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DOCUMENT GAR-GF-UM-001
VERSION 1.1 | 9 NOVEMBER 2026

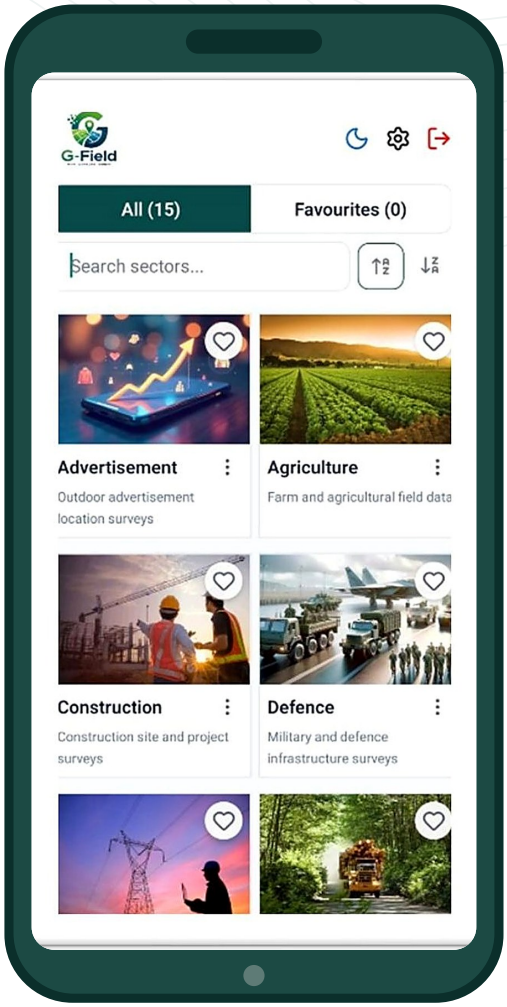
G-Field
MAP. CAPTURE. VERIFY.

G-Field

User Manual

Mobile GIS Field Data Collection and Survey Management

MAP | CAPTURE | VERIFY



Android | Geo-tagged surveys | OGC-aligned geometry | GIS-ready data

Version 1.1 | 9 November 2026

Garudalytics Private Limited

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G-Field User Manual — Mobile GIS Field Data Collection and Survey Management
Document number GAR-GF-UM-001 | Version 1.1 | Issued 9 November 2026 (2026-11-09)

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Data protection. Survey data may include personal information (for example names, telephone numbers, photographs and precise locations). Customers are responsible for collecting, processing and retaining such data lawfully, including in accordance with India’s Digital Personal Data Protection Act, 2023 and any sector-specific rules that apply to them.

Screenshots. Sample names, identifiers and values shown in screenshots are illustrative. Personal details have been masked where shown.

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Document Control

Table i *Document information*

Attribute	Value
Title	G-Field User Manual
Product	G-Field — mobile GIS field data collection and survey management application (Android)
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Table ii *Revision history*

Version	Date	Description of change
1.0	November 2026	Initial release.
1.1	2026-11-09	Complete editorial revision: new front and back covers, legal notices, document control, hyperlinked table of contents, list of figures and list of tables; chapter-based numbering; corrected product name, figure and table numbering, and field descriptions to match the application screens; new chapters on standards and interoperability, GIS data export, troubleshooting, support, glossary and sample data.

Conventions used in this manual

Table iii *Typographic and notice conventions*

Convention	Meaning
Bold	Names of on-screen elements: buttons, tabs, menus and fields — for example, tap **Create Form**.
`monospace`	Field names, table names, commands and file contents — for example, `asset_id`.
Tap / select	“Tap” is used for touch actions on the mobile device; “select” for choosing an option from a list.
→	A navigation path, for example **Agriculture** → **Create Form**.
NOTE	Additional information that helps you use the application.
TIP	A recommended practice that saves time or improves data quality.

Convention	Meaning
IMPORTANT	Information you must read to avoid incorrect or incomplete data.
CAUTION	An action that could cause loss of data or a privacy or security issue.
STANDARDS	How a step relates to an international geospatial or data standard.
Blue text	A hyperlink. Internal links jump to another part of this manual; external links open in a browser or e-mail client.

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CHAPTER 1

Introduction

1.1 About G-Field

G-Field is a mobile geographic information system (GIS) application for field data collection and survey management, developed by Garudalytics. It lets you build digital survey forms in minutes, capture geo-tagged observations with GPS positions, photographs, videos and descriptive attributes, and review the results as tables, CSV files or points on an interactive map.

Built on open geospatial data models, G-Field helps government departments, utilities, enterprises and field teams replace paper forms with a consistent, location-aware digital workflow that integrates with enterprise GIS platforms.

1.2 Purpose and Scope of This Manual

This manual explains how to install G-Field, create and manage an account, use the predefined sector forms, design custom forms, collect and edit survey data, and review, map and export the results. It also sets out recommended practices for data quality, privacy and interoperability based on international standards from the Open Geospatial Consortium (OGC) and the International Organization for Standardization (ISO).

The manual describes G-Field version 1.0.0 for Android. Screens on your device may differ slightly depending on the application version, device, display theme and the permissions assigned to your account.

1.3 Key Capabilities

Table 1.1 *G-Field key capabilities*

Capability	Description
Sector-wise forms	Fifteen ready-to-use sectors, each with predefined survey tables (forms) for common field tasks.
Custom form design	Create forms from scratch, or extend predefined forms, by choosing a field type and data type for each question.
Rich field capture	Text, drop-down, radio button, check box, number, date, image and video fields.
Location-based surveys	Record features as points, lines or polygons on a map, using the device's GNSS (GPS) position or a location you mark.
Review and editing	View submitted records by form and date range, open them on a map, and edit attributes after submission.
Data export	Download survey records in CSV format for analysis in spreadsheets or desktop GIS.
Map tools	Multiple base maps, search, measurement, data import, layer management and editing tools.

1.4 Intended Audience

This manual is for anyone who plans, carries out or supervises field surveys, inspections, asset inventories and other structured data-collection work — for example field surveyors, inspectors, GIS analysts, project

managers and departmental administrators. No programming knowledge is required. Chapters 2 and 14 assume a basic familiarity with GIS concepts.

The sectors, forms and fields available to you may depend on your organisation's configuration and on the access permissions assigned to your account.

1.5 How to Use This Manual

The chapters follow the typical user journey:

Table 1.2 *Manual roadmap*

Chapter	Read this when you want to…
2. Standards, Interoperability and Data Governance	understand how G-Field data fits OGC/ISO standards and privacy obligations
3. Getting Started	install the app, register, sign in and personalise the display
4. Settings and Account	view your account details, change preferences or sign out
5. Sector-Wise Default Forms	choose the right sector for your survey
6. Working with Sector Modules and Forms	create, extend or customise a survey form
7. Field Types and Data Types	choose the correct field and data type for each question
8. Sample Form Design: Agriculture Survey	see a complete, worked form design
9. Sector Use Cases	follow step-by-step examples for eleven sectors
10. Collecting Survey Data	record features in the field
11. Viewing Survey Reports	review, download (CSV) and map submitted data
12. Map Tools	navigate the map and use its tools
13. Editing Survey Data	correct or update a submitted record
14. Exporting Data to GIS	convert CSV exports to GeoPackage, GeoJSON or KML
15. Troubleshooting and FAQ	resolve a problem
16. Support and Contact	contact Garudalytics

1.6 System Requirements

Table 1.3 *Minimum requirements*

Item	Requirement
Device	Android smartphone or tablet with access to the Google Play Store. See the Play Store listing for the currently supported Android versions.
Positioning	Built-in GNSS (GPS) receiver with Location Services enabled and location permission granted to G-Field.
Camera	Required for image and video fields.
Connectivity	Internet connection (mobile data or Wi-Fi) for registration, sign-in, base maps and submitting records.
Account	A G-Field account approved and activated by Garudalytics (see Section 3.3).

CHAPTER 2

Standards, Interoperability and Data Governance

Field data is only valuable if it can be trusted, combined with other data and reused. This chapter explains how data collected with G-Field relates to widely adopted geospatial and data standards, and sets out practices that keep your survey data interoperable, well documented and compliant.

IMPORTANT

The standards listed here describe recommended practice and data compatibility. They are provided for guidance and do not represent a formal certification of the G-Field application. Confirm project-specific requirements with your GIS administrator.

2.1 Standards Reference

Table 2.1 *Geospatial and data standards relevant to G-Field*

Standard	Scope	How it applies to G-Field data
OGC Simple Features / ISO 19125-1	Geometry model	G-Field records features as **Point**, **LineString** or **Polygon** — the core geometry types of the Simple Features model used by all mainstream GIS software.
ISO 19111 and EPSG:4326 (WGS 84)	Coordinate reference system	Positions from mobile GNSS receivers are referenced to WGS 84. Always record the CRS with exported data; use EPSG:4326 unless your administrator specifies otherwise.
ISO 6709	Point location	Express coordinates as signed decimal degrees (north and east positive), latitude before longitude in tables, with at least six decimal places (≈0.1 m).
ISO 8601	Dates and times	Enter and store dates as `YYYY-MM-DD` and times as `hh:mm:ss` with a UTC offset (e.g. +05:30) to avoid ambiguity such as 01/08/2026.
ISO 19115-1	Metadata	Describe each dataset: who collected it, when, where, why, with which form and device, and under what licence (template in Appendix B).
ISO 19157-1	Data quality	Assess completeness, logical consistency, positional accuracy, temporal quality and thematic accuracy before publishing data.
IETF RFC 4180	CSV files	G-Field exports records as comma-separated values with a header row, readable by spreadsheets and GIS tools.
OGC GeoPackage 1.3	Data exchange and archive	Recommended format after conversion: a single, open, SQLite-based file holding vector layers, attributes and CRS.
IETF RFC 7946 (GeoJSON)	Web data exchange	Lightweight format for web maps and APIs; coordinates are always WGS 84 longitude, latitude.
OGC KML 2.3	Visualisation	Share survey points with Google Earth and other virtual-globe applications.

Standard	Scope	How it applies to G-Field data
OGC WMS, WMTS and OGC API – Features	Web services	Base maps are delivered as tiled map services; converted survey layers can be published through enterprise GIS servers using these OGC service standards.
ISO 19152 (LADM)	Land administration	Reference model for parcels, rights and parties; useful when designing Land Records forms.
ISO 19156 (Observations, measurements and samples)	Observations	Conceptual model for field observations: what was observed, where, when, by whom and with what result.

2.2 Geometry Types

When you submit a new form, G-Field asks you to select the geometry type. Choose the type that best represents the real-world feature. The geometry type cannot normally be changed after records have been collected, so decide carefully.

Table 2.2 *Geometry types and typical uses*

Geometry type	Represents	Typical examples
Point	A single location (zero-dimensional)	Billboard, electricity pole, transformer, valve, tree, telecom tower, health facility, borewell, survey sample site
LineString	A connected sequence of points (one-dimensional)	Pipeline route, power line, fibre route, road, canal, haul road, boundary wall
Polygon	A closed area (two-dimensional)	Land parcel, farm field, forest compartment, mining lease, building footprint, construction site

2.3 Data Quality Practices

Apply the following checks, aligned with the ISO 19157-1 data-quality elements, to every survey campaign:

Table 2.3 *Data-quality checklist (ISO 19157-1 elements)*

Quality element	What to check in G-Field
Completeness	Every planned feature has been surveyed; mandatory fields are filled; no duplicate records.
Logical consistency	Values match the configured data type and allowed list; units are used consistently (for example acres or hectares, not both).
Positional accuracy	Wait for a stable GPS fix before marking a location; survey in open sky where possible; note the expected accuracy of the device.
Temporal quality	Survey date and time are recorded for every record in ISO 8601 form.
Thematic accuracy	Classifications (asset type, condition, land use) follow an approved code list and are verified by photographs where useful.

2.4 Data Protection, Privacy and Security

- Collect only the personal data that the survey genuinely needs (data minimisation), and obtain consent where required — for example before photographing people or private property.

- Treat telephone numbers, identity numbers, health information and precise home locations as sensitive. Restrict access through form sharing and account permissions.
- Do not share your credentials. Sign out when a device is shared (see Section 4.5) and protect the device with a screen lock.
- Store exported CSV files in secure, access-controlled locations and delete local copies when no longer required.
- Follow India's Digital Personal Data Protection Act, 2023, the National Geospatial Policy, 2022 and any departmental guidelines on sensitive or restricted locations (for example defence installations).

> **CAUTION**
> Defence, health and land-ownership surveys can contain restricted or personal information. Confirm security classification and authorisation with your organisation before collecting or sharing such data.

CHAPTER 3

Getting Started

3.1 Download and Install the Application

G-Field for Android is available from the Google Play Store. Open the Play Store and search for **G-Field**, scan the QR code on the back cover of this manual, or open the direct link:

Download link: https://play.google.com/store/apps/details?id=com.gfield.app

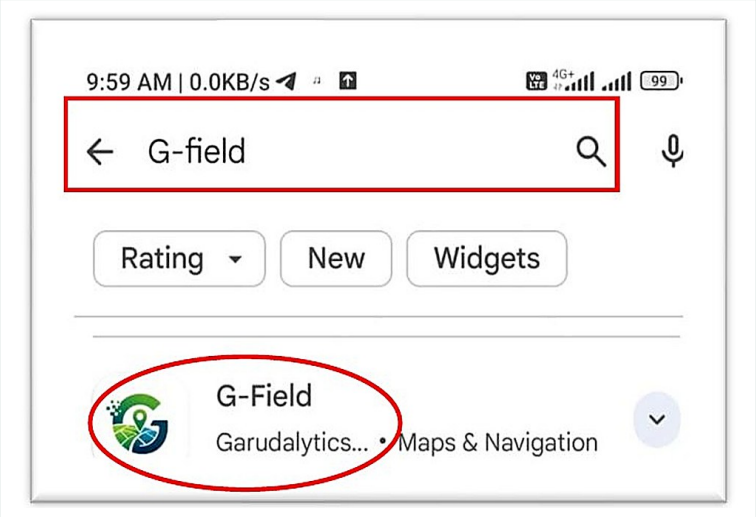


Figure 3.1 *G-Field listing in the Google Play Store*

1. In the search results, select **G-Field** (published by Garudalytics).
2. Tap **Install** and wait for the download and installation to finish.
3. Open G-Field from the home screen or the app drawer by tapping the G-Field icon.
4. When prompted, allow access to **Location**, **Camera** and **Photos and media**. These permissions are required for location capture and image or video fields.



Figure 3.2 G-Field icon after installation

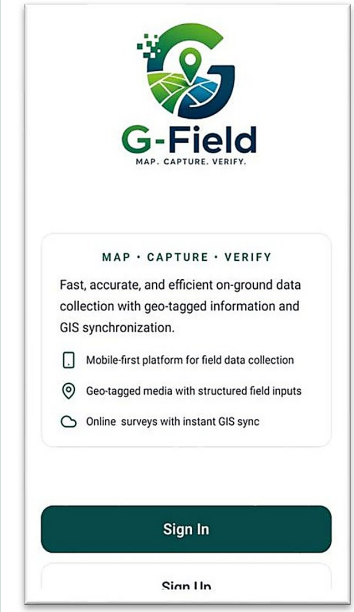


Figure 3.3 G-Field start screen

3.2 Register a New Account

First-time users must register before they can sign in. On the start screen, tap **Sign Up**.

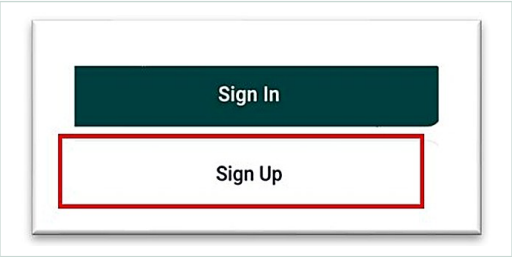


Figure 3.4 Sign Up option on the start screen

The **Create Account** form offers two registration types. Choose the one that applies to you:

- **Professional** — for individual users. Enter your first and last name, e-mail address, mobile number and a password.
- **Organization** — for users registering on behalf of an organisation. In addition to your personal details, select or enter your organisation and provide the requested organisation details.

Complete every required field, check the details carefully, and tap **Create Account**.

