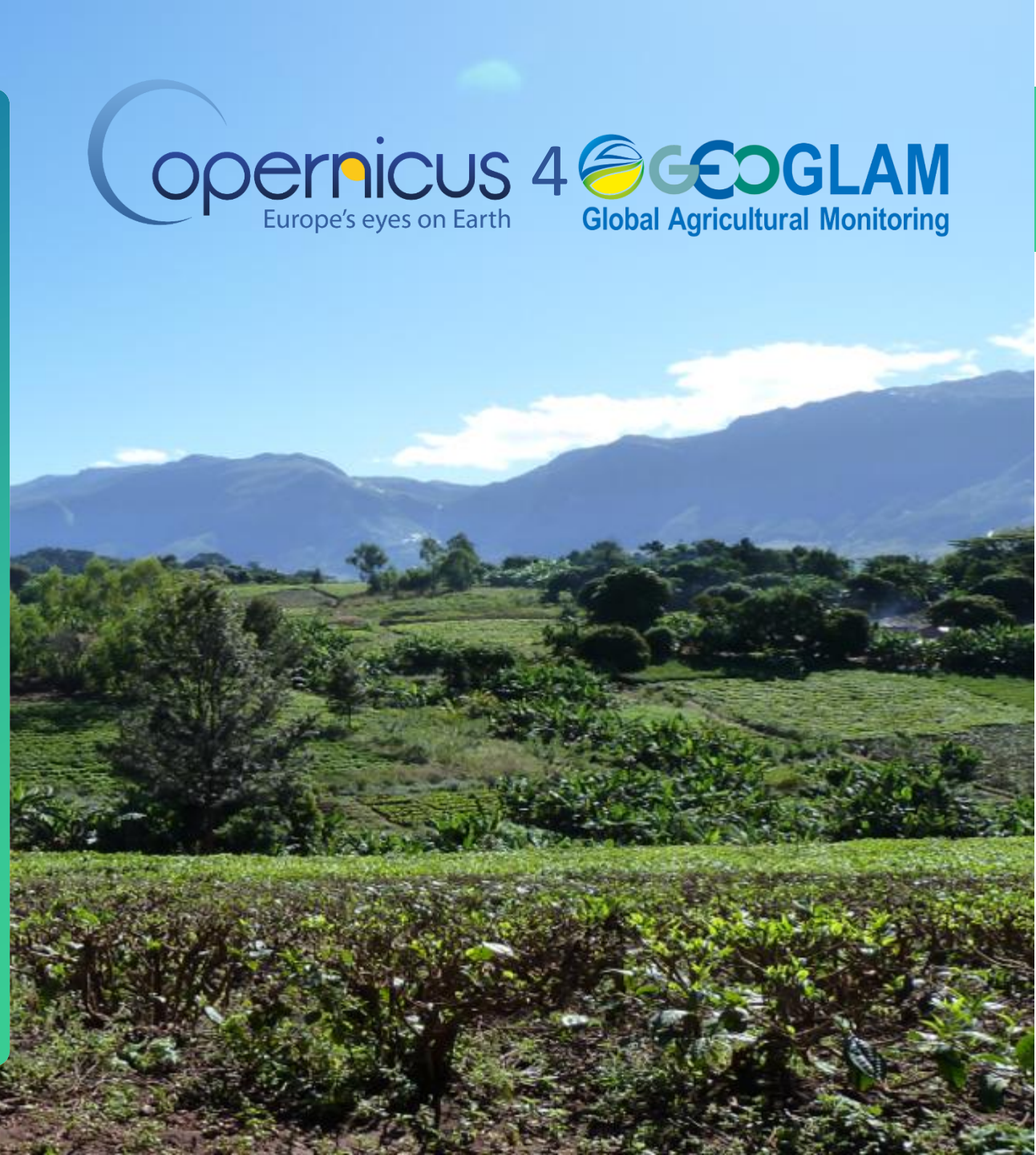




Field campaign

P r e p a r a t i o n
