

Section III: Schedule of Requirements

eSourcing reference: RFP/2024/55002

TERMS OF REFERENCE

Maintenance of CAFI PES tool (Lot 2)

1. Purpose

The objective of this ToRs is to find a service provider to handle preventive and corrective maintenance of the CAFI Payment for Environmental Services digital tool.

2. Background

The Central African Forest Initiative Fund (CAFI) Secretariat is leading a project to develop a digital system for the Payments for Environmental Services (PES) scheme implementation in Central African countries. In the Democratic Republic of Congo, CAFI channels its funding through the National REDD+ Fund (FONAREDD).

The PES is a financing mechanism that compensates farmers and local communities for providing ecosystem services such as biodiversity conservation, carbon sequestration, or regulation of the water cycle on their land. PES schemes have emerged globally to incentivize farmers and local communities to maintain forests on their land or avoid agriculture expansion into nearby forest areas.

3. Project description

CAFI has developed open-source software for managing and tracking national PES schemes, aiming to be certified as a Digital Public Good. The platform's four core modules—Administration, Admission, Monitoring, and Map Viewer—enable centralized information management, facilitate verification and validation, and structure all actors in the PES chain. It offers interoperability with multiple data sources and ensures transparency and effectiveness in implementing these environmental strategies.

The MVP of this software will be released at the end of November 2024, and UNDP is seeking a service provider to handle maintenance and small-scale developments once it goes into production.

4. Assignment-specific objectives

The objective of this ToRs is to find a service provider to handle the maintenance of the CAFI Payment for Environmental Services digital tool once it goes into production.

The service provider will be expected to resolve bugs reported during the piloting phase and implement minor adjustments and enhancements based on user feedback. This includes making feature improvements or interface updates to ensure the software's continued functionality and effectiveness.

The service provider is expected to:

- Resolve all bugs and errors reported within the allotted time
- Monitor the system and implement appropriate remediation actions (updates, patches)
- Develop minor adjustments and enhancements based on user feedback
- Maintain GitHub repository versioning and documentation

GitHub	https://github.com/undp/Payment-for-Ecosystem-Services
Database	Postgres + PostGIS
Web application server	Custom build in .NET
Web application frontend	Custom build in Next.js
GIS server for map views	QGIS server
Field data collection tool	Kobo Collect and Toolbox
Identity and Access Management	Keycloak
Cloud Service	MS Azure (3 environments)

5. Assignment of geographical coverage

The Assignment's geographical coverage is global, as it concerns maintenance for a digital tool. Since the maintenance concerns a digital tool, the service provider's work will not be confined to any specific location.

6. Assignment design and methodology

6.1. METHODOLOGY AND APPROACH

Analyze the system and the code and synthesize the findings in an inception report

The service provider should thoroughly examine the software system and its underlying code. The purpose of this analysis is to understand the current state of the software, including its architecture, functionality, strengths, and any potential issues.

- **Expected delivery by 14/03/2025.**

Provide full technical support required to manage the system

The service provider should fully support resolving any issues encountered with the solution – bugs or non-functioning code elements - and test to verify that the solution is operational once the bug has been fixed.

The service provider should offer access to an agile digital platform for managing bug requests, allowing UNDP/CAFI to easily report and track bug resolutions continuously.

Also, the service provider should document a bug management procedure with a classification system for bug requests based on priority levels—low, medium, and high—and specify the associated response times for each category.

Support is expected to be provided throughout the entire length of the contract. Support is expected to be provided throughout the entire length of the contract.

- **Expected delivery by 28/02/2026.**

Provide full monitoring to ensure the security and robustness of the system

The service provider should provide monitoring on:

- System availability (uptime and system failure). This includes setting up alerts for any system failures or downtime. The provider should ensure prompt notification of any issues, with defined escalation procedures to address and resolve problems quickly to minimise disruption.
- System performance. This is to ensure it operates efficiently and meets performance expectations. This involves tracking key metrics such as response times, and resource utilization, and performing regular performance testing.

- System vulnerability. The service provider must conduct regular vulnerability scans to identify and assess potential security risks within the system and with the different dependencies and proceed with security patches and/or updates to mitigate risks and enhance system security.

Monitoring is expected to be provided throughout the entire length of the contract.

- **Expected delivery by 28/02/2026.**

Ensure the consistency of the updates in versioning, updating, and maintaining the GitHub repository. The service provider should manage the software's version control effectively by keeping the GitHub repository organized and up to date with accurate versioning and changes and updated documentation. This is expected to be provided throughout the entire length of the contract.

- **Expected delivery by 28/02/2026.**

Provide ongoing development for small-scale improvements (non-technical bugs)

The service provider should handle and implement minor updates or improvements that are not related to technical bugs, such as user interface tweaks or minor enhancements, primarily based on user feedback. The agile digital platform will also be used for managing the backlog and continuous delivery of these small developments.

