a 50 per cent reduction in the amount of degraded land by 2040.

The G20 Global Land Initiative, with oversight from UNCCD, will focus on building capacity, engaging the private sector, empowering civil society and showcasing success. Engagement with the private sector, including in relation to mining, agriculture and forestry, will be key to encourage support for land restoration efforts and the adoption of sustainable land management practices.

The Initiative Coordination Office seeks a web/database developer consultant to assist the G20 GLI team conduct Geographic Information Science (GIS) activities and maintain and develop web applications.

Objective of consultancy

The consultant will support the G20 GLI by providing general technical assistance for web development and maintenance tasks. Additionally, the consultant will contribute to the development of various Apps and tools for the G20 GLI.

Duties and responsibilities

Under the guidance of the Information Management Officer, the candidate will:

- Maintain and update the existing GLI data platforms and associated Geodatabases, develop and implement the following features: zoom, pan, a layer control panel to toggle different data layers, and custom widgets for measurement tools, drawing tools, and data export options. Additionally, ensure performance tuning of the server databases and promptly upgrade various server software packages.
- Configure and manage MapX and superscript libraries, as well as Open Geospatial Consortium (OGC) Web Services (OWS) such as GeoServer for the GLI data platforms.
- Develop Geospatial APIs for data sharing and establishing interoperability between GLI geospatial platforms and other relevant data platforms.
- Prepare GIS data layers for GLI data platforms and offer assistance with GIS data cleaning and preparation for statistical analyses, and assist in drafting reports, presentations, and training materials;
- Perform any additional tasks related to the G20 mission, including those involving the GLI internal information system.



Deliverables

- Comprehensive document encompasses both the detailed user requirements and the system architecture design for GLI data platforms . It includes detailed documentation outlining the user needs, functionalities, and expectations, as well as the architecture design, encompassing front-end and back-end components, data flow diagrams, and the chosen technology stack
 - Managed GeoServer Environment setup, which serves layers to the GLI platforms
 - UX/UI Design of Enterprise Geospatial Web App with complete functionalities, such as data visualization, user interactions, and geospatial data analysis tools.
 - System Architecture document for Enterprise Geospatial Web App
 - Technical training of GLI key staff on managing all platforms
- Create comprehensive documentation for the APIs, including details about the endpoints, request and response formats, authentication mechanisms, and usage examples for facilitating integration with other platforms.
- Develop a detailed an user guide and documentation for the process of publishing geospatial data on GeoServer, along with regular technical training for GLI key staff on preparing and publishing GIS layers
- Monthly summary progress report with updates on the work undertaken

Contractual terms

The service of the selected consultant is estimated to be for 252 days in the period from 09 September 2024 until 08 September 2025. Payment is defined upon submission of time sheet. The consultancy is home based however if needed missions will be organized and paid separately by the organization. All products resulting from this contractual arrangement are the exclusive property of the UNCCD.

Requirements

- A master's degree in information technology and Web GIS Developer or a closely related field is required;
- Proficiency in research is required;
- Minimum 4 years' experience in web GIS development;
- Strong understanding and experience using JavaScript, HTML, CSS, JavaScript, XML, web scripting and SQL programming;
- Experienced with relational databases (MySQL and Postgres);
- Familiarity with web and database technologies such as React JS, Angular JS and NodeJS.
- Proven experience in software upgrades / installations and testing procedures;
- Knowledge of GIS applications as they relate to agriculture, health, and population data;
- Understanding of vector and raster applications;
- Knowledge of publishing ArcGIS services and working with ArcGIS Online and Enterprise;
- Develop mash-ups with other mapping technologies such as Google Maps and Bing;
- Familiarity with source code control tools such as GitHub or Perforce;
- Excellent written and oral communication skills are required.
- Data literacy, creativity, innovation, problem-solving, and organisation skills are required;
- Ability to analyze complex data, identify patterns, and draw evidence-based conclusions are required;
- High degree of self-motivation and must be exceptionally resourceful, detail-oriented skills are required;
- Ability to multi-task in a dynamic environment is required;
- Ability to work independently as well as collaborative team environment displaying flexibility to adapt in a fast-paced environment and able to balance multiple priorities is required.
- Ability to interface smoothly and communicate effectively across multiple teams and disciplines is required.



- Independent thinker who promotes/champions process improvement within the organization is required.
- Fluency in English, both oral and written, is required.

Special notice

Only individuals who can act as independent, individual economical operators are qualified to apply. Individuals who can provide their services only on account of an institution or enterprise are not eligible under this procedure.

Individuals engaged under a consultancy or individual contract will not be considered “staff members” under the Staff Regulations and Rules of the United Nations Secretariat and will not be entitled to benefits provided therein (such as leave entitlements and medical insurance coverage). Their conditions of service will be governed by their contract and the General Conditions of Contracts for the Services of Consultants and Individual Contractors. Consultant and individual contractor is responsible for determining tax liabilities and for the payment of any taxes and/or duties, in accordance with local or other applicable laws.

Submission of application

The following documents should be sent to staffing@unccd.int as **one document**: UNCCD Personal History Form¹ /CV and cover letter, specifying the following in the email subject line: **CCD/24/C/45**.

The deadline for applications is **21 June 2024**. Only applications submitted by the deadline and with complete documentation will be taken into consideration.

Due to the volume of applications received, receipt of applications cannot be acknowledged individually. Please address your application as indicated above and please do not address or copy your application to an individual at the Secretariat or Global Mechanism. Candidates who do not receive any feedback within three months of the deadline should consider their application as unsuccessful.

Date of issuance : 14 June 2024

¹ UNCCD P-11 form in electronic fill-in .pdf OR .docx format available: <https://www.unccd.int/about-us/secretariat/vacancies/applying-unccd>