a n d
E x e c u t i o n

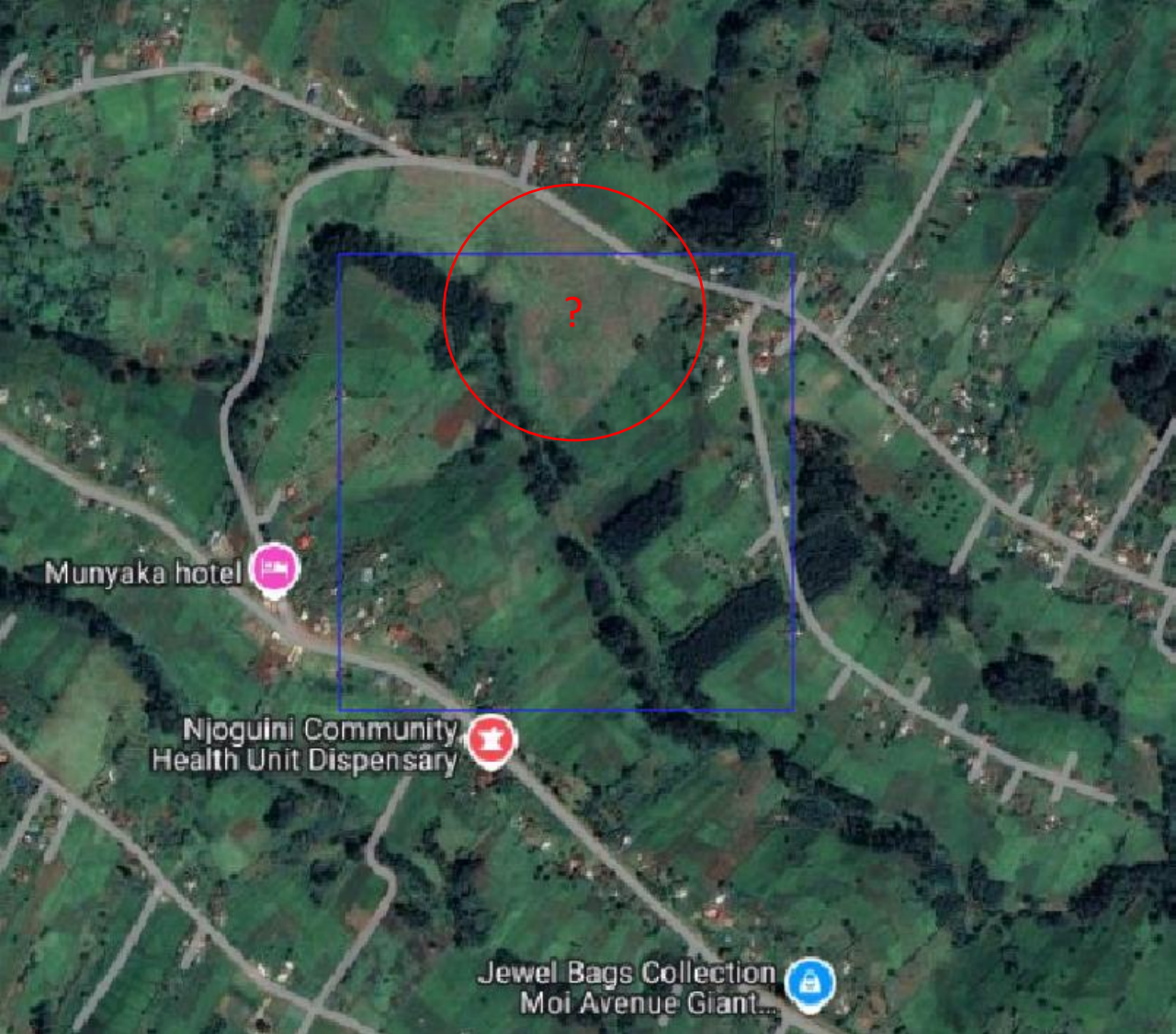