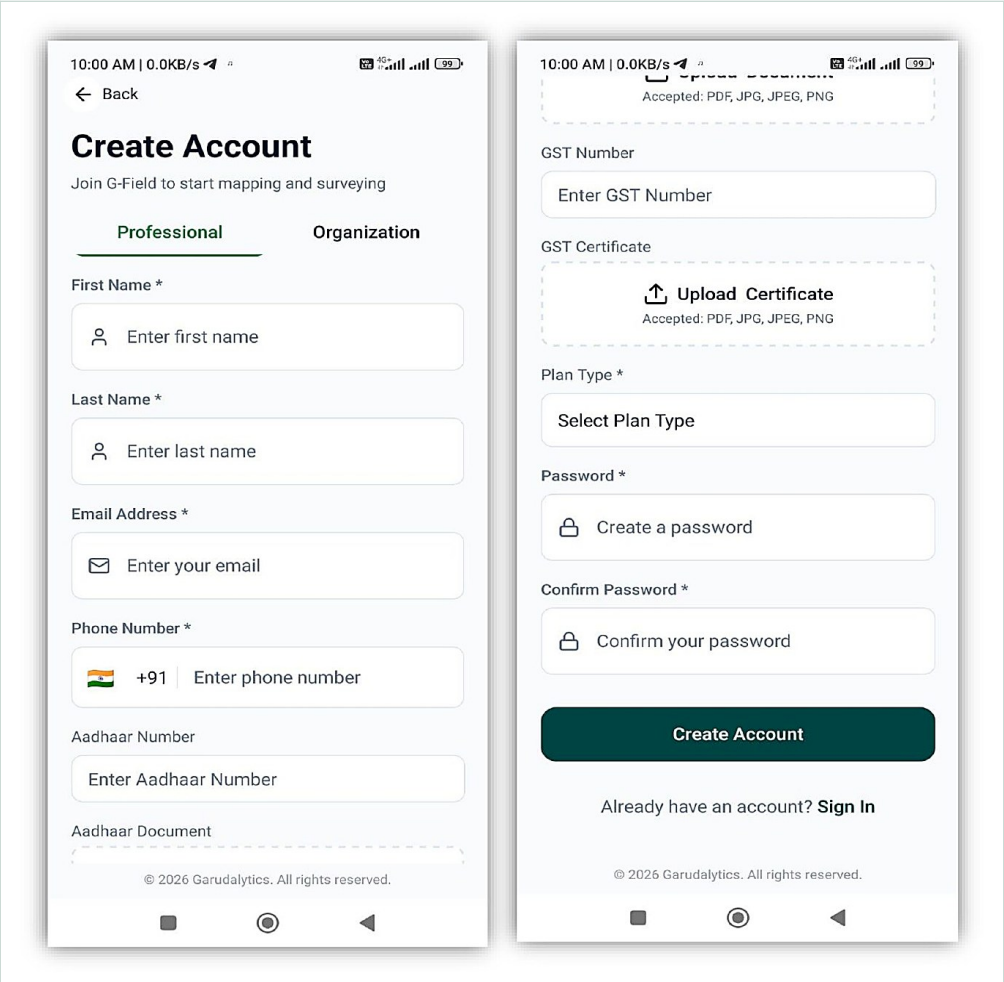


Figure 3.5 *Create Account form — Professional registration*

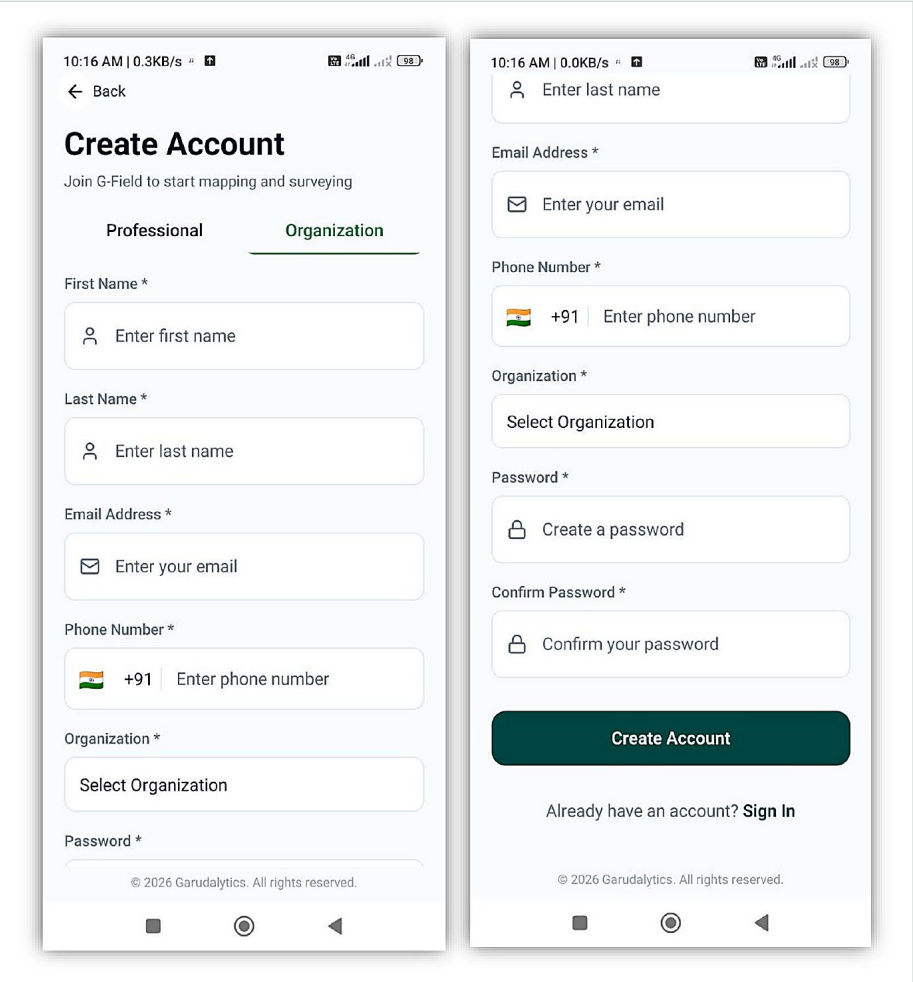


Figure 3.6 *Create Account form — Organization registration*

> **TIP**
> Use an e-mail address you can access immediately: your activation notice is sent to this address. Enter your mobile number with the correct country code (for example +91 for India).

3.3 Account Activation and Sign In

After you tap **Create Account**, your registration is reviewed. When the account has been approved and activated, an automated e-mail confirmation is sent to your registered address. You cannot sign in until you receive this confirmation.

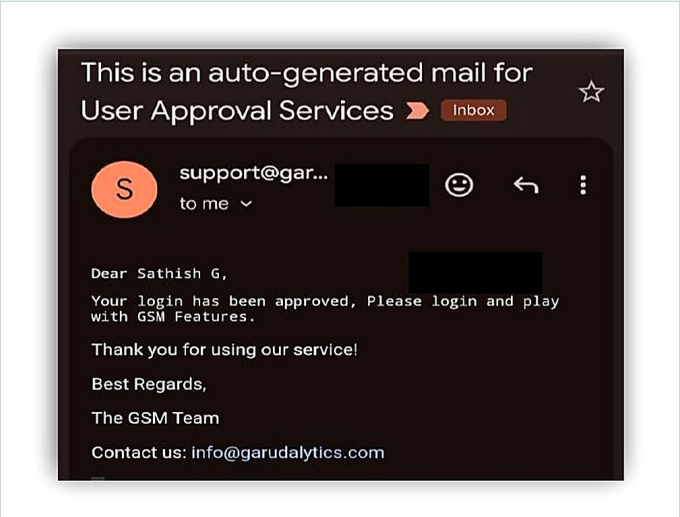


Figure 3.7 *Account activation e-mail confirmation (personal details masked)*

> **NOTE**
> If you have not received the activation e-mail within one business day, check your spam or junk folder, then contact support@garudalytics.com.

To sign in:

1. On the start screen, tap **Sign In**.
2. Enter the e-mail address and password you used to register.
3. Tap **Sign In**. If you have forgotten your password, tap **Forgot Password?** and follow the instructions.



Figure 3.8 *Sign In option on the start screen*

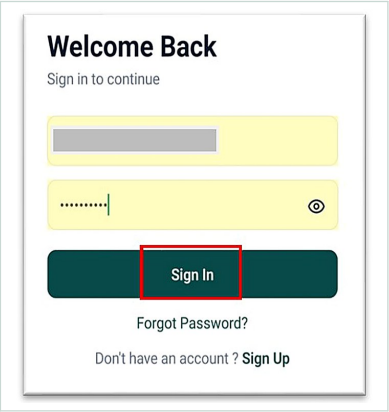


Figure 3.9 *Sign-in screen*

3.4 Home Screen

After a successful sign-in, the home screen lists all available sectors as image cards. The tabs at the top switch between **All** sectors (with the count shown in brackets) and your **Favourites**. Use the search box to find a sector quickly. The icons in the top-right corner give access to the display theme, **Settings** and **Log Out**.

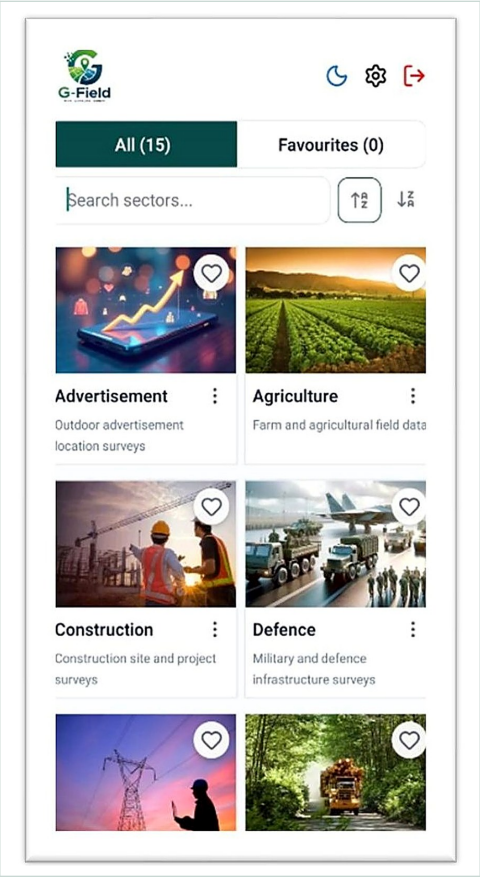


Figure 3.10 *G-Field home screen showing sector cards*

3.5 Change the Display Theme

G-Field offers a light and a dark theme. Tap the moon icon in the top-right corner of the home screen to switch between them. The theme can also be set with the **Light Mode** switch in **Settings** (Section 4.3).

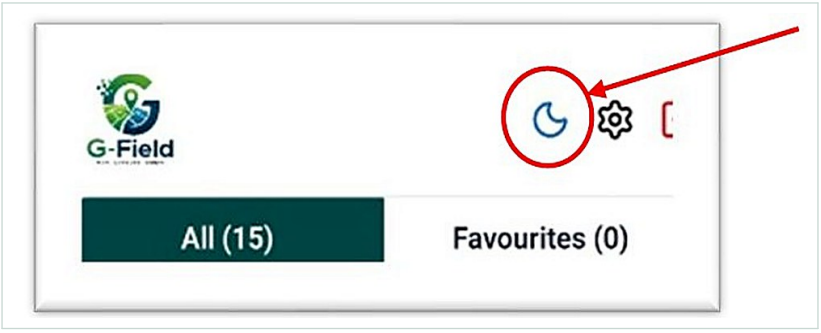


Figure 3.11 *Theme icon on the home screen*

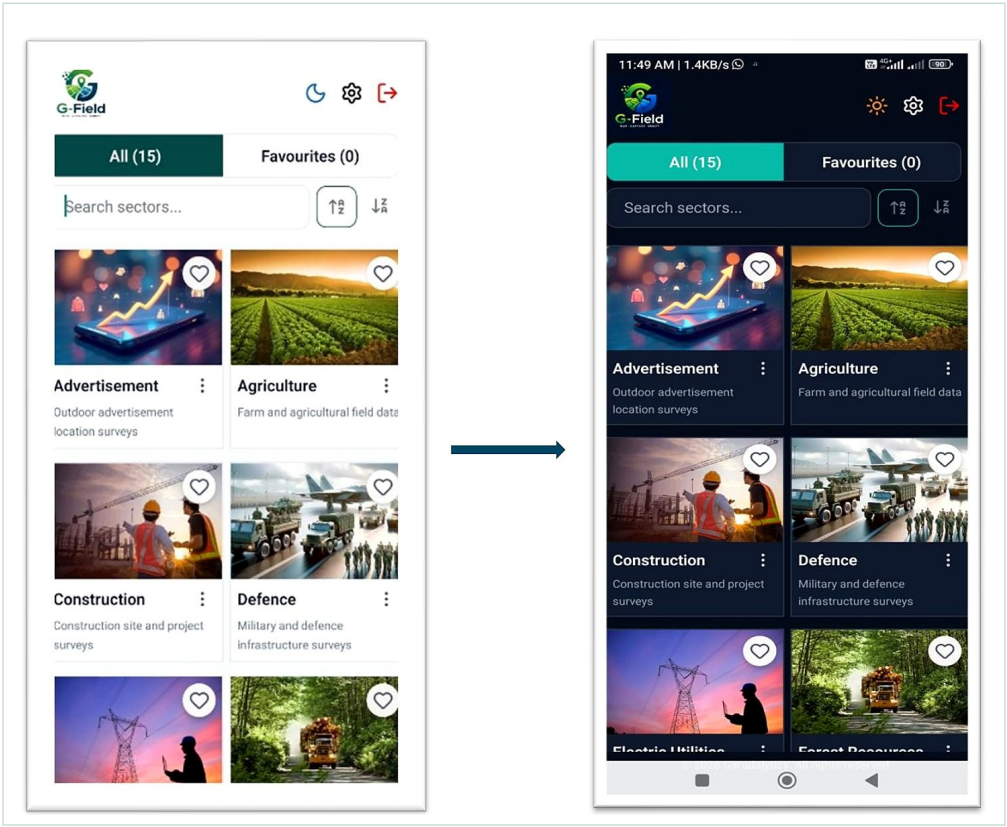


Figure 3.12 *Home screen in light theme (left) and dark theme (right)*

CHAPTER 4

Settings and Account

4.1 Open Settings

The **Settings** screen shows your account information, application preferences and version details, and provides the **Log Out** option.

1. On the home screen, tap the gear (**Settings**) icon in the top-right corner.
2. The **Settings** screen opens, showing the **Account**, **Preferences** and **About** sections.

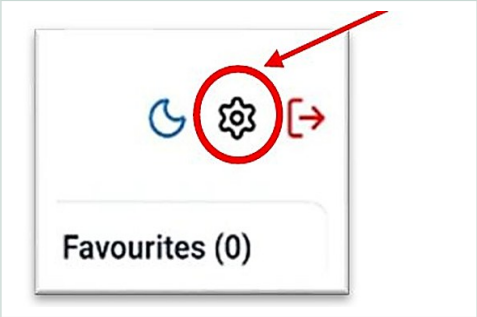


Figure 4.1 *Settings icon on the home screen*

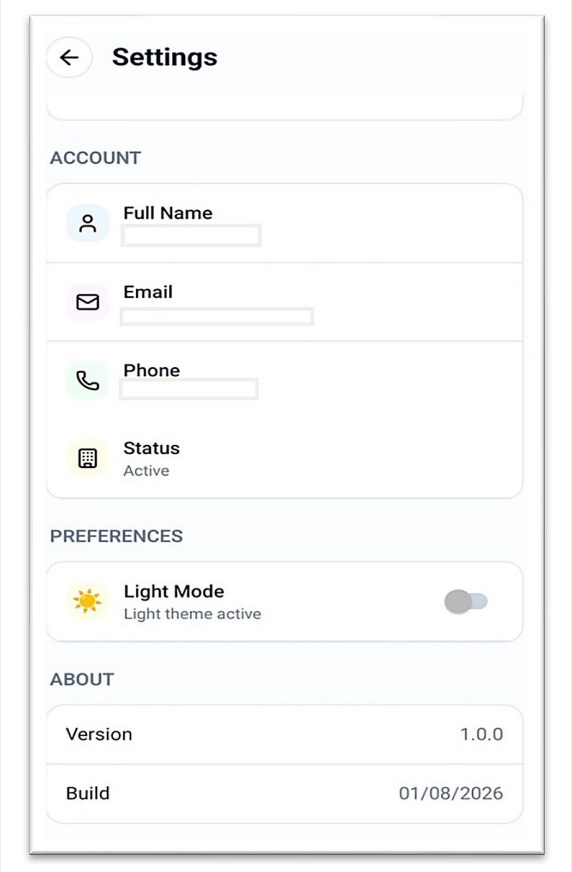


Figure 4.2 *Settings screen*

4.2 Account Information

The **Account** section displays read-only information about the signed-in user:

Table 4.1 *Account information fields*

Field	Description
Full Name	Full name of the signed-in user.
Email	E-mail address associated with the account.
Phone	Registered mobile number, including the country code.
Status	Current account status. **Active** means the account is approved and can be used.

4.3 Preferences

The **Preferences** section controls the appearance of the application.

- **Light Mode on** — the application uses the light theme.
- **Light Mode off** — the application uses the dark theme.

4.4 About

The **About** section shows the installed application **Version** (for example 1.0.0) and **Build** (for example 01/08/2026). Quote both values when you contact support.

4.5 Log Out

Tap the **Log Out** icon (an arrow leaving a door) to sign out of your account. G-Field returns to the sign-in screen. Always sign out on shared devices to prevent unauthorised access to your forms and data.



Figure 4.3 *Log Out icon*

4.6 Summary

From **Settings** you can view your account details and status, switch between light and dark themes, check the application version and build, view the copyright notice and log out.

