



**Join Landscape Alliance and make a difference!**

**Consultant - Engagement of GIS Digitizers for Digitization of Rice Field Boundary Polygons (Ref. No. 2635) Sri Lanka Country Program**

Landscape Alliance transforms science into action, unlocking the power of trees, forests and agroforestry landscapes to advance planetary health and human well-being. Landscape Alliance is the operating name of the Center for International Forestry Research (CIFOR) and the International Centre for Research on Agroforestry (ICRAF). CIFOR and ICRAF are independent International Organizations and CGIAR Research Centers.

Landscape Alliance is looking for:

***Consultant - Engagement of GIS Digitizers for Digitization of Rice Field Boundary Polygons***

**Overview**

ICRAF, under the GCF Knuckles Project, is supporting the development and implementation of spatially enabled tools for sustainable landscape management, agricultural monitoring, and decision support. As part of the collaboration with the AgriLook platform, rice field and plot boundaries are to be demarcated as a fundamental spatial dataset for satellite-based monitoring and analysis. Accurate field polygons will enable subsequent analyses such as cropping intensity assessment, crop-condition monitoring, vegetation-index analysis, water status, seasonal agricultural monitoring, and other field-level agricultural information services.

To accelerate datasets preparation, ICRAF intends to establish a pool of GIS Digitization Assistants who can be assigned rice field digitization tasks as needed. Work will be assigned depending on project requirements and the availability and performance of individual members of the pool. Payments will be made based on the quantity of digitization completed, verified, and accepted, primarily measured by the total area of approved agricultural field polygons digitized.

**Summary of responsibilities**

The main objective of this assignment is to engage qualified individuals ("Digitizers") to develop an accurate, consistent, and quality-controlled geospatial database of rice field and plot boundaries within designated areas of the GCF Knuckles Project area.

Specific objectives are to:

- Digitize individual rice **fields and plot boundaries** from high-resolution satellite imagery, basemaps, or other reference datasets designated by ICRAF.
- Produce topologically correct and spatially accurate polygon datasets.
- Follow standardized digitization protocols and attribute structures provided by ICRAF.
- Maintain consistency among multiple GIS operators working simultaneously.
- Support rapid preparation of field-level spatial data required for integration with the AgriLook platform and related project applications.

- Ensure that all digitized outputs undergo a transparent and systematic QA/QC process prior to acceptance and payment.

The Digitizer will be responsible for the following tasks:

- Review reference imagery (high-resolution satellite imagery, Google earth imagery as provided) and any existing cadastral border, or AI-survey area layers supplied by ICRAF.
- Digitize the boundary of each distinct field as a closed polygon in the specified GIS format (e.g., Shapefile/GeoJSON/GeoPackage, per project standard), following the field delineation and topology rules given in Section 5.
- Populate required attribute fields for each polygon (e.g., unique field ID, administrative division/GN division, land-use type, source imagery date, digitizer ID/date).
- Where assigned, cross-check digitized boundaries against ground/field survey points.
- Submit digitized polygons in batches according to the agreed schedule, through the designated submission platform/folder structure.
- Correct and resubmit any polygons flagged as non-conforming during the quality assurance review, at no additional cost, before they are counted as accepted for payment.
- Maintain a basic digitization log (area/tile covered, date, number of polygons submitted) for progress tracking.

### **Digitization Standards and Methodology**

All polygons must be digitized to the following standard:

- Each polygon must represent one distinct, contiguous, single-cultivator rice field and plot, as visible on the reference imagery.
- Boundaries must be traced to the visible edge of the field (bund/ridge or adjacent land-use change) at a proper digitization scale (e.g., finer than 1:500, per project imagery resolution).
- No overlapping polygons.
- No unintended slivers, self-intersecting geometries, or duplicate polygons.
- Minimum mapping unit and positional accuracy tolerance to be specified by the project (e.g.,  $\pm$  [X] metres) before work begins.
- Correct coordinate reference system (CRS) as specified by ICRAF (e.g., WGS84 / SL national grid).
- Every polygon carries required attributes for (field ID, division, source date, digitizer ID).