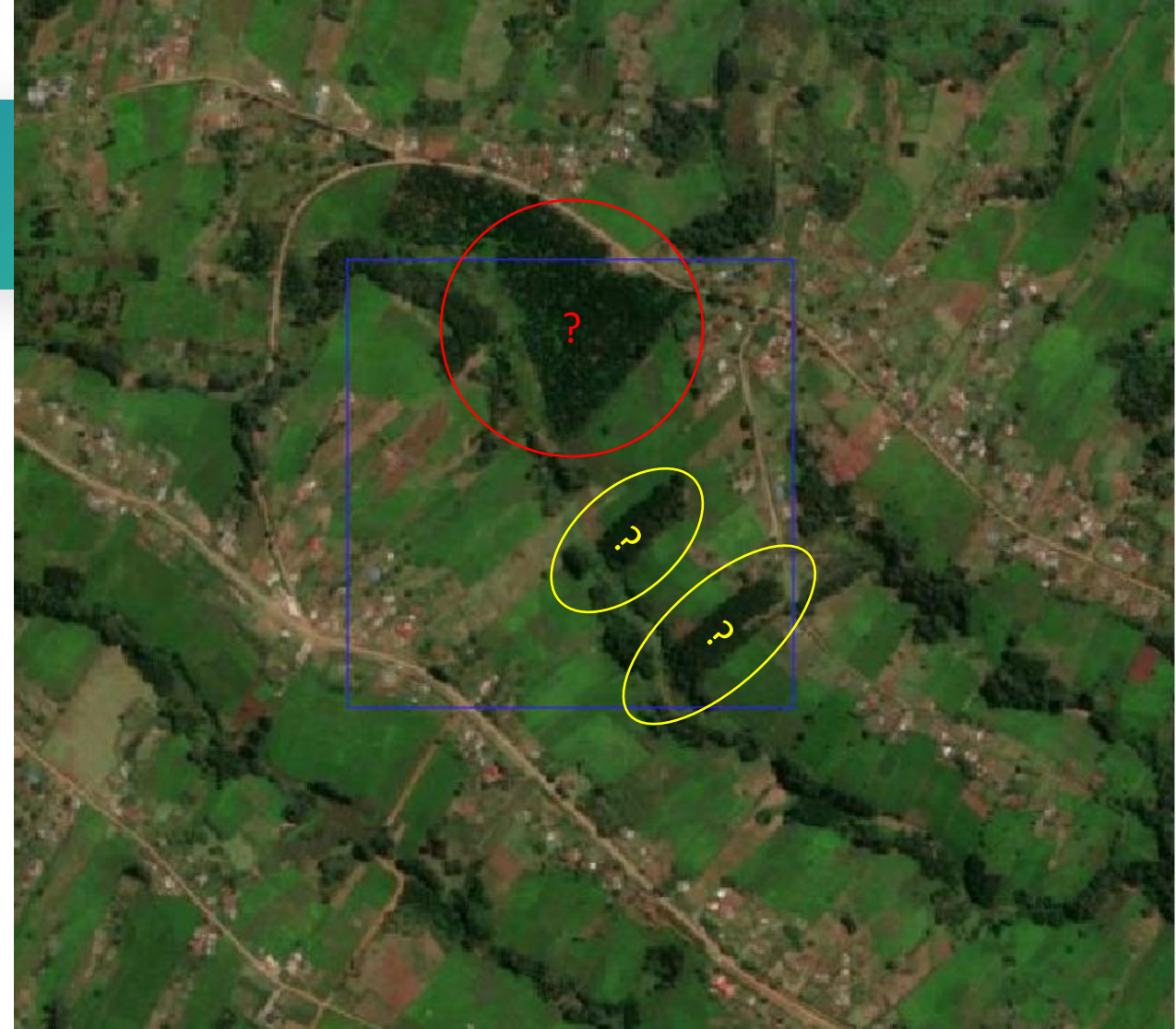
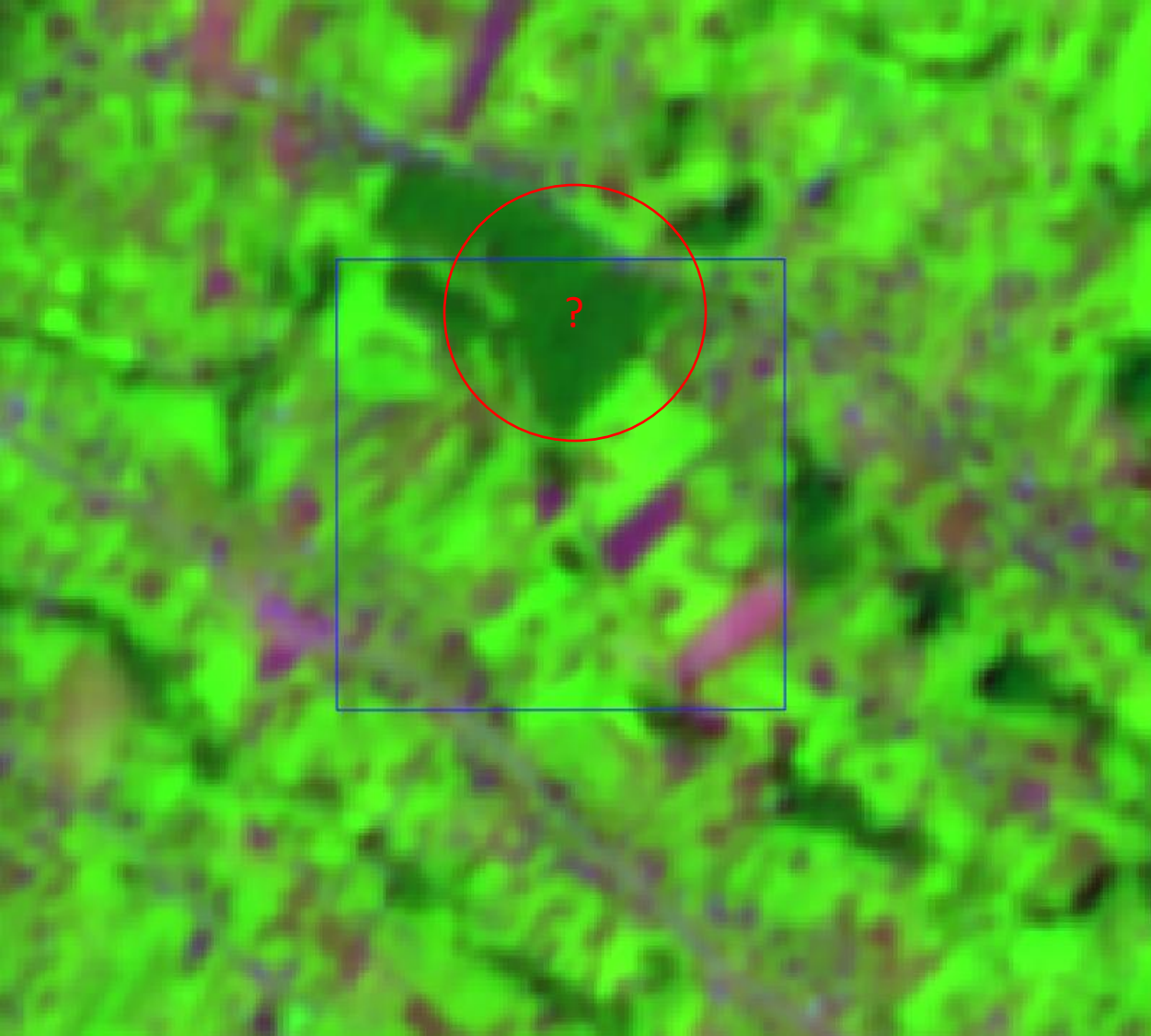
Field campaign

