United Nations
Convention to Combat Desertification

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TERMS OF REFERENCE

Text mining expert consultant to assist in extracting key messages from narrative sections in the 2022 UNCCD national reports

Consultancy reference number: CCD/23/C/34

Background

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) facilitate access to reporting data by country Parties, centralizes all reporting data in one place and offers geospatial reporting features to enable spatially explicit reporting of key features of relevance to national reporting. The platform allows for data entry in all six languages of the United Nations namely, Arabic, Chinese, English, French, Russian, and Spanish.

After the reporting deadline, all the reported data has been 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).

In addition to sections for the compilation and submission of spatial and tabular data on the UNCCD progress indicators, PRAIS also includes sections for Parties to report qualitative information, share national experiences in implementing the Convention, or provide other ancillary information on the indicators. As a result, national reports contain a wealth of semi-structured or unstructured information that need to be mined and analyzed using natural language processing and related text mining techniques and tools to create key messages from multilingual sources and translate them into English.

Objective of consultancy

The consultant will be expected to take ownership of the entire process of mining and analysing the semi-structured and unstructured information submitted by Parties in all UN languages and stored in the PRAIS database, in order to extract valuable insights from the national reports and compile key messages in English for use in official documents, publications, or internal documents. Particular attention needs to be given to the information submitted under the "implementation framework" that provide Parties with an opportunity to share their national experience in implementing the convention according to some agreed upon topics. In addition, the consultant will be requested to extract and produce key message in English on issues relating to gender, as well as provide additional insight on ancillary information provided on indicators. The UNCCD secretariat will provide oversight and supervision of the work.

Duties and Responsibilities:

Under the supervision of an assigned Programme Officer in the Science, Technology and Implementation (STI) Unit, the consultant will mine and analyse the semi-structured and unstructured information contained in PRAIS in any of the six UN languages, extract insights and compile key messages in English. The consultant's tasks will include, but is not limited to:

(i) Analyzing 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 through the Django SQL Explorer tool (read-only access will be granted);
(ii) Using Structure Query Language (SQL) to query and retrieve the narrative text from the PRAIS reporting database and, depending on the agreed workflow export it to a local working environment for further processing with natural language processing software.
(iii) Cleaning the text for inaccuracies which may include data entry errors and flagging issues which may prevent the text being analyzed to UNCCD staff for follow-up with countries if needed;
(iv) Agreeing with the relevant secretariat staff members on the number of thematic areas that require key messages to be compiled with a priority on the following themes:
a) the 'implementation framework' categories a) financial and non-financial sources; b) policy and planning; c) action on the ground;
b) information on gender;
c) narrative information provided under the indicators and in particular on the issue of 'drivers'
d) information submitted under the land degradation neutrality target setting section;
e) Construct the "lexicon" component of the natural language processing system that contains information (semantic, grammatical) about individual words or word strings related to the core themes agreed;
f) Run the analysis and seek review of key messages extracted and iterate until meaningful results are achieved;
g) Based on the agreed and final set of key messages, compile all key messages into a final document for further use in official documentation and/or publications.

Deliverables

The narrative sections of submitted reports will be mined and as a result, key messages can be produced making free text entries a valuable addition to the quantitative information provided by Parties.

One CRIC 21 official document on policy frameworks (gender) will benefit from the key messages inferred by submissions made by Parties while other official documents will benefit from the additional information provided by Parties in the ancillary sections.

All key messages relating to experience in the implementation of the convention will be reviewed to see whether they can be used for a future publication on the main findings of the UNCCD 2022 reporting process.

Contractual terms

The service of the selected consultant is estimated to be for a period of 01 month (full-time) between 12 June to 10 July 2023. This contract is based on deliverables and payment is defined by outputs.

Requirements

- 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 management is required.
- Experience in data science, data analytics, applied mathematics, information management or related area is required.
- Experience of natural language processing software is required.
- Experience of building database queries for data extraction in Structed Query Language (SQL) is required.
- Experience in scripting in order to automate processes that support this analysis
- Communicating technical concepts and data-related issues to non-technical audiences especially through written outputs such as synthesis reports;
- Access to technical facilities (i.e. computer, software, cloud storage and appropriate CPU capacity) available to carry out above tasks;
- Attention to detail, including systematic routines for data validation and verification and for operational production of output data products
- Skills in relational database management systems such as PostGresSQL
- Competent in the use of collaborative code development tools, e.g. GitHub, so that any code used for the analysis can be shared and delivered to the UNCCD
- For this consultancy fluency in English language (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 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

The following documents should be sent to **staffing@unccd.int** as **one document**: UNCCD Personal History Form[1] /CV and cover letter, specifying the following in the email subject line: **CCD/23/C/34.**

The deadline for applications is **02 June 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 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: 26 May 2023

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