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## TERMS OF REFERENCE

### Data Scientists to organize and analyse data and information contained in UNCCD national reports

**Consultancy reference number: CCD/23/C/29**

#### **Background**

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Desertification, land degradation and drought, 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 UNCCD provides the foundation for its 196 country Parties and the European Union to work together to combat desertification, land degradation and mitigate the effects of drought; maintain and restore land and soil productivity, and improve the living conditions for people in drylands. Parties are required under the Convention to communicate, through the UNCCD secretariat, reports on measures undertaken to implement the Convention. The process of national reporting is an indispensable tool to bring forward effective planning and implementation of the Convention and the achievement of the strategic objectives at global and national levels. Due to advances in data and technology and in response to the political process undertaken by Parties designed to enhance the capacity of countries to collectively address desertification, land degradation and drought (DLDD), the Convention's approach to reporting continues to evolve. The UNCCD is also the indicator custodian for Sustainable Development Goal (SDG) Indicator 15.3.1, the proportion of land that is degraded over total land area.

The UNCCD national reporting platform - the Performance Review and Assessment of Implementation System (PRAIS) - used for 2018 reporting has been upgraded for 2022 reporting. The new platform (PRAIS 4) makes access to reporting data easier for country Parties, centralizes all reporting data in one place and offer new geospatial reporting features to enable spatially explicit reporting of key features of relevance to national reporting.

A new reporting template is introduced in PRAIS4 for Strategic objective 5. The default data is only prefilled for the first indicator (SO5-1) and for the remaining indicators, the data is requested from the Parties.

Post reporting deadline, the reporting data will be migrated to a relational database management system (PostgreSQL) so that it can be queried and analysed for synthesis reporting to the Committee for the Review of the Implementation of the Convention (CRIC) at its 21st session (CRIC 21).

The consultants will be expected to provide assistance in the entire data organizing and analysis process and delivery of the synthesis reports to CRIC-21. They will write and document the code to produce the various data graphics, charts and maps for the CRIC 21 synthesis reports. UNCCD will provide oversight and supervision of the work.

#### **Objective of consultancy**

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The objective and final expected output from the Consultant will be to assure that complexity of the reporting data will be reduced to simple, concise, informative, and eye-catching graphics and accompanying narrative text to draw out the key messages to be presented to CRIC-21.

The CRIC synthesis documents will be written according to a scientific target audience while appealing to UNCCD National Focal Points.



## Duties and Responsibilities

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Under the supervision of an assigned Programme Officer in the Global Mechanism, the consultant will support organizing the data, analysis of data and information on strategic objective 5 submitted by Parties through their national reports, support the preparation of documents for CRIC 21. The consultants' tasks will include, but not be limited to:

### CRIC 21 synthesis reporting:

- (i) Analysing and reviewing the current PRAIS 4 database model including scripts written by an IT developer to create the database model and the documentation on how to access the database ;
- (ii) Reviewing the methodological framework for the synthesis analysis prepared by the lead consultant which describes the quantity and type of graphics to be produced and the data analysis to be conducted;
- (iii) Agreeing on the work plan and workload distribution, including the preferred code development and production workflow;
- (iv) Using Structure Query Language (SQL) to query and retrieve the data from the PRAIS reporting database and, depending on workflow decided in (iii), export it to a local working environment or work directly in an online code notebook. This may involve creating temporary tables in the database environment where appropriate to store and process intermediate results;
- (v) Conduct Quality Assurance (QA) on the reported data to identify outliers that would produce erroneous statistics and propose changes to the reported values to correct for such outliers with full justification.
- (vi) Document all the proposed changes to the reported data in a centralised platform, so that changes are preserved and reproducible in PRAIS 4 by the system developers and the QA process is transparent;
- (vii) Following consultation between the secretariat and the countries on the proposed changes to the reported data, and with their explicit permission, alter the local copy of the reporting database as required in line with (v) and (vi)
- (viii) Submitting drafts of the data visualisation graphics to the GM for review and approval and implementing changes as requested;
- (ix) Inferring trends and drawing key messages from the data analysis;
- (x) Support the lead consultant in drafting the narrative text for the CRIC 21 report for Strategic Objective 5, writing in a suitable style for the target audience - country Party National Focal Points. CRIC 17 synthesis reports can be used for guidance, Convention and styling guidelines for formal documentation must be respected.

## Deliverables

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1. Compilation of national data, regional and global aggregates for UNCCD reporting;
2. Code used for CRIC-21 data analysis and data visualization fully documented and shared in an online code repository.
3. extraction of qualitative and quantitative data from the national reports to be ready to use for the analytical phase;
4. support to the data analysis and the drafting of the CRIC21 document.

## Contractual terms

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The service of the selected consultant is estimated for the period of 15 May 2023 and to be concluded by 30th June 2023). This contract is based on deliverables and payment is defined by output. The consultancy is home based and part time.



All products resulting from this contractual arrangement are the exclusive property of the UNCCD.

### Requirements

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- Advanced university degree (Master's degree or equivalent) in data science, computer science, information management, statistics or a related field. A first-level university degree in combination with qualifying experience may be accepted in lieu of the advanced university degree;
- A minimum of five years of progressively responsible experience in, data analysis, mapping, data visualization, or related area is required;
- Experience in data science, data analytics, applied mathematics, information management or related area is required;
- Experience of data Science tools such as Jupyter, Matlab, Knime, SPSS, SAS, or similar Statistical Programming Languages such as R, Python, Javascript or related is desirable;
- Experience in scripting in order to automate processes that support this analysis;
- Familiarity or basic understanding of the UNCCD reporting process;
- Proven experience translating user requirements into data queries and working closely with IT developers and database programmers;
- Communicating technical concepts and data-related issues to non-technical audiences especially through written outputs such as synthesis reports;
- Experience in the drafting of UN official documents desirable.

### Special notice

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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 not in their individual capacity 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

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The following documents should be sent to [staffing@unccd.int](mailto:staffing@unccd.int) as **one document**: UNCCD Personal History Form<sup>1</sup> /CV and cover letter, specifying the following in the email subject line: **CCD/23/C/29**.

The deadline for applications is **12 May 2023**. 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. Candidates who do not receive any feedback within three months of the deadline should consider their application as unsuccessful.

Date of issuance: 05 May 2023

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