- Preparation
 - Sample digitization
 - Set-up KoboToolbox
 - Form design
 - MBTile creation
- Execution
 - Form publication
 - ODK Collect use
 - Information collection
 - Information storage and QC

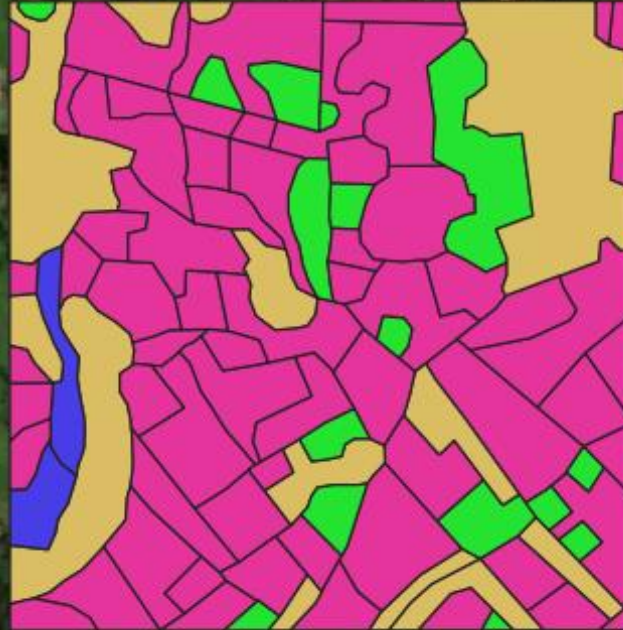
Sample digitization

- Switching between many sources
 - Different VHR basemaps
 - Satellite imagery (Sentinel-2 timeseries, VHR imagery)
 - If available aerial imagery, DEM
- Considerations
 - Delineation is time consuming!
 - Requires expertise on LU/LC and imagery
 - Temporal coverages
 - Timeserie analysis for crop parcel delineations





- Non-overlapping
- Continuous
- LU/LC label
- Unique identifier
- Cropland
 - Separated per parcel
- Other LU/LC
 - Separated per clear boundary



Kobo Toolbox set-up

- Rationale
 - Focused on offline fieldwork in challenging environments
 - Integration with ODK Collect
 - Provides many services like form design, hosting and data aggregation
 - Large community, open source, active development team
- Deployment
 - Own Dockerized/Native KoboToolbox server
 - Use the service of Kobo Toolbox to arrange for a private server

Option	Pros	Cons
<ul style="list-style-type: none"> Set-up own Dockerized/native KoboToolbox server 	<ul style="list-style-type: none"> Reduced costs Storage can be scaled to needs Set-up can be modified Better integration with existing IT-solutions 	<ul style="list-style-type: none"> Needs high IT skills (specifically dev ops and system and server administration skill) Set-up is time consuming
<ul style="list-style-type: none"> Use service of Kobo toolbox 	<ul style="list-style-type: none"> Easy set-up 	<ul style="list-style-type: none"> Costs increase related to storage