### **Quality Assurance/Quality Control (QA/QC)**

To safeguard data quality under the output-based payment model, the following QA/QC process will apply to every batch submitted:

- Automated checks: geometry validity (no self-intersections, no slivers), topology checks (no overlaps/gaps on shared boundaries), CRS/format compliance, and attribute completeness.
- Manual sample review: a GIS quality reviewer visually compares a sample of polygons against reference imagery for boundary accuracy and correct field delineation.
- Feedback loop: rejected polygons are returned to the Digitizer with the specific reason for rejection (e.g., boundary offset, merged fields, missing attribute) for correction and resubmission.
- QA sign-off: a batch is only marked Accepted, and therefore payable, once it passes the applicable QA checks above.

### **Requirements**

*Education, knowledge, and experience:*

- Completed/enrolled in Diploma/degree in Geography, Surveying, Remote Sensing, GIS, Agriculture, or a related field (or demonstrable equivalent practical experience) or.
- Basic knowledge of GIS software (e.g., QGIS or ArcGIS) and satellite/aerial imagery interpretation.

- Prior experience in land parcel, cadastral, or agricultural field boundary digitization is strongly preferred.
- Basic spreadsheet skills for progress logging and batch submission.

#### *Personal Attributes and Competencies*

- Attention to detail and ability to consistently apply a defined digitization standard across large volumes of work.

#### **Terms and conditions**

- This is a consultancy position.
- See the details of deliverables and payment terms in the attached file.
- The duty station will be in home-based/ office-based digitization work (remote or at a designated project office, as agreed) using own devices and data.

#### **Application process**

- The application deadline is **31 October 2026, 05.00 pm IST**.
- This position will require the hiring of 30–50 individuals.
- Shortlisted candidates complete a short practical digitization test (a fixed set of sample fields), assessed against the Section 5 standard.
- Selected candidates undergo a brief orientation/training on the AgriLook digitization manual, file format, and submission process before beginning paid work.

To apply, please visit our career site at:

<https://www.landscapealliance.org/about/work-with-us/>

To learn more about Landscape Alliance, please visit our website at:

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**Landscape Alliance promotes Gender Diversity – Applications from women professionals are encouraged.**

**Landscape Alliance is an equal opportunity employer. It fosters a multicultural work environment that values gender equality, teamwork, and respect for diversity.**

**Deliverables**

| No. | Deliverable                                              | Format                                  | Frequency                    |
|-----|----------------------------------------------------------|-----------------------------------------|------------------------------|
| 1   | Digitized field boundary polygons for assigned area/tile | Shapefile/GeoJSON/GeoPackage (per spec) | Per batch (e.g., weekly)     |
| 2   | Attribute table completed per polygon                    | Embedded in GIS file                    | With each batch              |
| 3   | Digitization progress log                                | Excel/CSV                               | Weekly                       |
| 4   | Corrected resubmissions of QA-flagged polygons           | Same as (1)                             | Within 3 days of QA feedback |

**Rate Schedule**

| Field/Polygon Category                         | Rate per Accepted Unit (LKR/ha) |
|------------------------------------------------|---------------------------------|
| Standard field (regular shape, clear boundary) | 100                             |

**Payment Terms (Output-Based)**

1. Payment shall be calculated based only on the area of rice fields that has been digitized in accordance with the technical requirements and has successfully passed the QA/QC process.  
The general payment calculation shall be:  
Payment = Verified and Accepted Digitized Area × Approved Rate per Unit Area  
Where hectares are used as the unit:  
**Payment = Accepted Area (ha) × Rate per Accepted Hectare (LKR/ha)**
2. Only "Accepted" polygons count toward payment. A polygon is accepted only after it passes QA/QC criteria; it is not counted upon submission alone.
3. A random or systematic sample (minimum [10] %) of each batch will be checked by a GIS quality reviewer before the batch is accepted.
4. If the rejection rate in a sampled batch exceeds a set threshold (10% of polygons digitized), the entire batch will be returned for correction and re-review before any payment is processed for that batch; a repeated pattern of high rejection rates may result in termination of the engagement.
5. Payment will be processed monthly/bi-weekly based on the cumulative number of accepted polygons in the period, upon submission of an invoice and the QA sign-off report.
6. A complexity/quality difference in the area will be equalized as much as possible during distribution of areas for digitization; e.g., a lower rate for simple regular-shaped fields versus a higher rate for small, irregular, or fragmented fields, where specified by ICRAF.