CHAPTER 5

Sector-Wise Default Forms

G-Field organises its predefined forms into fifteen sectors. Each sector contains survey tables designed for the most common tasks in that industry, so you can begin collecting data immediately without building a form from scratch.

5.1 Available Sectors

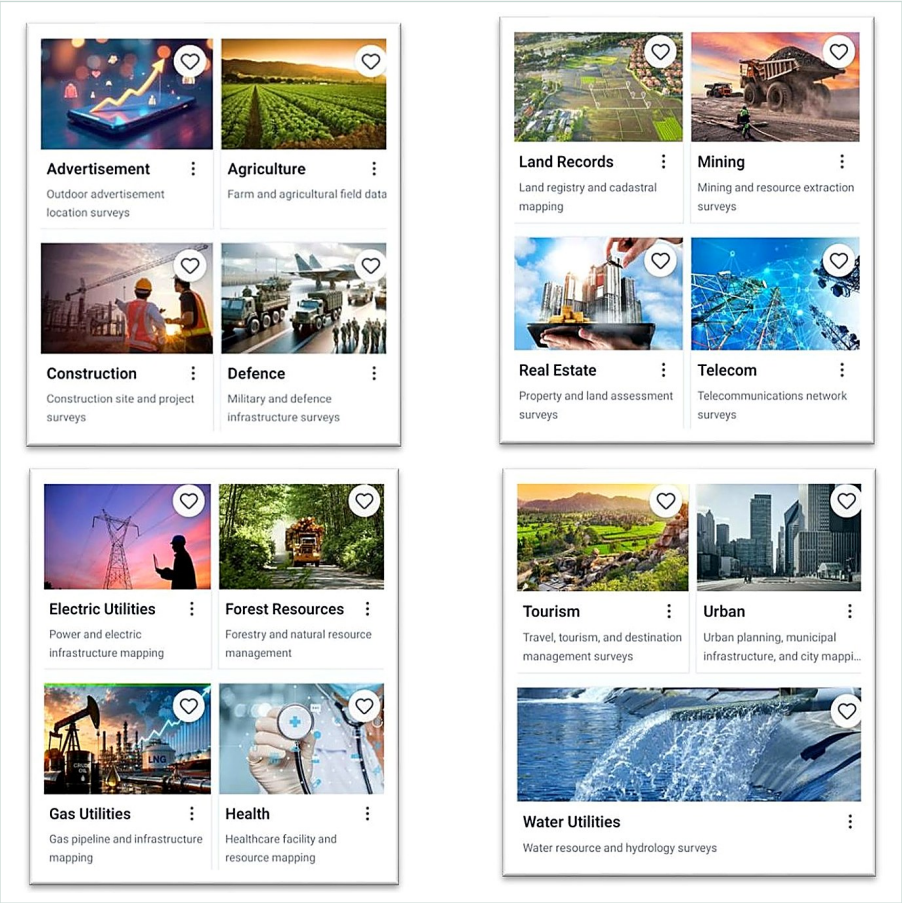


Figure 5.1 *Sector cards on the home screen*

Table 5.1 *Available sectors*

No.	Sector	Typical use
1	Advertisement	Outdoor advertising inventories, hoarding and billboard location surveys, permits and inspections.
2	Agriculture	Farm registries, crop surveys, soil samples, irrigation sources and harvest assessment.
3	Construction	Construction project registers, site surveys and progress monitoring.
4	Defence	Defence asset registers, base infrastructure, perimeter and equipment inspections (authorised users only).

No.	Sector	Typical use
5	Electric Utilities	Power asset registers, transformer and power-line surveys, outages and consumer connections.
6	Forest Resources	Forest compartments, tree enumeration, plantations, fire incidents and wildlife sightings.
7	Gas Utilities	Gas pipeline registers, valve stations, consumer registers, leak inspections and meter surveys.
8	Health	Health facility registers, medical staff, patient visit summaries, medicine inventory and facility inspections.
9	Land Records	Land parcels, ownership, boundary surveys, mutations and encroachment surveys.
10	Mining	Mine site registers, extraction records, mining equipment, safety inspections and environmental monitoring.
11	Real Estate	Property registers, land and building assessment and valuation surveys.
12	Telecom	Telecom tower registers, network coverage, fibre routes, equipment and network faults.
13	Tourism	Tourist destinations and attractions, visitor facilities and travel information.
14	Urban	Urban planning, municipal infrastructure surveys and city mapping.
15	Water Utilities	Water sources, supply infrastructure and hydrological data collection.

5.2 Using a Default Sector Form

1. Sign in to G-Field. The home screen lists all fifteen sectors.
2. Tap the sector card that matches your survey, for example **Agriculture**. The sector's **Modules** screen opens.
3. Tap **Create Form** and choose a predefined table from the list (Section 6.4).
4. Review the fields, switch off any you do not need, and add any extra fields (Section 6.5).
5. Tap **Submit** and choose the geometry type (Point, LineString or Polygon).
6. Use **Survey** to collect data in the field (Chapter 10) and **View Survey** to review it (Chapter 11).

5.3 Advantages of Default Forms

- **Ready to use** — start surveying immediately with tested field definitions.
- **Time-saving** — no need to design common forms manually.
- **Sector-specific** — fields reflect the terminology and requirements of each industry.
- **Consistent data** — standard field names and data types make data from different teams easy to combine.
- **Flexible** — fields can be switched off, added or removed to suit each project.

> **NOTE**
> Chapter 9 illustrates eleven sectors in detail. Agriculture is covered in Chapters 6 and 8. The Tourism, Urban and Water Utilities sectors follow exactly the same workflow.

CHAPTER 6

Working with Sector Modules and Forms

Every sector uses the same **Modules** screen and form-design workflow. This chapter uses the Agriculture sector as the example; the steps are identical for all other sectors.

6.1 Modules Screen

Tap a sector card on the home screen to open its **Modules** screen.

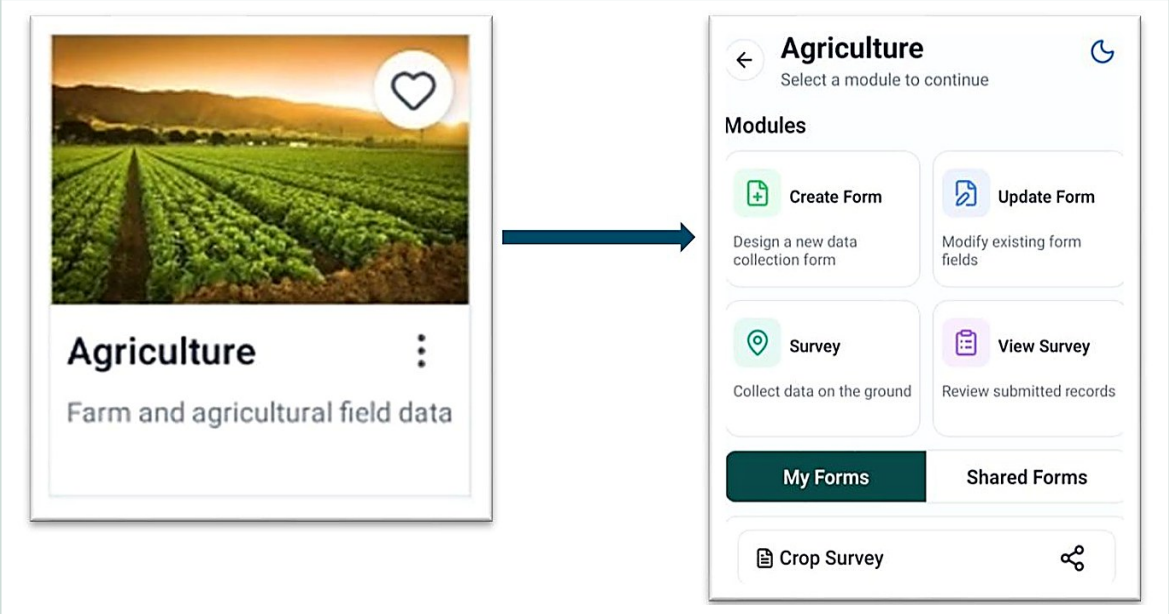


Figure 6.1 *Agriculture sector card (left) and its Modules screen (right)*

Table 6.1 *Sector modules*

Module	Purpose
Create Form	Design a new data-collection form, either from a predefined table or from scratch.
Update Form	Modify an existing form — add or remove fields (columns).
Survey	Collect data on the ground using an existing form.
View Survey	Review, download and map submitted survey records.

6.2 My Forms and Shared Forms

Below the modules, two tabs list the forms available in the sector:

- **My Forms** — forms you have created, for example **Crop Survey**.
- **Shared Forms** — forms that other users have shared with you, subject to your permissions.

Use the share icon beside a form to share it with colleagues, so that a team collects data with the same form.

6.3 Other Screen Options

- **Back** (←) returns to the previous screen.

- The moon icon in the top-right corner switches between the light and dark themes.

6.4 Create a Form from a Predefined Table

1. On the **Modules** screen, tap **Create Form**. The **Create Survey Form** screen opens.
2. Tap the **Choose a predefined table...** drop-down list.
3. Select the table that suits your survey. For Agriculture the options are **Farm Registry**, **Crop Survey**, **Soil Sample Register**, **Irrigation Sources**, **Harvest Assessment** and **Others**.
4. Tap **Preview** to check the form, then **Submit** to continue.

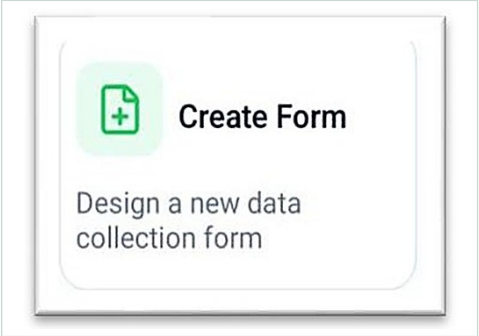


Figure 6.2 Create Form module

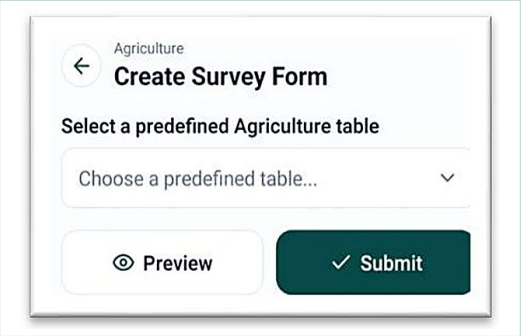


Figure 6.3 Create Survey Form screen

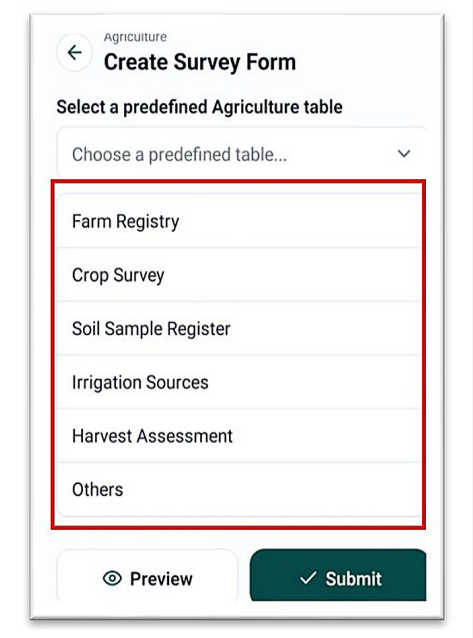


Figure 6.4 Predefined Agriculture tables

When you select a table, G-Field proposes a table name (for example `crop_survey`) and lists its fields with their field type and data type. Each field has an on/off switch: keep the fields you need switched on and switch off those that are not relevant.

> **TIP**
> Table names should be lower case, use underscores instead of spaces and describe the content (for example `crop_survey_kharif_2026`). Such names work reliably in every database and GIS.

6.5 Add Fields to a Form

To capture information that a predefined table does not include, tap **Add Field** below the field list.

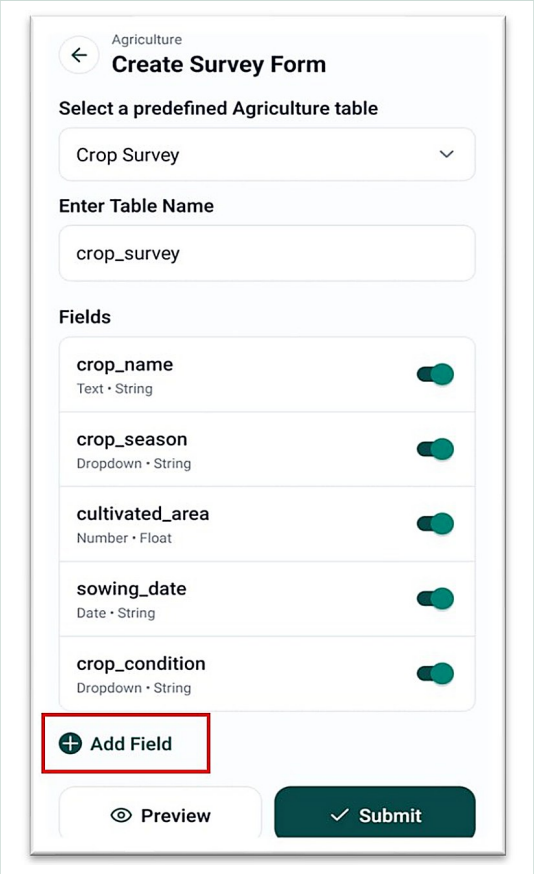


Figure 6.5 *Add Field option on the Create Survey Form screen*

1. Enter a **Field Name**, for example *Crop Image*.
2. Select the **Field Type**: Text, Dropdown, Radio, Checkbox, Number, Date, Image or Video.
3. Select the **Data Type** offered for that field type (String, Integer, Float or Boolean).
4. Optionally enter a **Unit / Key**, for example *meters*.
5. Tap **Add Field**. The new field is added to the form; tap **Cancel** to discard it.

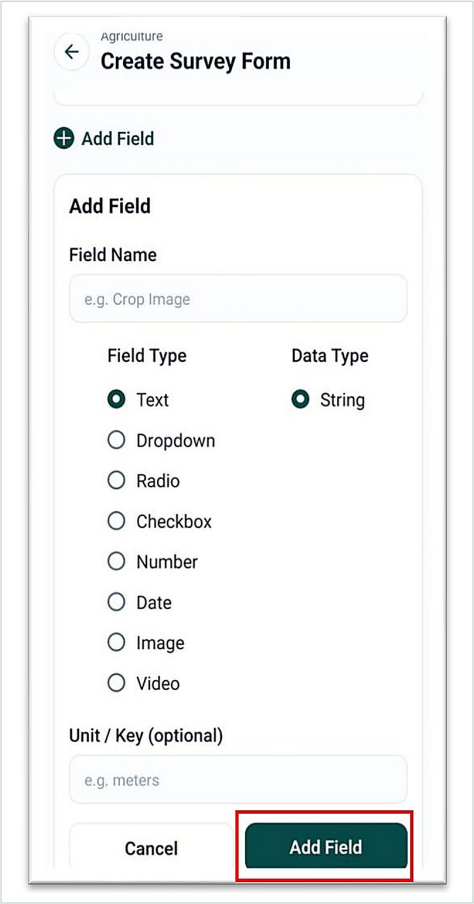


Figure 6.6 *Add Field configuration panel*

The **field type** controls how the question is presented and answered; the **data type** controls how the answer is validated and stored. Chapter 7 explains how to choose them. Example: for “How many people live in this household?”, choose Field Type **Number** and Data Type **Integer**.

6.6 Create a Custom Form (Others)

If no predefined table fits your needs, select **Others** in the predefined-table list. G-Field opens an empty form: enter your own table name, then use **Add Field** to add every field you need.