Kobo Toolbox deployment

- Prerequisite for
 - Form hosting
 - Data collection / aggregation
- Useful for
 - Form Design
 - Storage
 - Quality control
- Deployment of Kobo Toolbox
 - Excellent tutorials and documentations

1) https://support.kobotoolbox.org/kobo_your_servers.html

2) <https://www.kobotoolbox.org/services/>

Form design

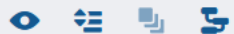
The screenshot shows the KoboToolbox web interface. At the top, the KoboToolbox logo is on the left, a search bar is in the center, and a user profile icon is on the right. The main content area is titled 'My Projects' and includes a 'filter' button and a 'fields' button. A modal window titled 'Create project: Choose a source' is open in the center, with a close button (X) in the top right corner. The modal contains the text: 'Choose one of the options below to continue. You will be prompted to enter name and other details in further steps.' Below this text are four buttons arranged in a 2x2 grid: 'Build from scratch' (with a pencil icon), 'Use a template' (with a 'T' icon), 'Upload an XLSForm' (with an upload icon), and 'Import an XLSForm via URL' (with a chain link icon). In the background, the 'My Projects' table is visible, showing a project named 'Final version Geoglam for Kenya long rains season 2023' with a status of 'Deployed' (1), a 'Draft' (0), and an 'Archived' (0). The table also has columns for 'Date deployed' (May 22, 2023) and 'Submissions' (29).



project

Final version Geoglam for Kenya long rains season 2023

SAVE



Add from Library

Layout & Settings

new_q

+ Click to add another response...



* Is the field accessible?

Indicate whether the field was accessible for surveying



Yes

yes



No

no

+ Click to add another response...



* Reason field access was not possible

Indicate the reason why the field was not accessible.



Settings



Question Options

Skip Logic

Validation Criteria

This question will only be displayed if the following conditions apply

Is the field accessible?

=

No



+ ADD ANOTHER CONDITION

abc

* What is the other reason the field access is not possible?

Describe what is the other reason why no access at all was possible



Form design key learnings

- Testing very importing
- Provide abundant explanations and examples
- Provide documentation
- Reduce text fields as much as possible
 - Speed
 - Typos, local names are very hard in post-processing
 - Provide cascading options based on likelihood

Project Edit View Layer Settings Plugins Vector Raster Database Web Mesh Processing Help