- **Expected delivery by 28/02/2026.**

6.2. INDICATIVE TASKS

1. Provide technical support to address any issues with the PES system.
2. Participate in meetings with the different stakeholders to prioritize the bugs and the changes to implement.
3. Report on system uptime and incidents.
4. Update GitHub repository documentation.
5. Update dependencies for known vulnerabilities or high levels of severity.

7. Timelines

The service provider must ensure that the maintenance services are fully prepared and in place for the tool's deployment, which is scheduled for 01/03/2025. Maintenance services must be provided for 12 months from the date of tool deployment. Service is requested from 01/03/2025 to 28/02/2026.

8. Quality control and contract management

8.1. QUALITY CONTROL

The maintenance service provider is required to establish and maintain a robust Quality Assurance (QA) framework throughout the duration of the contract. This framework will ensure that all maintenance activities meet or exceed the standards set forth by the project. The QA framework should align with industry best practices.

8.2. CONTRACT MANAGEMENT

1. The service provider will report to and be directly supervised by the CAFI Secretariat.
2. The service provider will have access to relevant information and stakeholders necessary for executing the tasks under this assignment.
3. Payments will be made upon submission of the certification of payment form upon acceptance and confirmation by the supervisor of the output delivered. If the quality does not meet standards or requirements, the service provider will be asked to rewrite or revise (as necessary) the document before proceeding to payment.
4. Given the global consultations to be undertaken during this assignment, the service provider is expected to be reasonably flexible with the availability for such consultations, taking into consideration different time zones;

8.3. TEAM COMPOSITION AND MINIMUM QUALIFICATIONS

a. Backend Developer

- Bachelor's degree in computer science, software engineering, or related fields.
- Minimum of 5 years of experience as a developer preferably in open-source projects.
- Expertise in Postgres/PostGIS databases, .NET servers, and API development.
- Familiarity with Keycloak for authentication and GitHub.
- Excellent problem-solving skills and ability to manage global software deployment.
- Proficiency in English.

b. Frontend Developer

- Bachelor's degree in computer science or a related field.
- Minimum of 5 years of experience in web development, preferably with Next.js or other React frameworks.
- Strong proficiency in HTML5, CSS3, JavaScript (React/Next.js).
- Experience with UI/UX design principles and tools like Figma.
- Excellent problem-solving skills and ability to manage global software deployment.
- Proficiency in English.

c. System Administrator - DevOps Engineer

- Bachelor's degree in computer science, systems engineering, or a related field.
- Minimum of 5 years of experience in system administration, preferably with cloud environments.
- Expertise with cloud platforms like Azure.
- Strong knowledge of network security and infrastructure management.
- Experience with GitHub for version control and collaborative software development.
- Proficiency in implementing security patches and optimizing system performance.
- Proficiency in English.

d. Project Manager

- Bachelor's degree in project management, business administration, or a related field.
- Minimum of 5 years of experience managing software projects.
- Strong understanding of Agile methodologies (Scrum, Kanban).
- Excellent communication skills and proficiency in English (French is a plus).
- Experience in coordinating software maintenance actions.

9. Expected deliverables and payment schedule

Deliverables	Contents	Payment schedule
A. Inception report	Synthesis of the examination of the software system and its underlying code.	5%
B. Full technical support	Documentation of a bug management procedure with a priority-based classification system. Access to an agile digital platform to manage and track the backlog (bugs + small developments). Full technical support for resolving issues.	60%
C. Full system monitoring	Monitor system availability, performance, vulnerability, and dependencies and implement appropriate remediations.	10%
D. Update and maintain GitHub	GitHub up to date (versioning + documentation)	5%
E. Enhancement Delivery 1	Code for the solution incorporating any design and technical updates required based on user testing and feedback.	5%
F. Enhancement Delivery 2		5%
G. Enhancement Delivery 3		5%
H. Enhancement Delivery 4		5%
Total		100%

10. Organisational profile

The maintenance service provider must be a well-established and reputable organization, with at least one certificate of service completion within the last five years, in the provision of software maintenance support, particularly for platforms built with technologies such as .NET, Next.js, Postgres/PostGIS, QGIS and Keycloak.

The organization must be committed to maintaining high quality standards in service delivery. This includes using industry best practices in software development and maintenance, continuously training staff to stay updated with evolving technologies, and adhering to international standards in software maintenance and support. To ensure smooth and efficient project management, the provider must also ensure comprehensive documentation, rigorous version control via platforms like GitHub, and strong communication with stakeholders.

11. Quotation

The service provider shall submit a quotation that includes the following:

- i.** Narrative response to the terms of reference (Form C)
- ii.** Proposed detailed methodological approach (Form C)
- iii.** List of assumptions and risks (Form C)
- iv.** Detailed work plan (Form C)
- v.** Previous 5 years experience of the firm/consulting team/consortium/service provider, demonstrating local data collection and analysis knowledge, as per the last paragraph requirements (10. Organisational profile) (Form G)
- vi.** Profile of the Team Leader and key team members (Form F & H)
- vii.** Detailed budget (staff, travel, operations, etc.) (Form B)