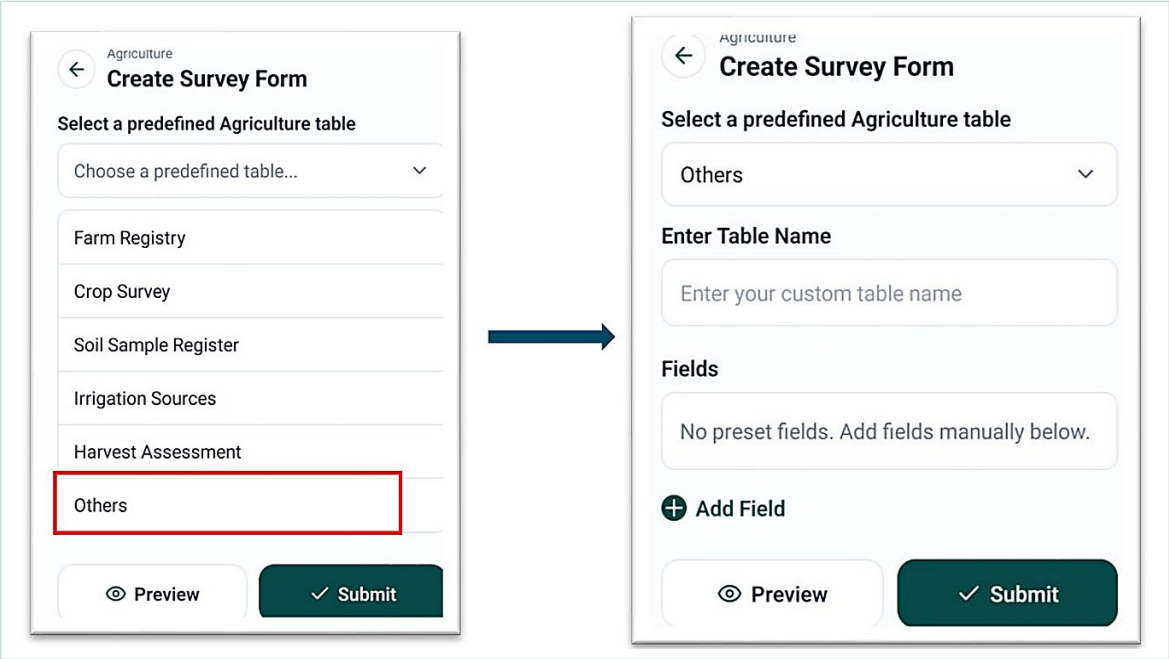


Figure 6.7 *Selecting Others (left) opens an empty custom form (right)*

CHAPTER 7

Field Types and Data Types

Each field in a form is defined by a **field type** (how the user answers) and a **data type** (how the value is stored). Choosing them correctly ensures accurate entry, consistent storage and data that can be analysed without clean-up.

7.1 Data Types

Table 7.1 *Data types*

Data type	Meaning	Examples
String	Text: names, words, labels or codes.	“Ravi Kumar”, “Telangana”, “A-001”
Integer	A whole number without decimals.	5, 25, 100
Float	A number that may include decimals.	2.5, 10.75, 52.3
Boolean	A true/false value, typically for yes/no questions.	true / false

TIP

A value made of digits is not always a number. Store telephone numbers, PIN codes, survey numbers and identity codes as **String**: you never calculate with them, and leading zeros would otherwise be lost.

7.2 Field Types

7.2.1 Text

Use **Text** for free-text answers. Data type: **String**. Example: “What is the name of the village?” Other uses: person’s name, address, occupation, remarks and feedback.

7.2.2 Dropdown

Shows a predefined list from which the user selects one value. Available data types: String, Integer, Float and Boolean — for example State → *Telangana* (String); Number of rooms → *3* (Integer); Land area → *1.5* (Float); Electricity available? → *true* (Boolean). Make sure every option matches the selected data type.

7.2.3 Radio

Displays all choices on screen; the user selects exactly one. Data types as for Dropdown, for example Occupation → *Farmer*; Is the house occupied? → *true*. Radio buttons suit short lists (two to five options); drop-downs suit longer lists.

7.2.4 Checkbox

Lets the user tick one or more options, for example “Which crops does the farmer grow?” → Rice, Cotton, Maize. When several options can be ticked, the answer contains multiple values. Test how the combined answer is stored and exported before starting a survey. Use Boolean only for a single tick-box such as “I agree”.

7.2.5 Number

For numeric answers. Choose **Integer** for counts (people, livestock, rooms, trees) and **Float** for measurements (2.75 acres, 52.5 kg, 3.5 km). Record the unit in the field name or the **Unit / Key** box.

7.2.6 Date

Captures the date of a survey, visit, inspection or other event. In predefined tables, date fields are stored with the **String** data type.

> STANDARDS
> Enter dates in ISO 8601 form (YYYY-MM-DD, for example 2026-08-24). This avoids confusion between day-first and month-first formats when data is shared internationally.

7.2.7 Image and Video

Image captures or uploads photographs, and **Video** records or uploads video, as visual evidence of site conditions, assets and activities. In predefined tables, image fields use the **String** data type (a reference to the stored media file).

7.3 Quick Reference

Table 7.2 *Field type and data type quick reference*

Field type	Data types offered	Typical use
Text	String	Names, village, address, comments
Dropdown	String / Integer / Float / Boolean	Choose one value from a long list
Radio	String / Integer / Float / Boolean	Choose one value from a short visible list
Checkbox	String / Integer / Float / Boolean	Tick one or more options; verify multi-value storage
Number	Integer / Float	Counts (Integer) or measurements (Float)
Date	String (predefined tables)	Survey date, visit date — use YYYY-MM-DD
Image	String (media reference)	Photographs and visual evidence
Video	String (media reference)	Video evidence of site conditions

7.4 Decision Guide

- Need a name or sentence? → **Text + String**.
- Need a whole-number count? → **Number + Integer**.
- Need a measurement with decimals? → **Number + Float**.
- Need one answer from a list? → **Dropdown** (long list) or **Radio** (short list).
- Need a yes/no answer? → **Radio** or **Dropdown** with **Boolean**; confirm that Yes/No is stored as true/false.
- Need several answers? → **Checkbox**; confirm how multiple selections are stored.
- Need a date, photograph or video? → **Date**, **Image** or **Video**.

7.5 Common Mistakes to Avoid

- Choosing Float for counts of people or items, where only whole numbers make sense.

- Storing telephone numbers or codes as Integer, which drops leading zeros.
- Assuming that a “Yes” label is automatically stored as Boolean true.
- Assuming that a multi-select checkbox is stored as a single simple value.
- Mixing units (acres and hectares, days and months) in the same field.
- Starting real data collection without a test submission.

7.6 Checklist Before Publishing a Form

- Each question has a clear, unambiguous label, including units where relevant.
- The field type matches how the respondent should answer.
- The data type matches the kind of value to be stored.
- Dropdown and radio options are complete, spelled consistently and use an approved code list.
- Checkbox multi-selection behaviour is understood.
- Date, image and video fields have been tested on the device.
- The geometry type (Point, LineString or Polygon) is correct for the features to be surveyed.
- A test record has been submitted, reviewed in **View Survey**, exported to CSV and checked.

CHAPTER 8

Sample Form Design: Agriculture Survey

This chapter provides a complete, worked design for an agriculture and horticulture survey. Use it as a starting point and adapt the questions, code lists and units to your programme.

8.1 Household Survey — Basic Configuration

Table 8.1 *Household survey form configuration*

Question	Field type	Data type	Reason
Household head name	Text	String	Free-text name
Number of family members	Number	Integer	Whole-number count
Land area (acres)	Number	Float	Decimals allowed
Is electricity available?	Radio or Dropdown	Boolean	Yes/No answer stored as true/false
State	Dropdown	String	Select one state from the official list
Survey date	Date	String (YYYY-MM-DD)	Date of visit
Photograph of the house	Image	String	Visual evidence

8.2 Survey and Visit Details

Table 8.2 *Survey and visit details*

Field label	Field type	Data type	Guidance
Survey ID	Text	String	Use the department's unique ID convention.
Survey date	Date	String (YYYY-MM-DD)	Date of the field visit.
Surveyor name	Text	String	Name of the person conducting the survey.
Department / office	Dropdown or Text	String	Use the approved office or unit name.
Visit type	Dropdown	String	Baseline, routine visit, crop inspection, damage assessment, follow-up, other.
Consent for information and photographs	Radio	Boolean	Yes/No; follow department consent and privacy rules.

8.3 Farmer, Holding and Location Details

Table 8.3 *Farmer, holding and location details*

Field label	Field type	Data type	Guidance
Farmer / respondent name	Text	String	Enter the name as given.
Contact number	Text	String	Text preserves leading zeros; collect only if needed and permitted.
Farmer ID / registration number	Text	String	An identifier, not a value for calculation.
District / mandal / block / village	Dropdown	String	Use approved administrative code lists (e.g. Local Government Directory codes) where available.
Survey location	Map location (geometry)	Point or Polygon	Capture on the map at the site (Chapter 10); never estimate coordinates.
Total operational area (acres)	Number	Float	e.g. 3.5; define whether owned, leased or operated area.
Land tenure	Dropdown	String	Owned, leased, shared, other — adapted to approved categories.
Member of a farmer group?	Radio	Boolean	Membership of an FPO, cooperative or group.

8.4 Crop-Wise Details

If a farmer grows several crops, create one record per crop (for example by surveying each field as a separate feature) rather than combining the area, dates and production of different crops in one answer. Record the area separately for each crop, and state the unit of crop age (days, months or years). A planting date is usually more reliable than an estimated age.

Table 8.4 *Crop-wise details*

Field label	Field type	Data type	Guidance
Crop category	Dropdown	String	Fruit, vegetable, flower, spice, plantation, medicinal/aromatic, nursery/other.
Crop name	Dropdown or Text	String	e.g. mango, banana, citrus, tomato, chilli, onion, okra, marigold, rose, turmeric. Use the approved crop list.
Location / village	Dropdown or Text	String	Village where this crop is grown.
Area under this crop (acres)	Number	Float	e.g. 2.5; keep units consistent.
Crop age	Number	Integer	Label the unit clearly, or derive age from the planting date.
Variety / cultivar	Text or Dropdown	String	Use an approved list where available.
Crop season	Dropdown	String	Kharif, rabi, zaid or department-approved labels.

Field label	Field type	Data type	Guidance
Planting / transplanting date	Date	String (YYYY-MM-DD)	Enter if known.
Planting material source	Dropdown	String	Own, government or private nursery; farmer; other.
Number of plants / trees	Number	Integer	Whole-number count.
Plant spacing (m)	Number	Float	Define whether row or plant spacing is recorded.
Crop condition	Radio	String	Good, fair, poor, newly planted, harvested, not applicable.
Crop photograph	Image	String	One overview and, where relevant, one close-up.

8.5 Irrigation and Cultivation Practices

Table 8.5 *Irrigation and cultivation practices*

Field label	Field type	Data type	Guidance
Main irrigation source	Dropdown	String	Canal, borewell, open well, tank, rain-fed, other.
Irrigation method	Dropdown	String	Drip, sprinkler, furrow/flood, manual, rain-fed, other.
Protected cultivation used?	Radio	Boolean	Yes/No; define what counts (shade net, polyhouse, etc.).
Cultivation system	Dropdown	String	Open field, shade net, polyhouse, orchard, nursery, other.
Fertiliser / manure used	Checkbox	Verify multi-value storage	Farmyard manure, compost, chemical fertiliser, biofertiliser, other.
Pest / disease management	Checkbox	Verify multi-value storage	Cultural, mechanical, biological, chemical, integrated.
Training / advisory received?	Radio	Boolean	Yes/No.

8.6 Production, Harvesting and Marketing

Table 8.6 *Production, harvesting and marketing*

Field label	Field type	Data type	Guidance
Production quantity	Number	Float	Actual or expected production, recorded consistently (e.g. 1,250).
Production unit	Dropdown	String	kg, quintal, tonne, bunch, piece or an approved unit.
Harvest started?	Radio	Boolean	Yes/No.
First harvest date	Date	String (YYYY-MM-DD)	Complete when applicable.
Average selling price	Number	Float	State the unit clearly, e.g. ₹ per kg.
Main sales channel	Dropdown	String	Local market, wholesale market, trader, direct sale, processing unit, other.
Post-harvest facility available?	Radio	Boolean	Yes/No.
Storage / packing details	Text	String	Grading, packing, cold storage or other relevant details.

8.7 Photographs and Evidence

Table 8.7 *Photographs and evidence*

Field label	Field type	Data type	Instructions
Field / crop photograph	Image	String	Clear overview of the crop or field; follow consent and privacy rules.
Pest / disease photograph	Image	String	Close-up of affected leaves, fruit, stems or plants.
Supporting document photograph	Image	String	Only where the department requires it; avoid capturing unnecessary personal data.

CHAPTER 9

Sector Use Cases

This chapter walks through eleven sectors. Every sector uses the same seven-step workflow, so once you have completed one use case you can apply it to any sector. Each use case lists the predefined tables, the default fields of the illustrated table and the recommended geometry.

9.1 Standard Workflow

Table 9.1 *Standard form-creation workflow (all sectors)*

Step	Action	Result
1	On the home screen, tap the sector card.	The sector's **Modules** screen opens.
2	Tap **Create Form**, then **Choose a predefined table...**	The list of predefined tables appears.
3	Select a table. Check the proposed table name.	The default fields appear, each with an on/off switch.
4	Switch off unnecessary fields; tap **Add Field** to add more.	The form contains exactly the fields you need.
5	Tap **Preview** to check, then **Submit**.	The **Select Geometry** dialog appears.
6	Select **Point**, **LineString** or **Polygon**.	A **Success — Form Created Successfully** message appears. Tap **OK**.
7	Find the new form under **My Forms**.	Use **Survey** to collect data, **View Survey** to review it and **Update Form** to change fields.

9.2 Use Case 1 — Advertisement

Use the Advertisement sector for outdoor-advertising inventories, advertisement location surveys, permit registers, fee collection and inspections.

Predefined tables: Advertisement Asset Register, Advertisement Location Survey, Permit Register, Fee Collection, Advertisement Inspection.

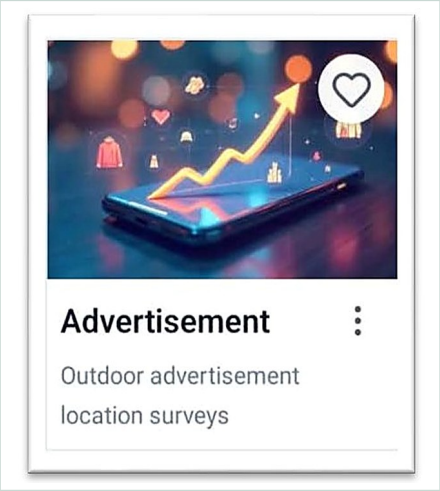


Figure 9.1 Advertisement sector card

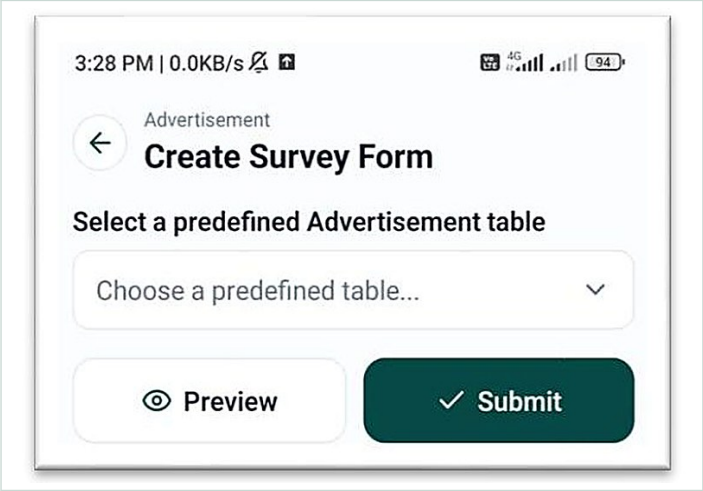


Figure 9.2 Create Survey Form — Advertisement

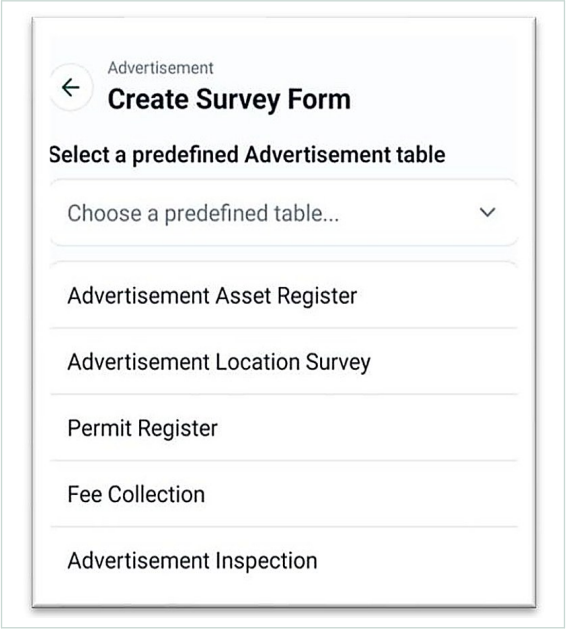


Figure 9.3 Predefined Advertisement tables

Select **Advertisement Asset Register**. G-Field proposes the table name `advertisement_asset_register` and lists the default fields:

Table 9.2 Advertisement Asset Register — default fields

Field	Field type	Data type	Description
asset_id	Text	String	Asset identifier
asset_type	Dropdown	String	e.g. billboard, unipole, kiosk
owner_name	Text	String	Owner or agency
display_area	Number	Float	Display area in square metres
asset_status	Dropdown	String	e.g. active, inactive

Use the on/off switches to keep only the fields you need — in the example, `asset_type` and `owner_name` are switched off — and tap **Submit**.

