

TERMS OF REFERENCE (ToR)

ASSIGNMENT: IUCN Green List Software Enhancement

SUBJECT: Consultancy services for software development - : Enhancing the PCA Knowledge Kit: Integration of PANORAMA Solutions and AI for Green List Alignment (Phase-II)

DURATION: 30 Days

CONTACT: IUCN-Asia Regional Office (ARO), Protected and Conserved Areas Team

1. Background

Following the adoption of the Kunming-Montreal Global Biodiversity Framework (KM-GBF), including the ambitious Target 3, there is a pressing need to support Protected and Conserved Areas (PCAs) in Asia and globally with actionable, accessible, and scalable knowledge tools. Building on the success of the 2021 Protected Area (PA) Resource Book and its Phase-I digital enhancement, IUCN Asia Regional Office (ARO) and GIZ are advancing to Phase-II of this initiative.

This next phase focuses on the integration of PANORAMA Solutions—a repository of over 1500 global case studies showcasing area-based conservation success—with IUCN Green List (GL) Standard criteria using AI-powered tools. The goal is to provide PCA managers and decision-makers with an intelligent, offline-compatible resource that aligns real-world case studies with globally recognized standards.

2. Objective of the Assignment

To develop an enhanced version of the PCA Knowledge Kit by:

- Integrating PANORAMA Solutions with the IUCN Green List Standard using offline AI-powered matching tools.
- Increasing the accessibility and usability of relevant knowledge, tools, and case studies to support effective governance and equitable management of PCAs.
- Enhancing interoperability and user experience within a standalone digital application.

3. Scope of Work

The consultant will be responsible for:

1. **Data Preparation and Mapping**

- Collate and structure 1578 PANORAMA Solutions into a machine-readable format.
- Map each solution to the 17 IUCN Green List criteria using NLP and AI-based algorithms.
- Extract metadata and keywords for enriched searchability.
- 2. AI Model Development**
 - Design and train a Natural Language Processing (NLP) model to analyse and match solutions to relevant criteria.
 - Deploy the model as a fully offline-compatible tool (standalone app or containerized environment).
 - Ensure model scalability for future incorporation of additional case studies and standards.
- 3. Integration and Deployment**
 - Integrate outputs with the existing PCA Knowledge Kit interface, aligning with prior Phase-I enhancements.
 - Enable barrier-free access and central search functions across PANORAMA-GL-aligned entries.
 - Prepare the platform for future online publication and integration with the Green List dashboard.

4. Deliverables

- 1. Offline and Online AI-Powered Matching Tool**
 - Standalone software capable of analysing PANORAMA Solutions and assigning them to Green List criteria.
- 2. Matched Dataset**
 - Exportable dataset of AI-generated matches between Solutions and GL criteria.
- 3. Updated Digital Knowledge Kit Interface**
 - An enhanced, user-friendly, and accessible PCA Knowledge Kit incorporating mapped solutions and new features.
- 4. Final Report and Presentation**
 - Technical documentation of AI methodology, data handling, and integration process.
 - Presentation to IUCN, GIZ, and relevant stakeholders summarizing results and next steps.

5. Timeframe and Budget

- **Duration:** 10 weeks from contract signing
- **Proposed Timeline:** [Insert specific dates]
- **Payment Schedule:**
 - 30% upon signing of the contract
 - 40% at mid-term or upon 60% completion
 - 30% upon delivery and approval of final outputs

6. Delivery Table of Outputs

No.	Deliverable	Description	Format	Due Date	Payment Milestone
1	Inception Report	Detailing methodology, work plan, data needs, and initial system design for offline AI integration.	PDF Document	Week 1	30% upon contract signing
4	Matched Dataset (AI-Generated)	Exportable dataset of PANORAMA Solutions with assigned Green List criteria based on automated analysis.	Excel/CSV/JSON	Week 3	40% upon mid-term completion
6	Final Version of AI Tool & Knowledge Kit Integration	Fully functional, packaged tool with user manual and embedded within PCA Knowledge Kit platform.	App Package + PDF Manual	Week 4	
7	Final Technical Report and Presentation	Report on methodology, testing, lessons learned, and guidance for future scaling and interoperability.	PDF Report + PPT Slides	Week 4	30% upon delivery & sign-off

7. Required Qualifications

- Proven experience in NLP and AI model development in the environmental or conservation domain
- Demonstrated ability to work with structured and unstructured data
- Knowledge of IUCN Green List and PANORAMA Solutions preferred
- Experience with offline/low-connectivity tool deployment is an advantage
- Strong UI/UX skills for tool design and user testing

8. Reporting and Coordination

The consultant will report to Regional Coordinator – Protected, Conserved and Heritage Areas – IUCN ARO and the Asia Protected Areas Partnership (APAP) Secretariat. Coordination meetings will be held biweekly, with additional consultations as needed.

9. Confidentiality and Intellectual Property

All data and outputs developed under this assignment shall remain the property of IUCN. The consultant may not use or share any part of the work for external purposes without explicit written permission.