Layers

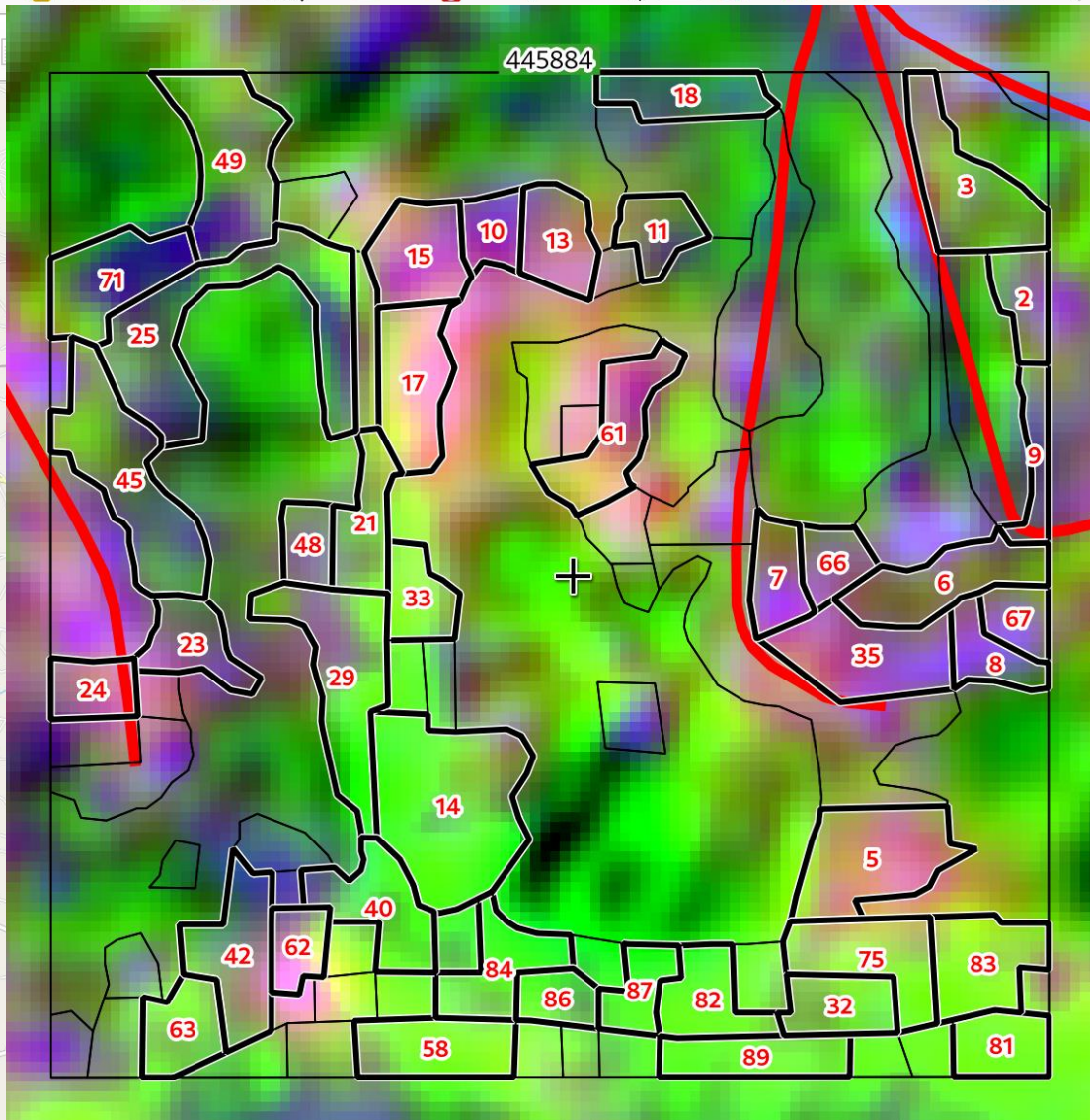


- ☒ sample_units_kenya_aoi_bounding_box 2022_2023
- ☒ sample_units_kenya_aoi_2022_2023_ts
- ☒ osm_roads_network_kenya_aoi
- ☒ osm_waterways_network_kenya_aoi
- ☒ s2_20241029_B11843_muranga_445884
- ☒ OSM Standard

Browser



- ★ Favorites
- Spatial Bookmarks
- Project Home
- Home
- / (fedora)
- GeoPackage
- SpatiaLite
- PostgreSQL
- MS SQL Server
- WMS/WMTS
- Scenes
- Vector Tiles
- XY Tiles



Type to locate (Ctrl+K)