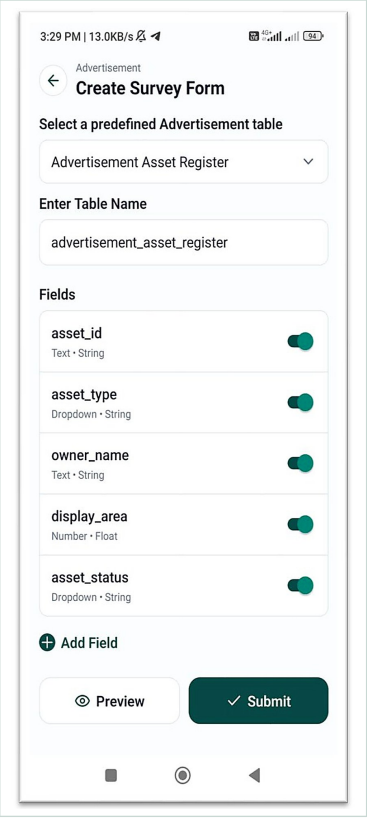


Figure 9.4 Field list with on/off switches

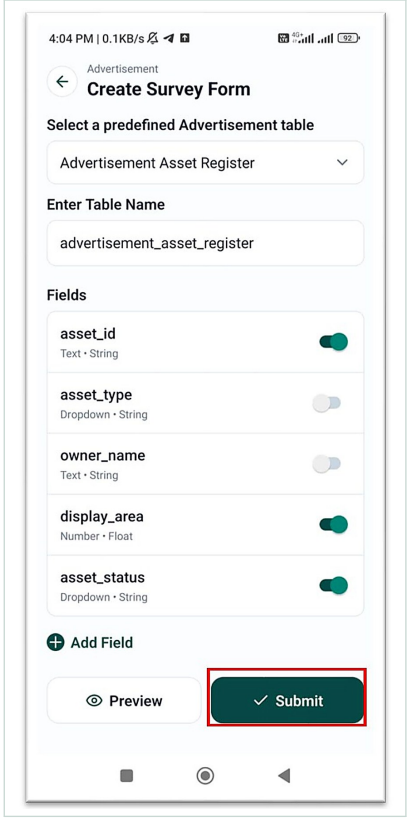


Figure 9.5 Configured fields ready to submit

Select the geometry type. For billboards and hoardings, select **Point**. G-Field confirms that the form has been created.

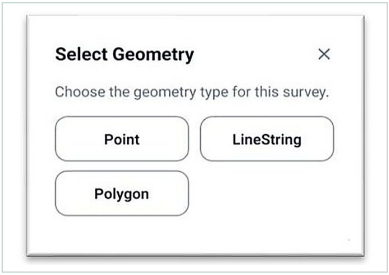


Figure 9.6 Select Geometry dialog

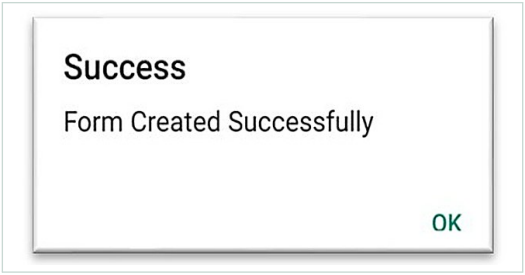


Figure 9.7 Form created successfully

The new form appears under **My Forms**. Use **Survey** to collect data with it; the survey form shows the configured fields.

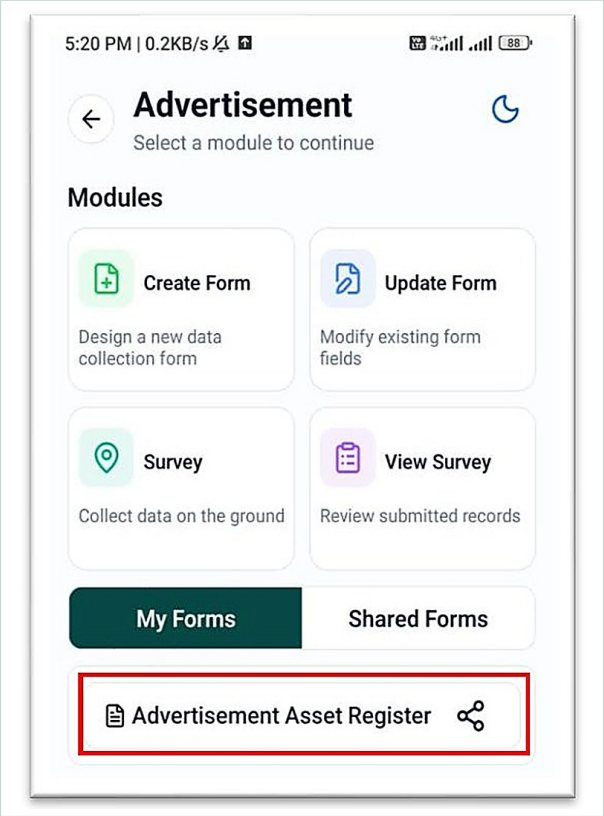


Figure 9.8 Advertisement Asset Register under My Forms

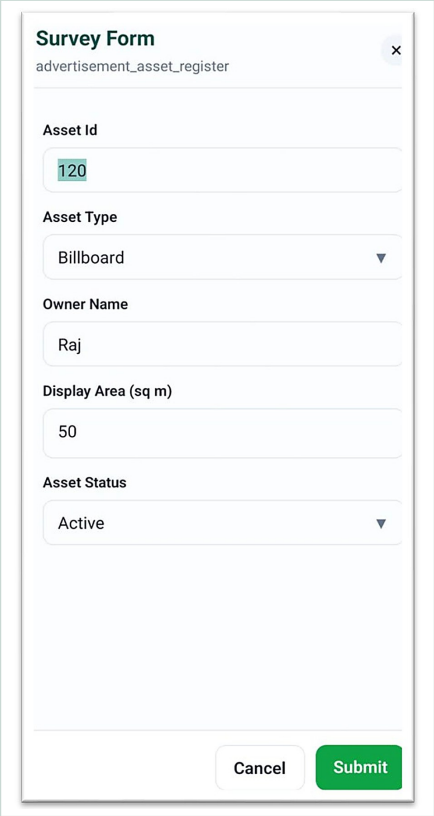


Figure 9.9 Advertisement survey form — data entry

9.2.1 Update the form

To change the form later, tap **Update Form**, select the form (1), then select, remove or add columns (2) and save.

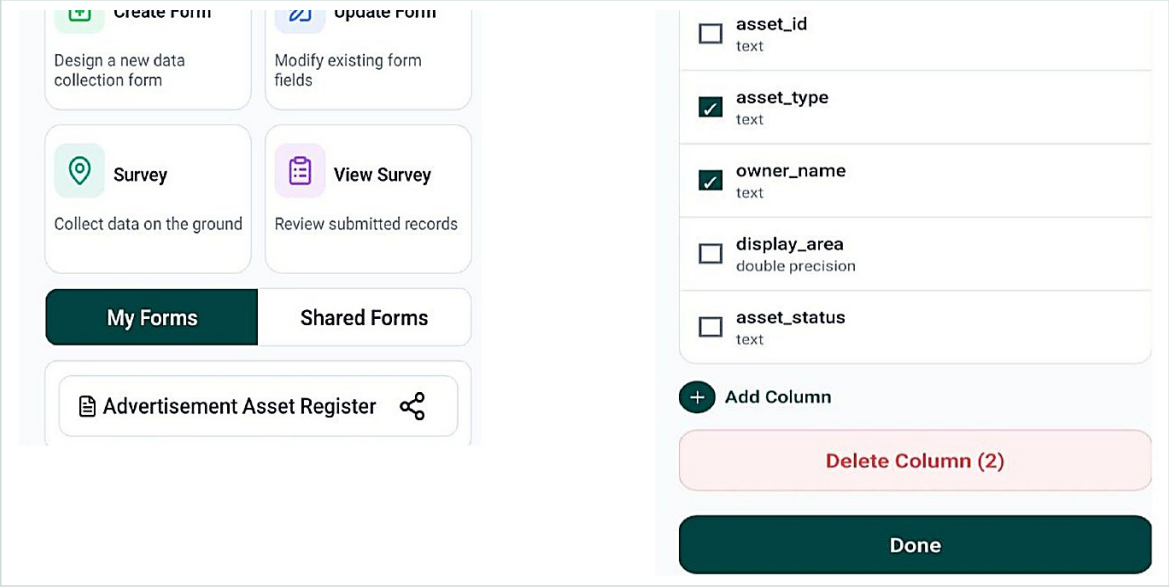


Figure 9.10 Update Survey Form — form selection and column management

9.3 Use Case 2 — Construction

Use the Construction sector to register construction projects, survey construction sites and monitor progress.

Predefined tables: Construction Project Register.

The Construction sector offers further predefined tables in the drop-down list; the Construction Project Register is illustrated here.

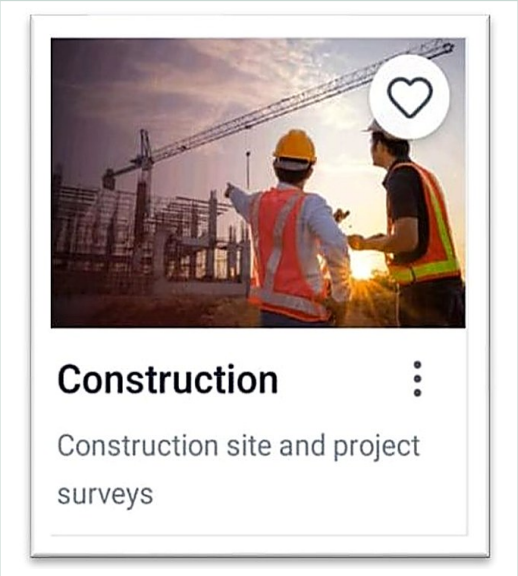


Figure 9.11 Construction sector card

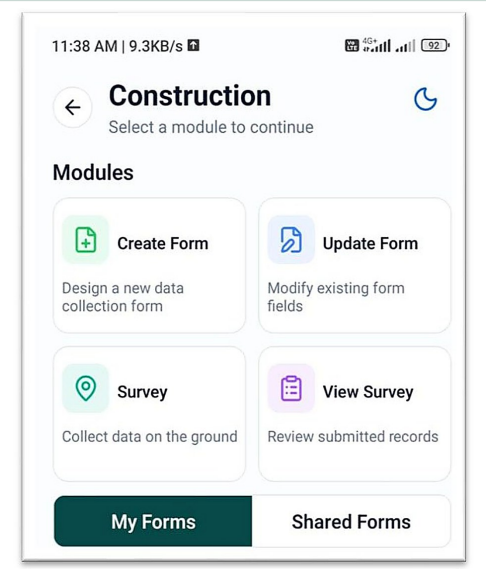


Figure 9.12 Construction Modules screen

Tap **Create Form**, open the predefined-table list and select **Construction Project Register**. G-Field proposes the table name `construction_project_register` with the following default fields:

Table 9.3 Construction Project Register — default fields

Field	Field type	Data type	Description
project_name	Text	String	Name of the project
contractor_name	Text	String	Executing contractor
start_date	Date	String	Start date (YYYY-MM-DD)
expected_completion_date	Date	String	Planned completion date
project_status	Dropdown	String	e.g. planned, in progress, completed

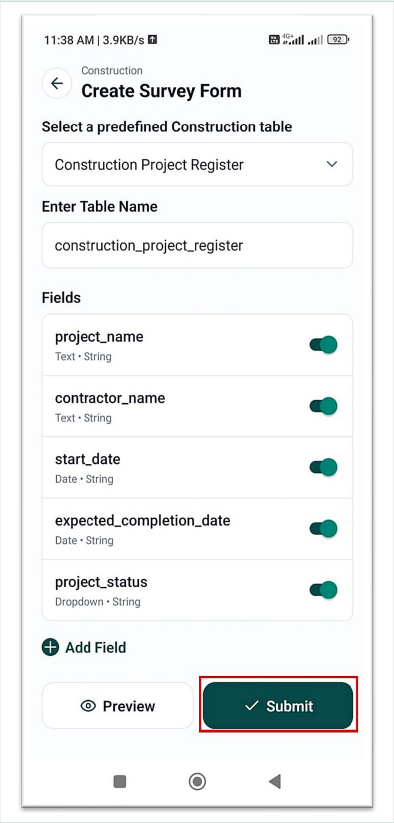


Figure 9.13 *Create Survey Form — Construction Project Register fields*

Recommended geometry: Polygon for the site boundary or footprint; Point for a single site location. Select the geometry type when prompted; G-Field then confirms that the form has been created.

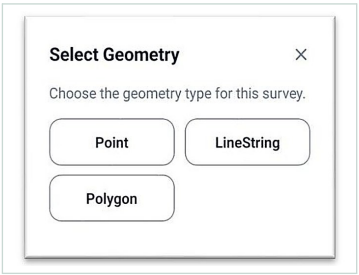


Figure 9.14 *Select Geometry dialog*

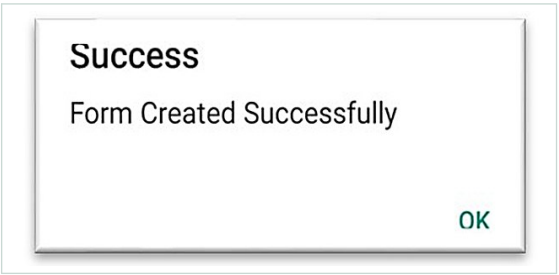


Figure 9.15 *Form created successfully*

To change the fields later, tap **Update Form**, select the form and add or remove columns.

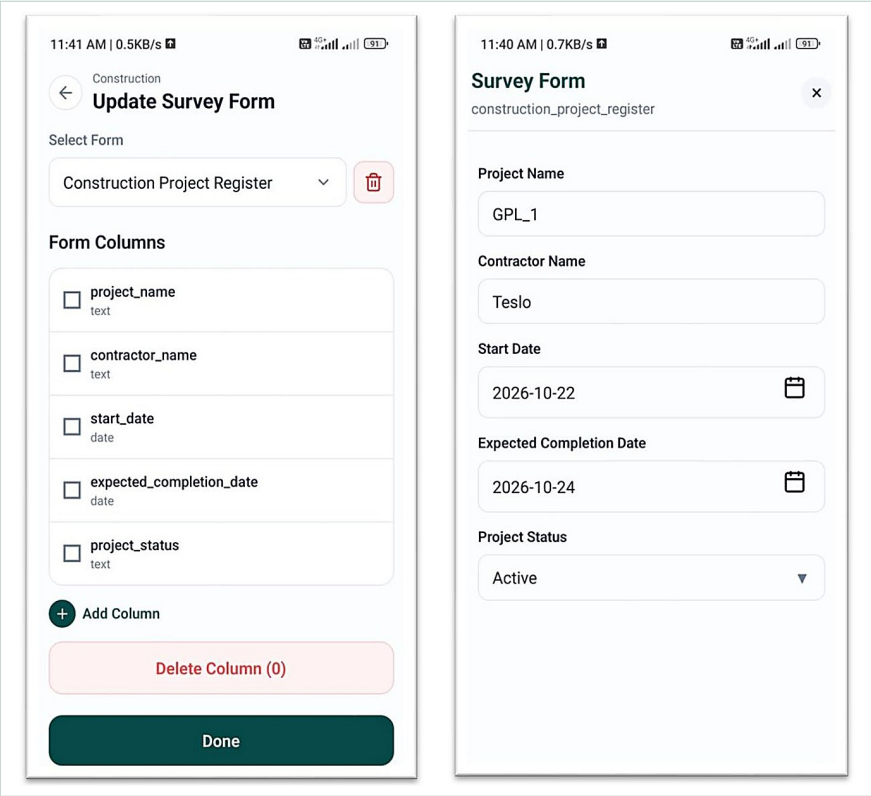


Figure 9.16 Update Survey Form — Construction

9.4 Use Case 3 — Defence

Use the Defence sector for defence infrastructure surveys, asset management and facility inspections. Access is restricted to authorised users.

Predefined tables: Defence Asset Register, Base Infrastructure, Perimeter Inspection, Equipment Inspection, Access Point Survey, Others.

