



TERMS OF REFERENCE

Consultancy: Expert – Modern Technologies for Land Restoration

Consultancy reference number: CCD/23/C/69

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 in addressing 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 on Sunday, 22 November 2020, launched a "Global Initiative on Reducing Land Degradation and Enhancing Conservation of Terrestrial Habitats". Building on existing initiatives and on a voluntary basis, the G20 countries share the ambition to achieve a 50 percent reduction in the amount of degraded land by 2040.

The G20 Global Land Initiative (G20 GLI) seeks to stay ahead of the curve and remain updated with the latest trends in modern technologies that can significantly enhance its work and help achieve its ambitious goals. Embracing cutting-edge tools such as artificial intelligence, internet of things, drones, robots, and virtual reality is essential to the initiative's effectiveness.. Additionally the G20 GLI plans to organise a hackathon to raise awareness and harness youth's potential in the fight against land degradation. We are looking for a skilled consultant with expertise in modern technologies to guide our team and to provide advice on the same.

Objective of consultancy

The consultant will provide the G20 GLI with up-to-date advice on leveraging AI and modern technologies effectively. Additionally, the consultant will facilitate a successful hackathon on land restoration by identifying suitable partners, adapting datasets, and conceptualizing engaging competition elements to drive innovative solutions and raise awareness.

Duties and responsibilities

1. Provide advice on the latest advancements in AI and other relevant technologies across various streams of work at the G20 GLI. Including, drones, IoT, robots, AR and VR.
2. Provide insights on how these technologies can be applied to address challenges related to land restoration and sustainable practices and integrated in the work of the G20 GLI.
3. Recommend the most suitable technology stack for the organization's specific needs and goals.
4. Perform market research and establish contacts with possible partners for the co-organisation of a hackathon at the START Hack in March 2024 in St. Gallen, Switzerland, considering our priority areas and ideas on the topic of the hackathon case.
5. Evaluate the quality of proposed datasets and materials to be provided by the partner for the hackathon case.
6. Liaise with START Global to ensure the successful organization of our hack case study in the realm of their event, the START Hack competition.
7. Format and adapt the dataset provided by the partner to match the requirements of the START Hack competition. This dataset would be preprocessed and ready for use by participants during the hackathon.



8. Ideate hackathon guidelines on the rules, format, and evaluation criteria for the hackathon, based on the START Hack procedures.
9. Identify the resources needed, such as technical support, mentors, and infrastructure, to ensure a smooth and successful hackathon.
10. Prepare a communications strategy to promote the hackathon, engage participants, and raise awareness about the importance of land restoration.
11. Assist the communications team in drafting news articles and blog posts for promotion pre-during and after the event.
12. Provide assistance and advice to hackers during the event
13. Ensure a successful organisation of the hackathon event, providing assistance as needed.
14. Provide suggestions for follow-up actions based on the hackathon outcomes and potential next steps for implementing innovative solutions.

Deliverables

Key deliverables are:

1. Monthly summary progress report with updates on the work undertaken.
2. Advisory Report on Modern Technologies for Land Restoration providing a comprehensive overview of the latest technologies, such as AI, drones, IoT, robots, AR, and VR, and their potential applications in various streams of work at the G20 GLI. Providing insights into how these technologies can address challenges related to land restoration and sustainable practices. The report should also outline a detailed integration plan and recommendations to effectively implement these technologies.
3. Partner Identification Report: comparing suitable partners who can provide an adequate dataset. This report is to include information on potential collaborators, data availability, and data quality to facilitate the hackathon's success.
4. Hackathon organization and successful delivery of the event. Preparation of a concept note with:
 - Hackathon Question: A well-defined and impactful problem statement related to land restoration that participants will address during the competition.
 - Adapted Dataset: an adapted version of the identified dataset, formatted to match the requirements of the START Hack competition.
 - Competition Elements: Clear guidelines on the rules, format, and evaluation criteria.
 - Hackathon Schedule: An organized schedule outlining the timeline of the event, including registration, team formation, data exploration, model development, and final presentations.
 - Resource Requirements: Identification of the resources needed, such as technical support, mentors, and infrastructure, to ensure a smooth and successful hackathon.
 - Communication Strategy: Recommendations on how to promote the hackathon, engage participants, and raise awareness about the importance of land restoration.
5. Post-Hackathon Report: containing lessons learnt, suggestions for follow-up actions based on the hackathon outcomes and potential next steps for implementing innovative solutions.

Contractual terms

The service of the selected consultant is estimated to be for 165 days during the period from 15 September 2023 until 15 August 2024. This contract is based on deliverables and payment is defined by days worked and submission of a timesheet. The consultancy is home based, however, if needed to travel on missions, travel will be paid for and organized separately.

Requirements

- A master's degree in computer science, artificial intelligence, mathematics, machine learning, data science, or a closely related field is required.



- Proficiency in data analysis and preprocessing techniques to work with datasets effectively is required.
- Minimum of 3 years of experience, focusing on AI or modern technologies with proficiency in data science, coding ability, and familiarity with Python, machine learning, AI model evaluation, and responsible AI practices are required.
- Proven track record in successfully planning, coordinating, and executing, or participating in hackathons or similar events is required.
- Expertise in AI software development, industry-specific applications, interdisciplinary collaboration, and teaching is desirable.
- Possession of practical expertise in real-world AI projects is desirable.
- An understanding of environmental challenges, land restoration, and sustainable practices is desirable.
- Previous experience in providing advisory services, preparing comprehensive reports, and presenting recommendations to stakeholders is desirable.
- Excellent written and oral communication skills are required
- Data literacy, creativity, innovation, problem-solving, and organisation skills are required
- Strong project management abilities to plan, organize, and deliver events are required.
- Leadership and team management skills are desirable.
- 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 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/23/C/69**.

The deadline for applications is **05 September 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 : 15 August 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>