Coordinate 4125199, -81677



Scale 1:64877



Magnifier 100%

Rotation 0.0 °



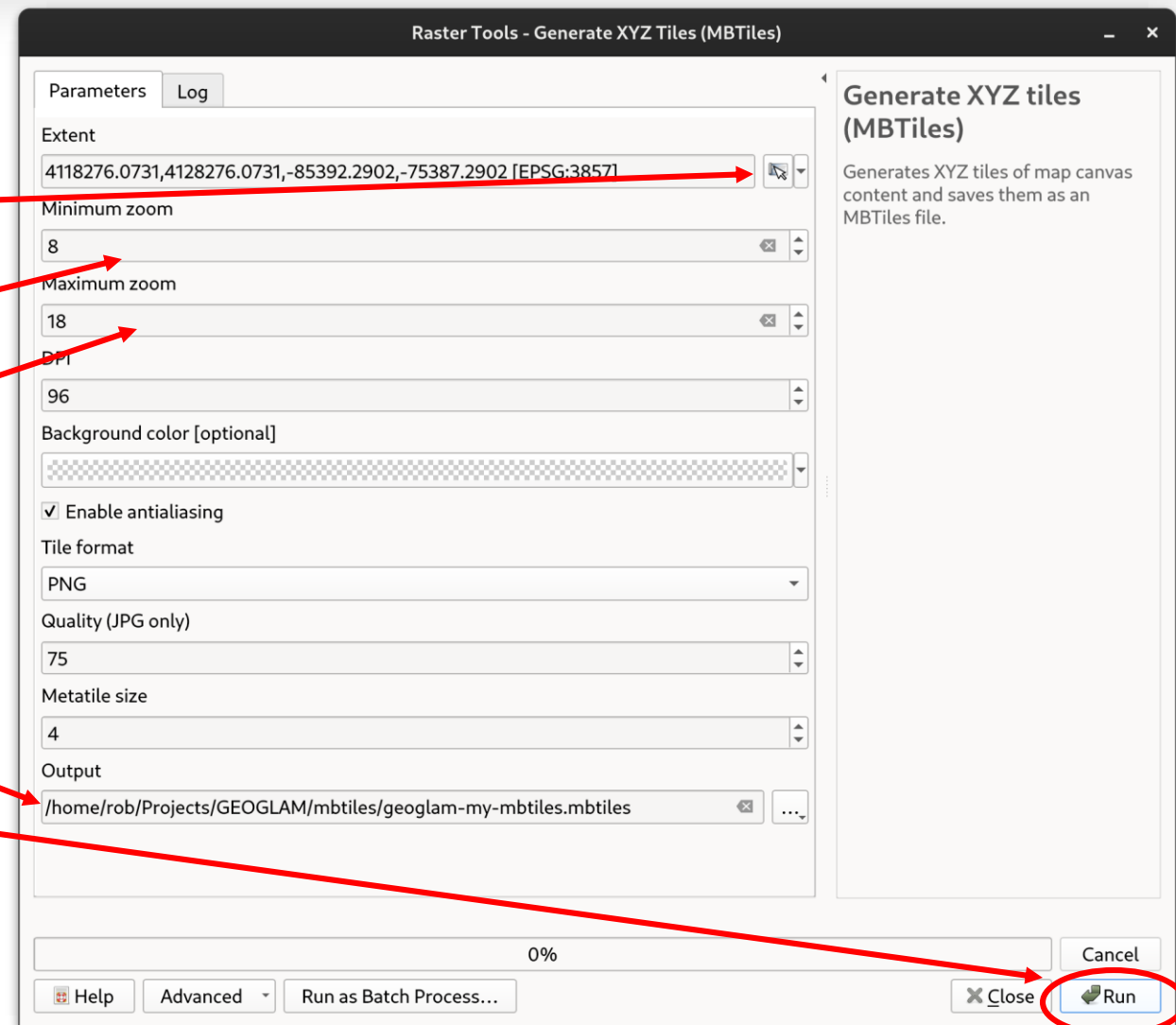
Render



EPSG:3857

MBTiles QGIS

- 'Processing' > 'Toolbox' > 'Generate XYZ tiles (MBTiles)'
- Geographic extent (S2-layer)
- Minimum zoom level 8
- Maximum zoom level 18
- Output filename
- Run

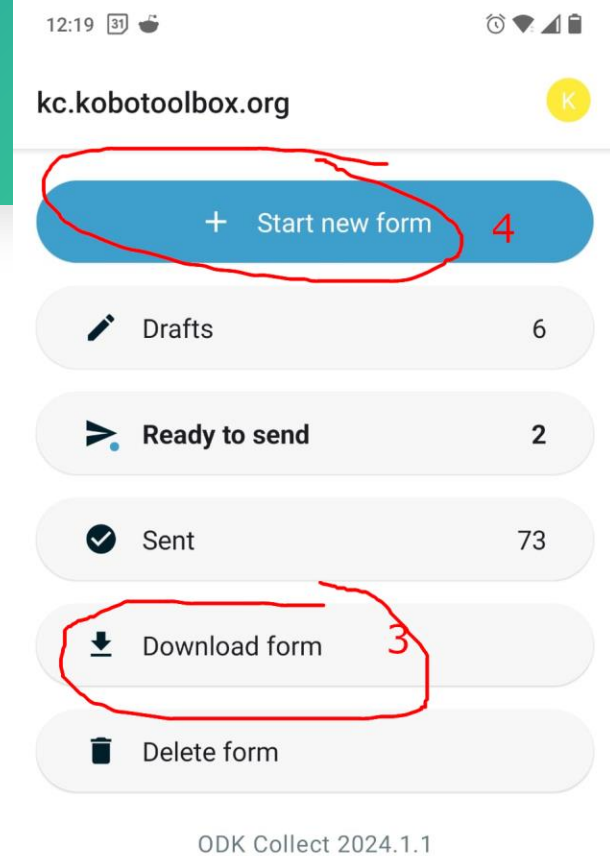


Field campaign execution

- Form publication
 - Pre-requisite is a KoboToolbox server
 - Deploy project with associated form in KoboToolbox
- Connection with digital devices
 - Manual with serverURL, username and password
 - Generated QR-code