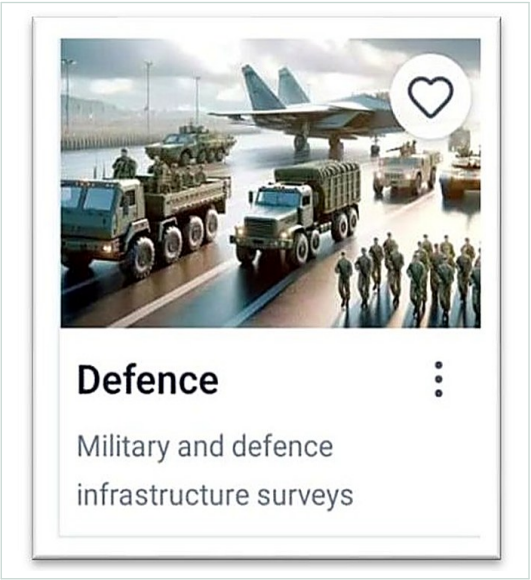


Figure 9.17 Defence sector card

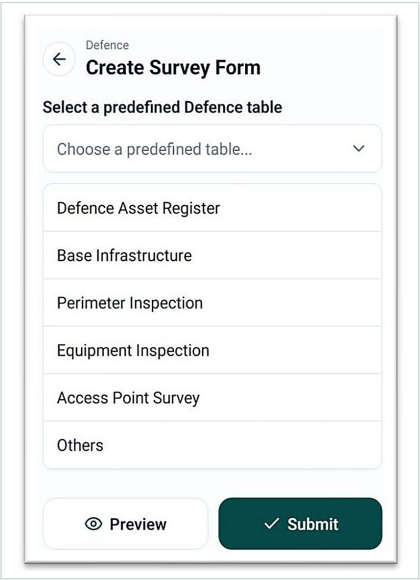


Figure 9.18 Predefined Defence tables

Tap **Create Form**, open the predefined-table list and select **Defence Asset Register**. G-Field proposes the table name `defence_asset_register` with the following default fields:

Table 9.4 *Defence Asset Register — default fields*

Field	Field type	Data type	Description
asset_name	Text	String	Name of the asset
asset_type	Dropdown	String	e.g. building, equipment
asset_code	Text	String	Asset code
operational_status	Dropdown	String	e.g. operational, under maintenance
asset_photo	Image	String	Photograph of the asset

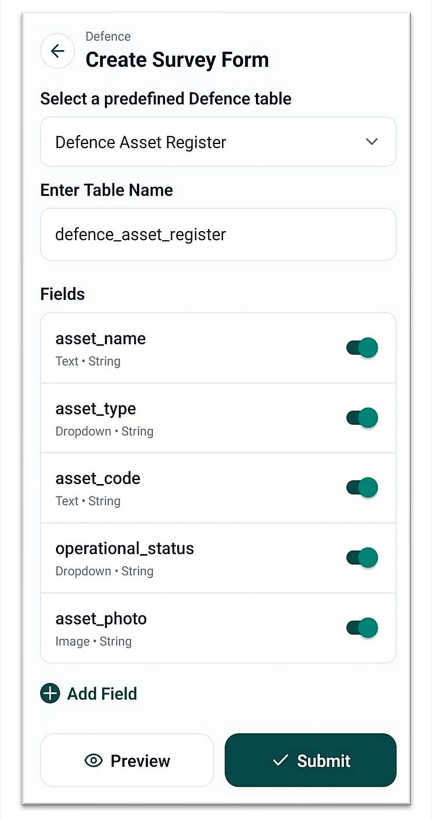


Figure 9.19 *Create Survey Form — Defence Asset Register fields*

Switch off any fields you do not need, add fields if required, and tap **Submit**.

Recommended geometry: Point for assets and access points; LineString for perimeter fences; Polygon for installations. Select the geometry type when prompted; G-Field then confirms that the form has been created.

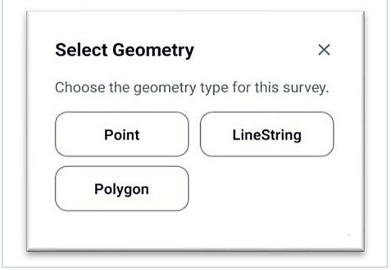


Figure 9.20 *Select Geometry dialog*

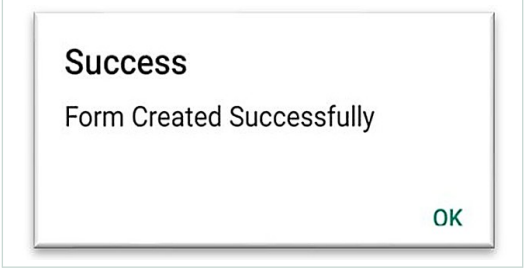


Figure 9.21 *Form created successfully*

The form is listed under **My Forms**. Records collected with it can be opened in the **Survey Information** panel, where **Edit** lets you modify them.

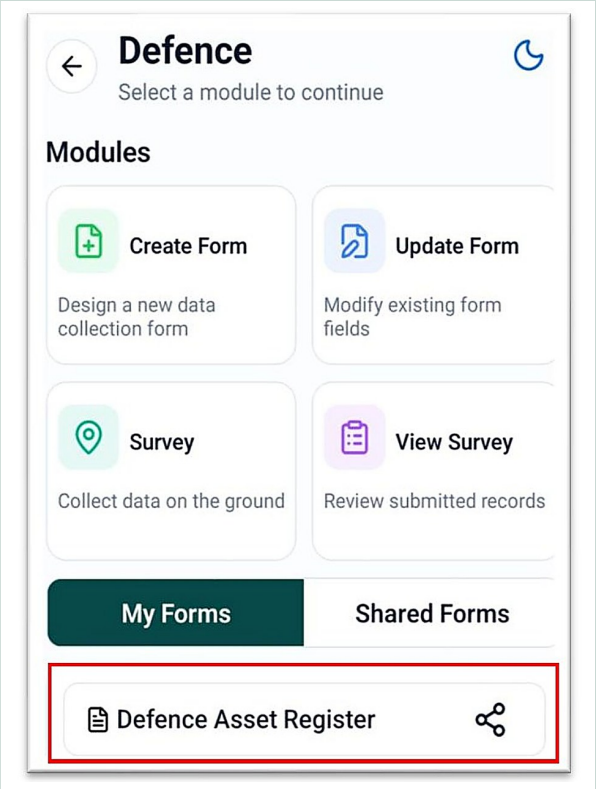


Figure 9.22 Defence Asset Register under My Forms

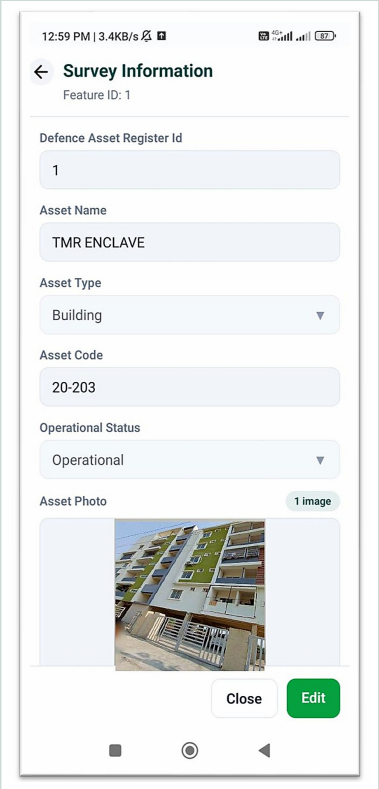


Figure 9.23 Survey Information — Defence Asset Register record

To change the fields later, tap **Update Form**, select the form and add or remove columns.

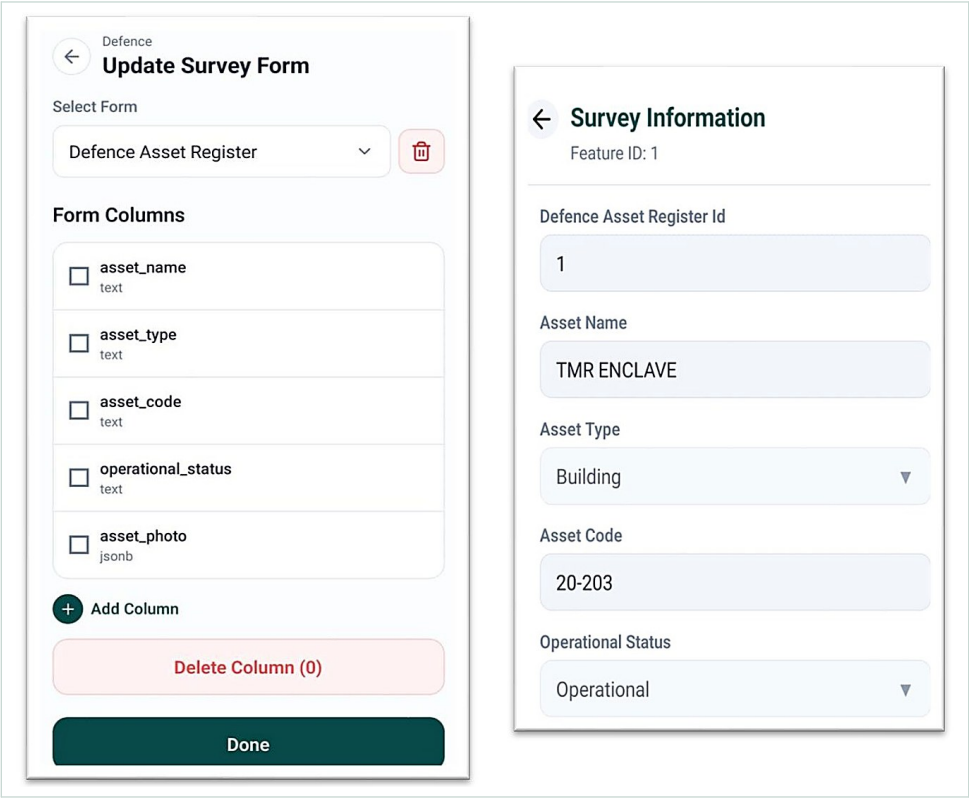


Figure 9.24 Update Survey Form — Defence

CAUTION

Defence data may be classified. Collect and share it only with written authorisation and in accordance with your organisation's security instructions.

9.5 Use Case 4 — Electric Utilities

Use the Electric Utilities sector to inventory power assets, inspect transformers and power lines, record outages and survey consumer connections.

Predefined tables: Power Asset Register, Transformer Survey, Power Line Survey, Outage Register, Consumer Connection Survey, Others.

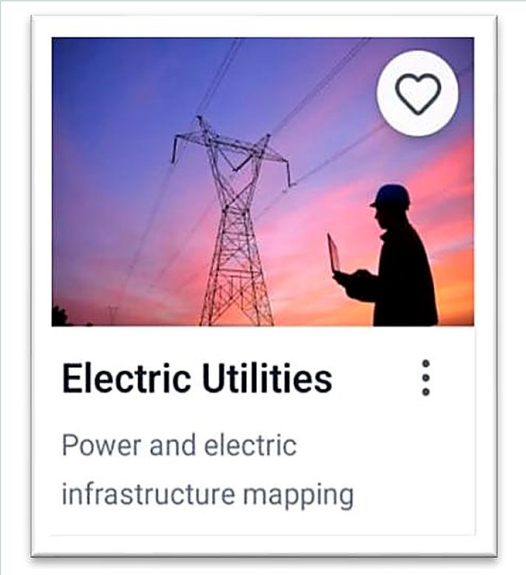


Figure 9.25 Electric Utilities sector card

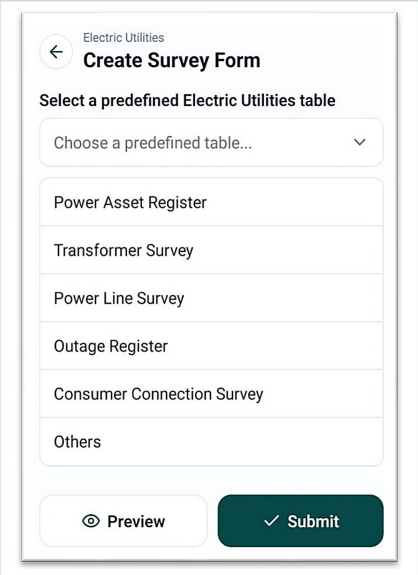


Figure 9.26 Predefined Electric Utilities tables

Tap **Create Form**, open the predefined-table list and select **Power Asset Register**. G-Field proposes the table name `power_asset_register` with the following default fields:

Table 9.5 Power Asset Register — default fields

Field	Field type	Data type	Description
asset_id	Text	String	Utility asset identifier
asset_type	Dropdown	String	e.g. pole, transformer
capacity	Number	Float	Rated capacity (kVA)
condition	Dropdown	String	e.g. good, fair, poor
asset_photo	Image	String	Photograph of the asset

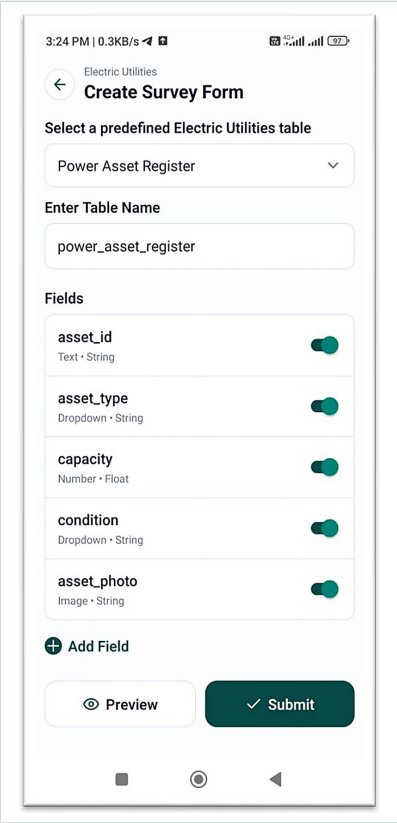


Figure 9.27 *Create Survey Form — Power Asset Register fields*

Recommended geometry: Point for poles, transformers and meters; LineString for power lines and feeders. Select the geometry type when prompted; G-Field then confirms that the form has been created.

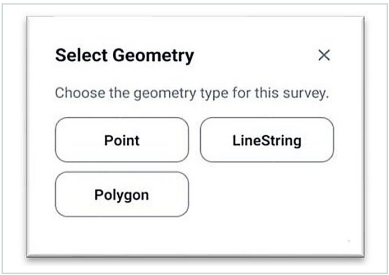


Figure 9.28 *Select Geometry dialog*

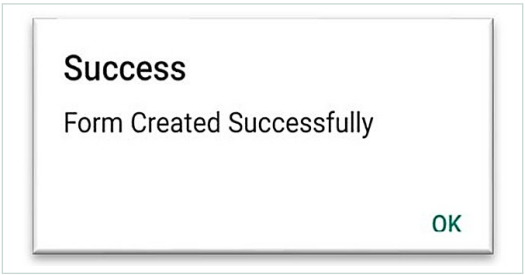


Figure 9.29 *Form created successfully*

The form is listed under **My Forms**. Records collected with it can be opened in the **Survey Information** panel, where **Edit** lets you modify them.

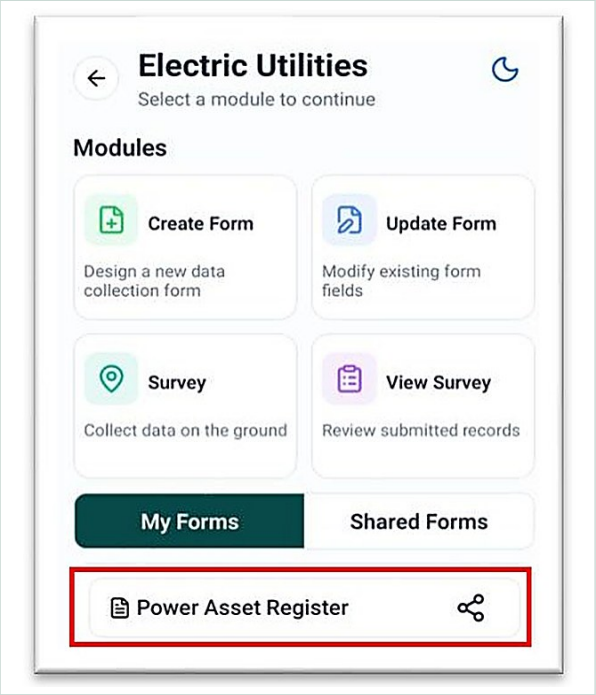


Figure 9.30 Power Asset Register under My Forms

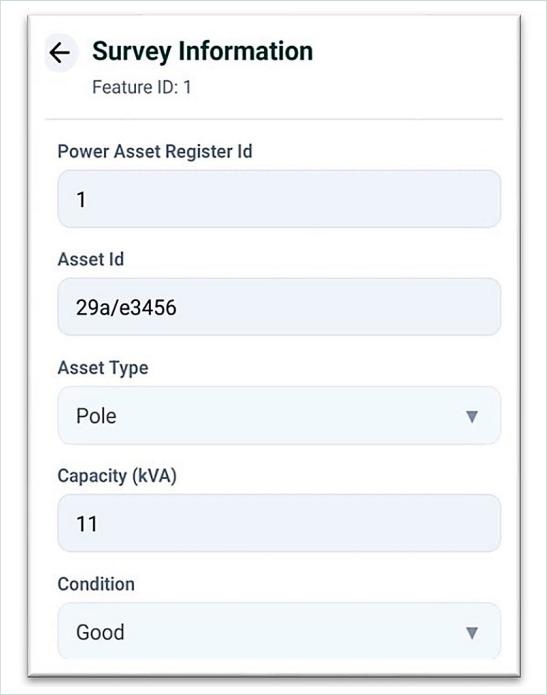


Figure 9.31 Survey Information — Power Asset Register record

To change the fields later, tap **Update Form**, select the form and add or remove columns.

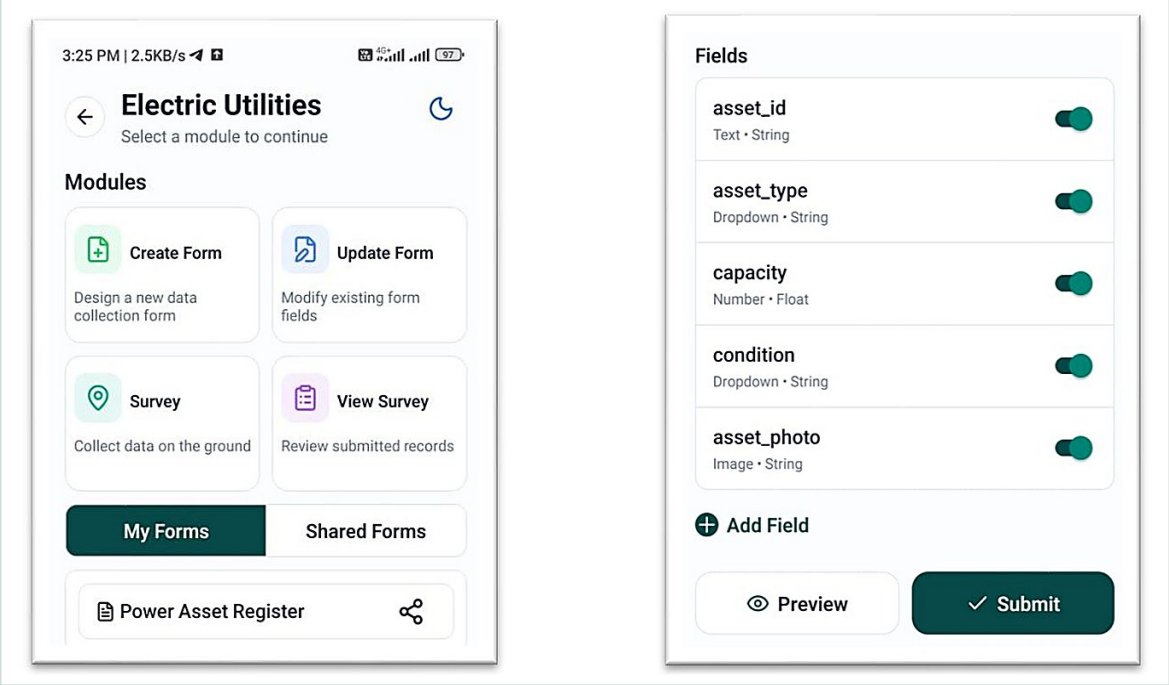


Figure 9.32 Update Survey Form — Electric Utilities

9.6 Use Case 5 — Forest Resources

Use the Forest Resources sector for forest inventories, biodiversity monitoring and natural-resource management.

Predefined tables: Forest Compartment Register, Tree Enumeration, Plantation Survey, Forest Fire Incident, Wildlife Sighting, Others.

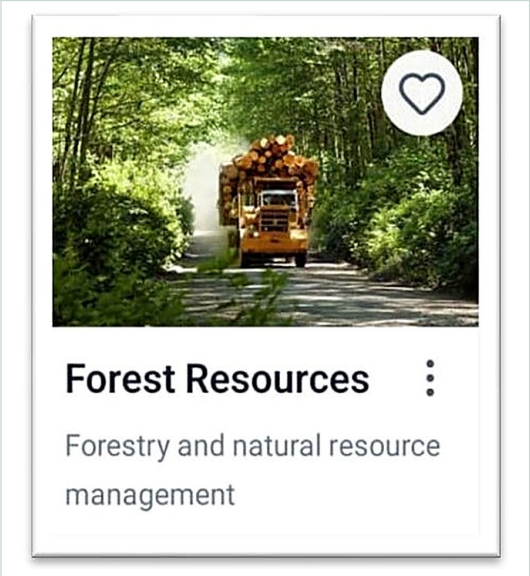


Figure 9.33 Forest Resources sector card

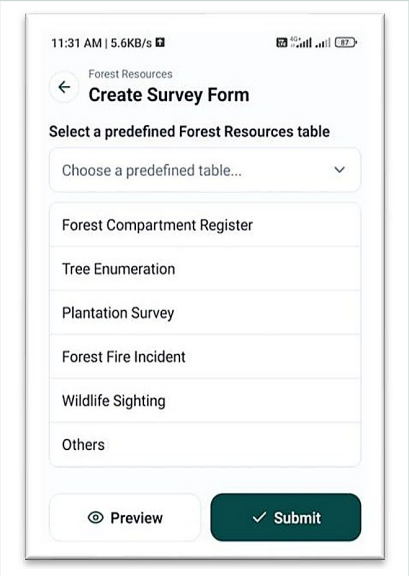


Figure 9.34 Predefined Forest Resources tables

Tap **Create Form**, open the predefined-table list and select **Forest Compartment Register**. G-Field proposes the table name `forest_compartment_register` with the following default fields:

Table 9.6 Forest Compartment Register — default fields

Field	Field type	Data type	Description
compartment_id	Text	String	Compartment identifier
forest_range	Text	String	Forest range name
area	Number	Float	Area in hectares
forest_type	Dropdown	String	e.g. dense, open
protection_status	Dropdown	String	e.g. reserved, protected

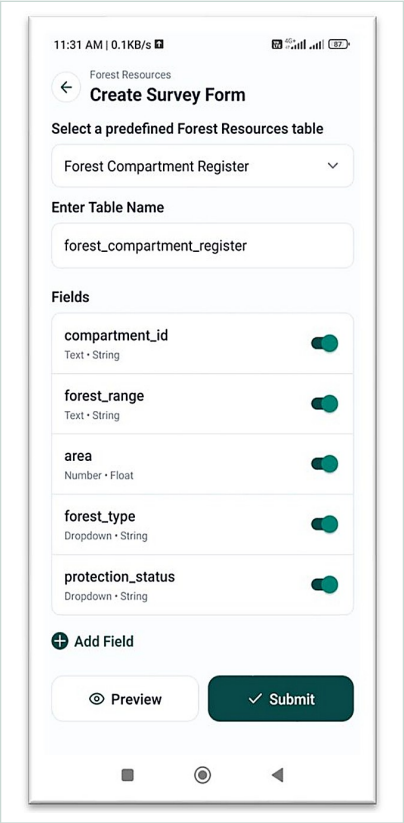


Figure 9.35 *Create Survey Form — Forest Compartment Register fields*

Recommended geometry: Polygon for compartments and plantations; Point for trees, fire incidents and wildlife sightings. Select the geometry type when prompted; G-Field then confirms that the form has been created.

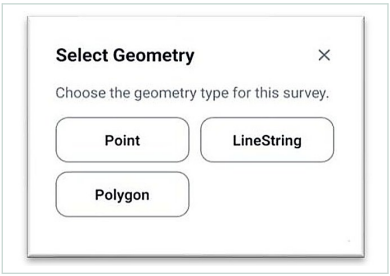


Figure 9.36 *Select Geometry dialog*

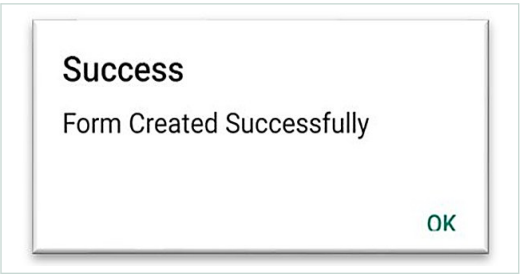


Figure 9.37 *Form created successfully*

The form is listed under **My Forms**. Records collected with it can be opened in the **Survey Information** panel, where **Edit** lets you modify them.

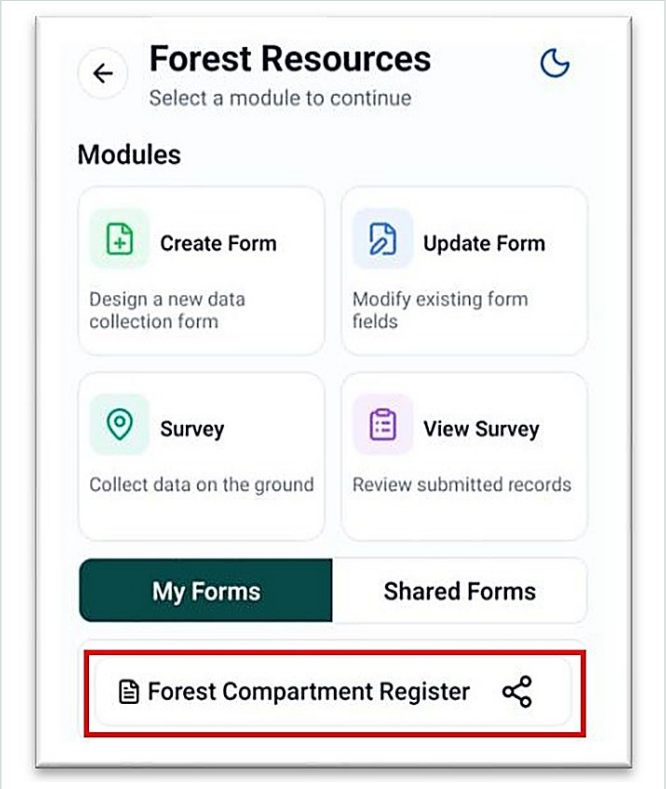


Figure 9.38 Forest Compartment Register under My Forms

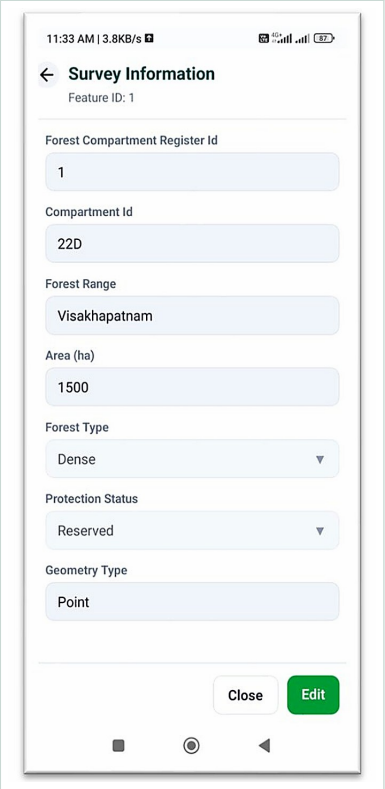


Figure 9.39 Survey Information — Forest Compartment Register record

To change the fields later, tap **Update Form**, select the form and add or remove columns.

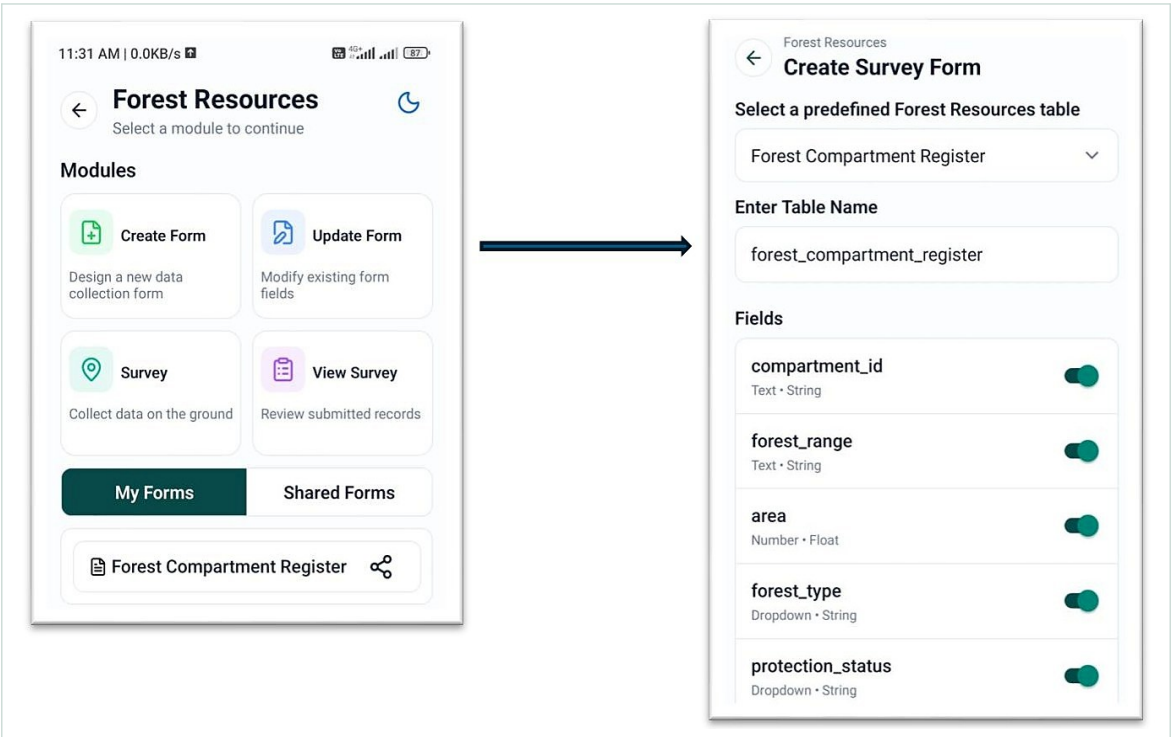


Figure 9.40 Update Survey Form — Forest Resources

9.7 Use Case 6 — Gas Utilities

Use the Gas Utilities sector for pipeline inventories, valve-station and meter surveys, consumer registers and leak inspections.

Predefined tables: Gas Pipeline Register, Valve Station Survey, Gas Consumer Register, Leak Inspection, Gas Meter Survey, Others.

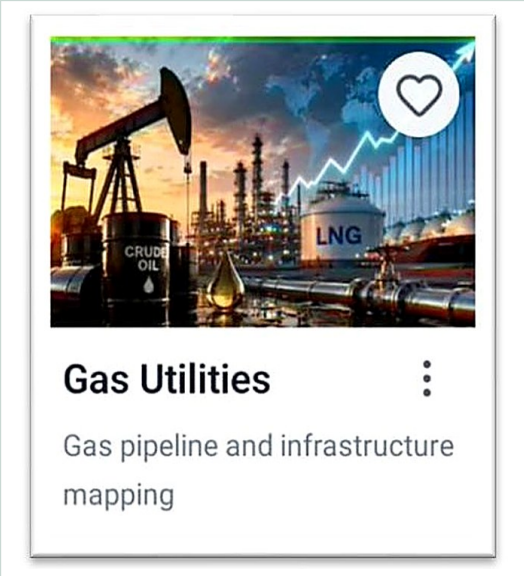


Figure 9.41 Gas Utilities sector card

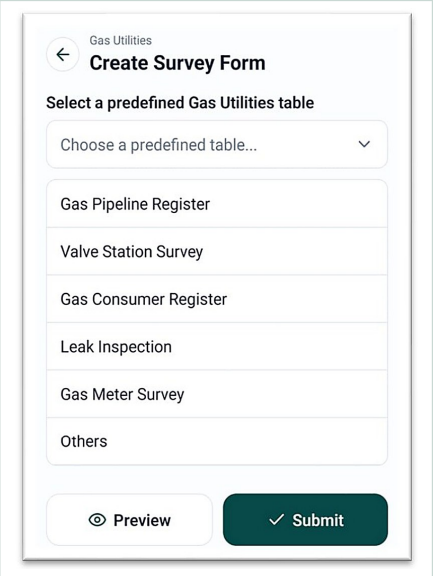


Figure 9.42 Predefined Gas Utilities tables

Tap **Create Form**, open the predefined-table list and select **Gas Pipeline Register**. G-Field proposes the table name `gas_pipeline_register` with the following default fields:

Table 9.7 Gas Pipeline Register — default fields

Field	Field type	Data type	Description
pipeline_id	Text	String	Pipeline identifier
diameter	Number	Float	Diameter (mm)
length	Number	Float	Length — state the unit
operating_pressure	Number	Float	Operating pressure — state the unit
condition	Dropdown	String	e.g. good, fair, poor

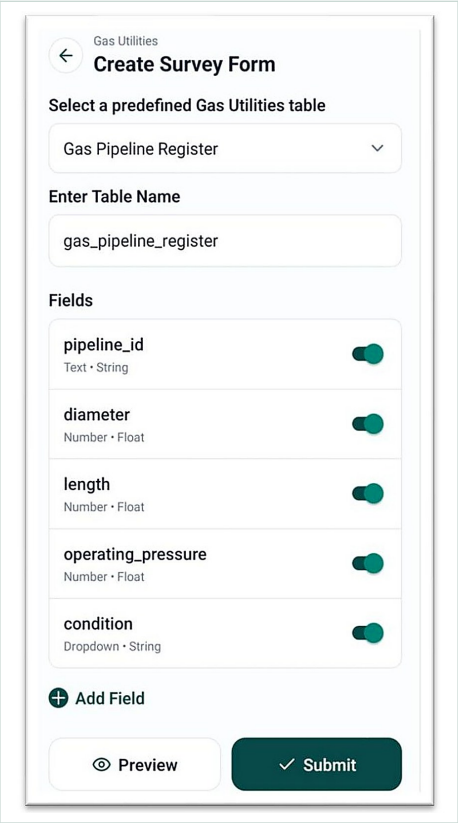


Figure 9.43 *Create Survey Form — Gas Pipeline Register fields*

Recommended geometry: LineString for pipeline routes; Point for valves, meters and leak locations. Select the geometry type when prompted; G-Field then confirms that the form has been created.