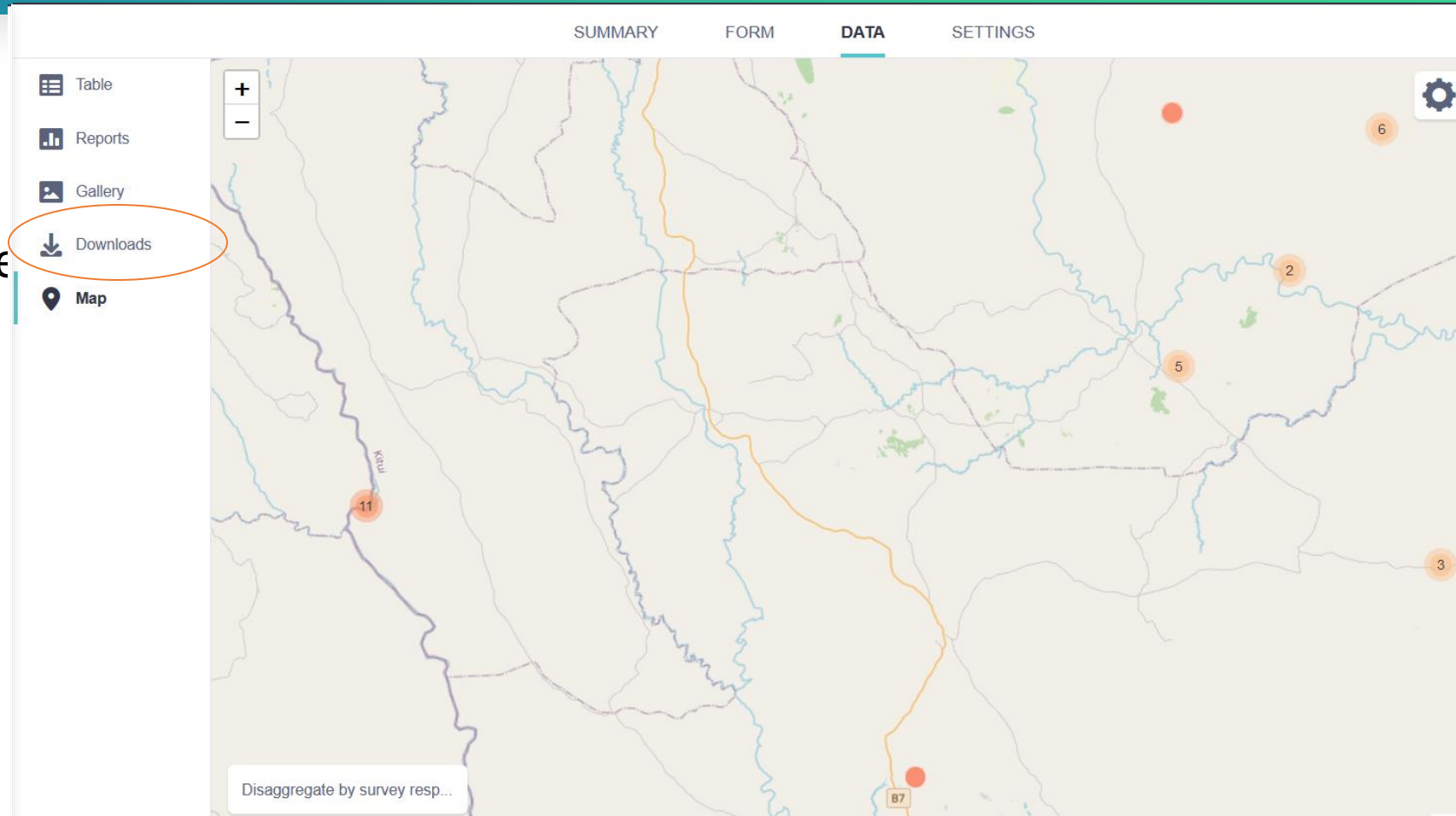
Use ODK Collect


- Download application (Android PlayStore)
- Add project (manual settings or QR-code)
- Add offline layers
 - MBTiles
- Start new form
- Select proper form
- Fill in form
- Submit



Information collection

- Kobo Toolbox
 - Online monitoring
 - Basic tabular overview
 - Reporting
 - Map capabilities
- Data export
 - Direct file export
 - Dedicated script
 - REST API service
 - Synchronous export





using schema Cameroon

cmr settings

Errors Fieldwork

Wrong Sample Id

Wrong Field Id

Wrong Camera App

Points Outside Sample Id

Number of points per circle

Surveyer Locations

Unknown Sample Id 's

Reports Result Fieldwork

Reports by sample id

Totals distinct today

toDay	count
2024-11-05	16
2024-11-04	42

Totals Distinct Landuse Present Used

landuse present used	Count
None	23
forestland	14
cropland	12
wetlands	5
otherland	4

Distinct Count Sample Ids

count
8

Total Sample Id by day

Total Photos by device

Thank you for your attention !

Upcoming

- Break-out sessions
 - Dedicated Q&A
 - Form design / KoboToolbox set-up etc.
- Webinar
 - EO-data processing
 - IOTA-2 model
 - Result post-processing