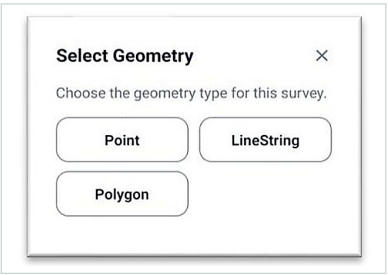


Figure 9.44 *Select Geometry dialog*

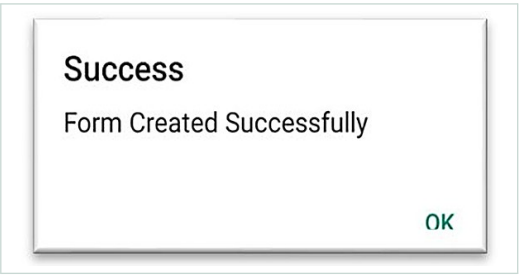


Figure 9.45 *Form created successfully*

The form is listed under **My Forms**. Records collected with it can be opened in the **Survey Information** panel, where **Edit** lets you modify them.

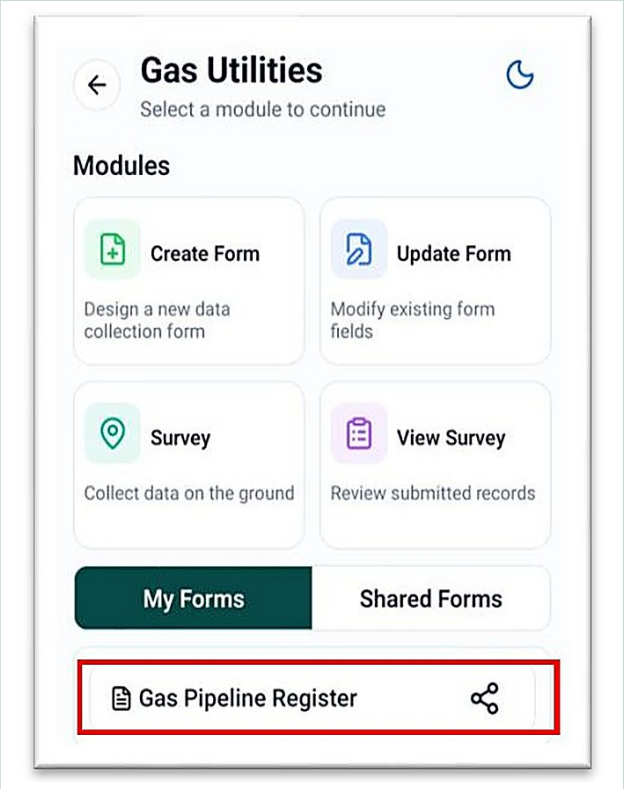


Figure 9.46 Gas Pipeline Register under My Forms

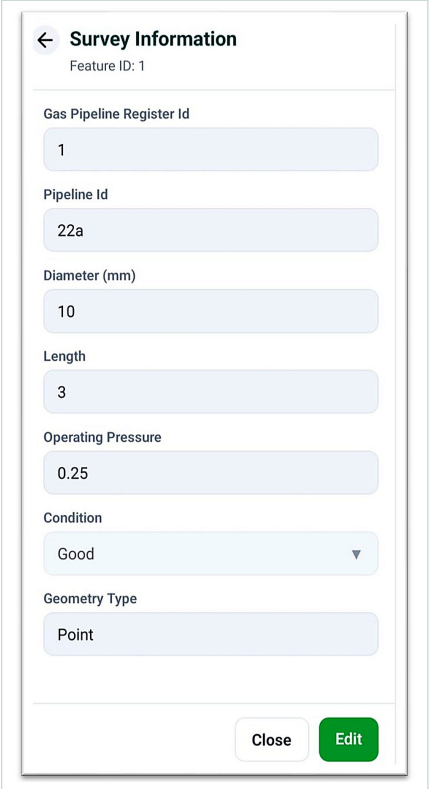


Figure 9.47 Survey Information — Gas Pipeline Register record

To change the fields later, tap **Update Form**, select the form and add or remove columns.

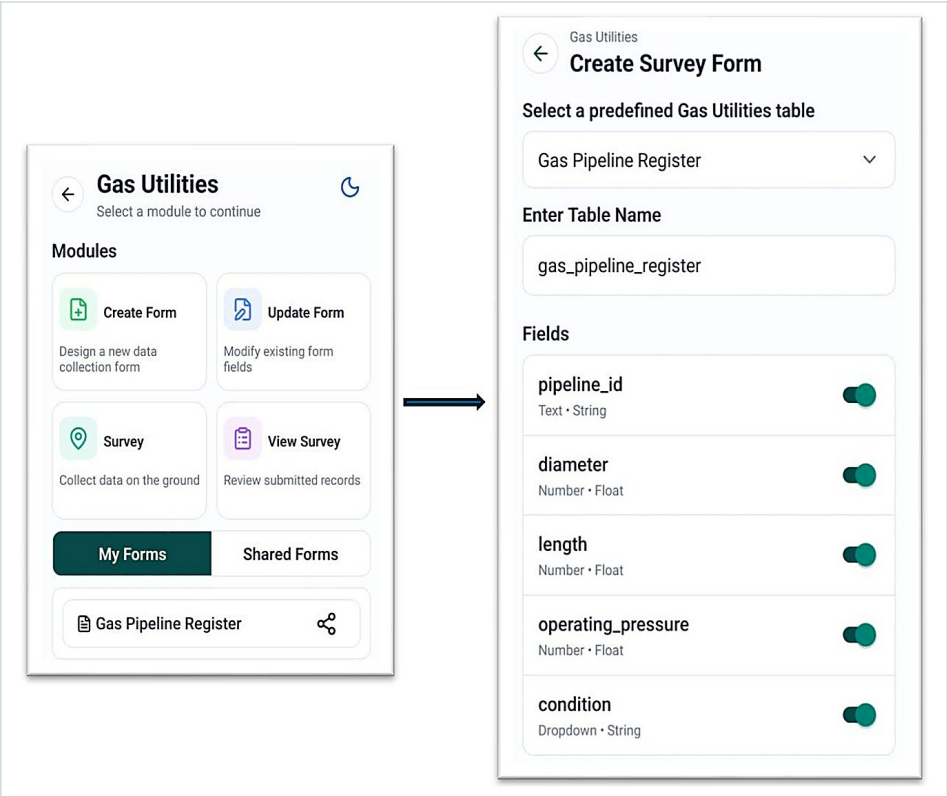


Figure 9.48 Update Survey Form — Gas Utilities

9.8 Use Case 7 — Health

Use the Health sector to map health facilities and record staff, services, medicine stocks and facility inspections.

Predefined tables: Health Facility Register, Medical Staff Register, Patient Visit Summary, Medicine Inventory, Facility Inspection, Others.

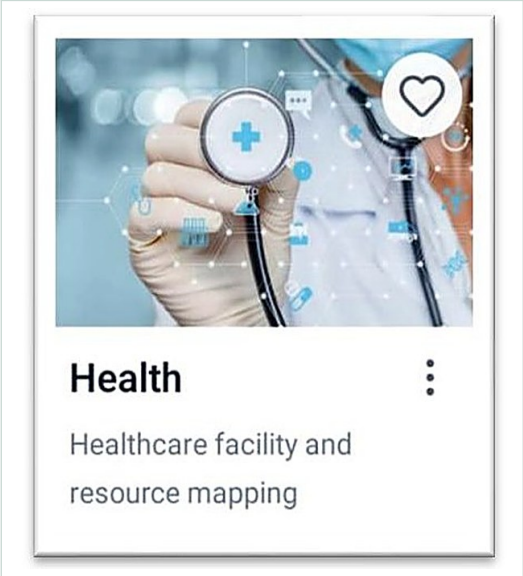


Figure 9.49 Health sector card

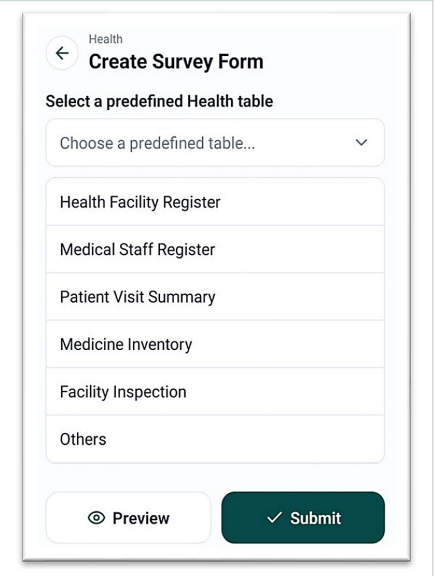


Figure 9.50 Predefined Health tables

Tap **Create Form**, open the predefined-table list and select **Health Facility Register**. G-Field proposes the table name `health_facility_register` with the following default fields:

Table 9.8 Health Facility Register — default fields

Field	Field type	Data type	Description
facility_name	Text	String	Name of the facility
facility_type	Dropdown	String	e.g. hospital, PHC, clinic
bed_capacity	Number	Integer	Number of beds
in_charge_name	Text	String	Officer in charge
operational_status	Dropdown	String	e.g. operational, closed

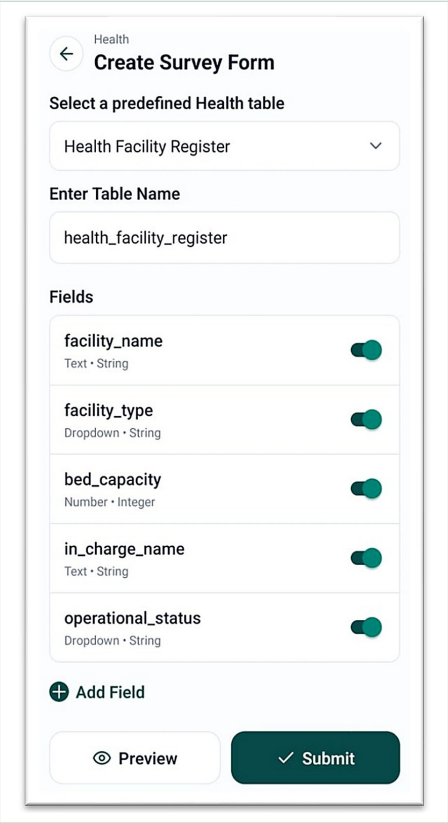


Figure 9.51 *Create Survey Form — Health Facility Register fields*

Recommended geometry: Point for facilities, pharmacies and ambulance bases; Polygon for campus boundaries. Select the geometry type when prompted; G-Field then confirms that the form has been created.

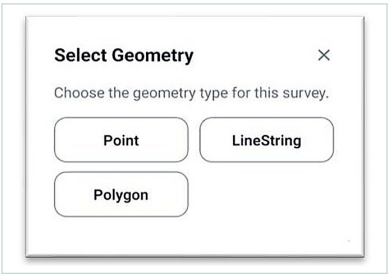


Figure 9.52 *Select Geometry dialog*

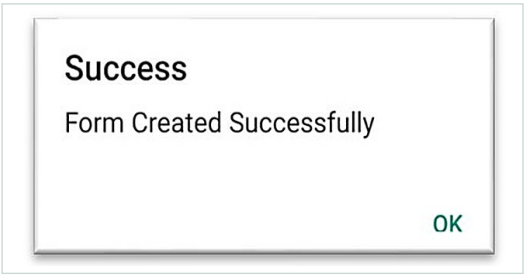


Figure 9.53 *Form created successfully*

The form is listed under **My Forms**. Records collected with it can be opened in the **Survey Information** panel, where **Edit** lets you modify them.

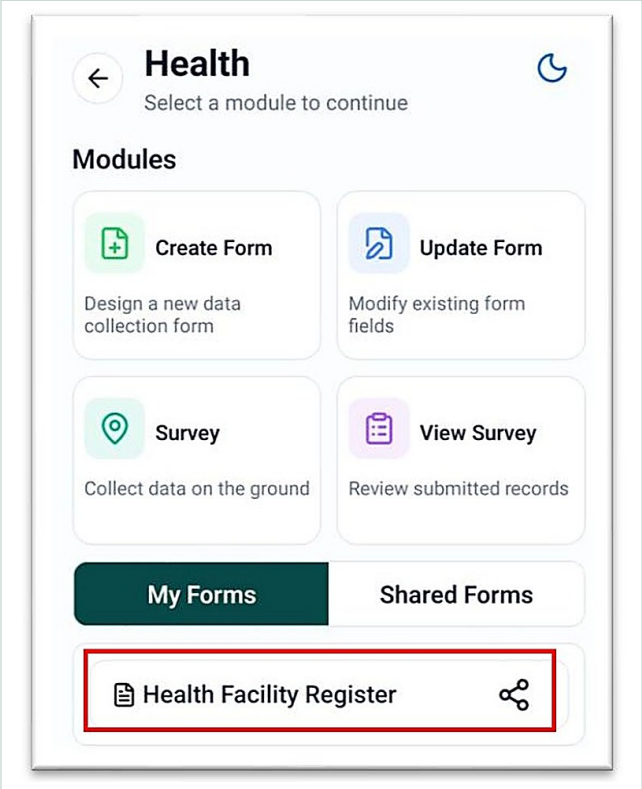


Figure 9.54 *Health Facility Register under My Forms*

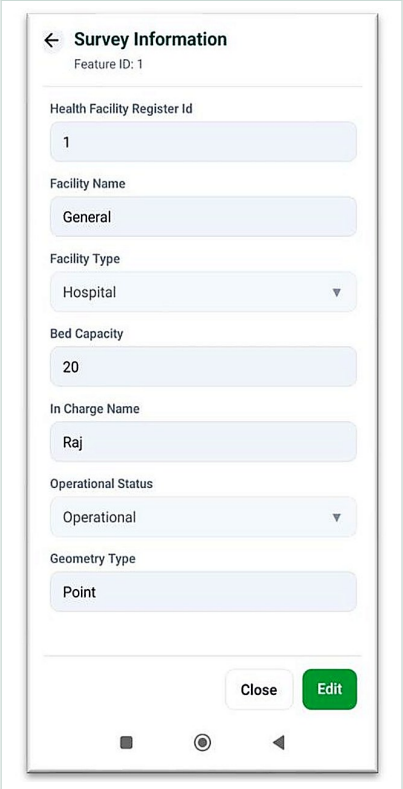


Figure 9.55 *Survey Information — Health Facility Register record*

To change the fields later, tap **Update Form**, select the form and add or remove columns.

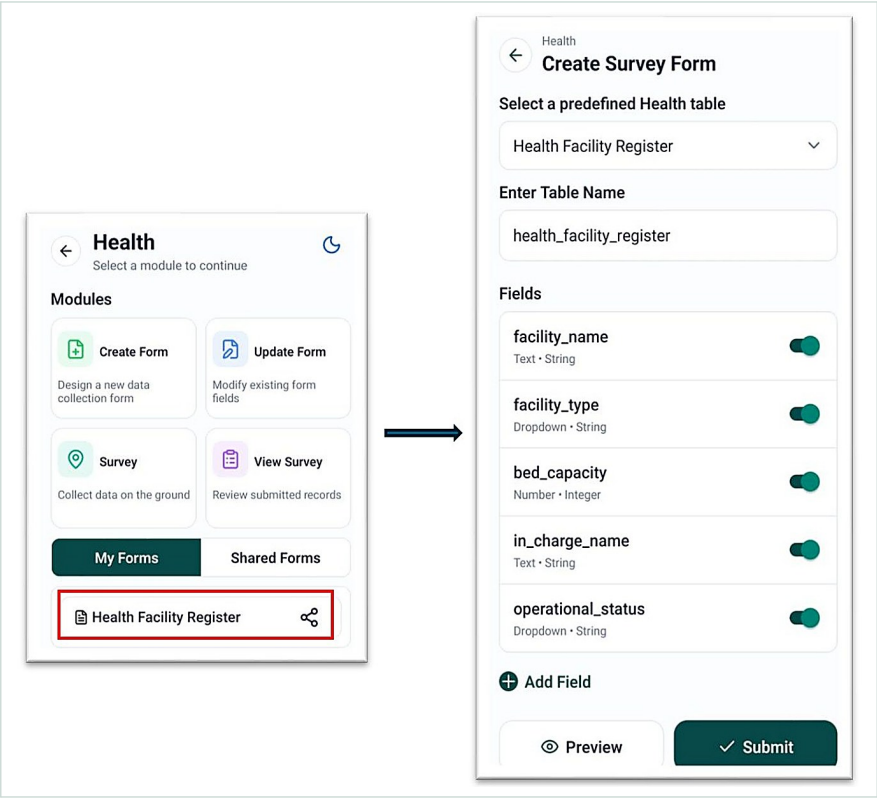


Figure 9.56 *Update Survey Form — Health*

CAUTION

Patient information is sensitive personal data. Record only aggregated or anonymised values (for example a patient visit summary), never identifiable medical details, unless your organisation has a lawful basis and appropriate safeguards.

9.9 Use Case 8 — Land Records

Use the Land Records sector for land-parcel registration, ownership records, boundary surveys, mutations and encroachment surveys.

Predefined tables: Land Parcel Register, Ownership Register, Boundary Survey, Land Mutation Register, Encroachment Survey, Others.

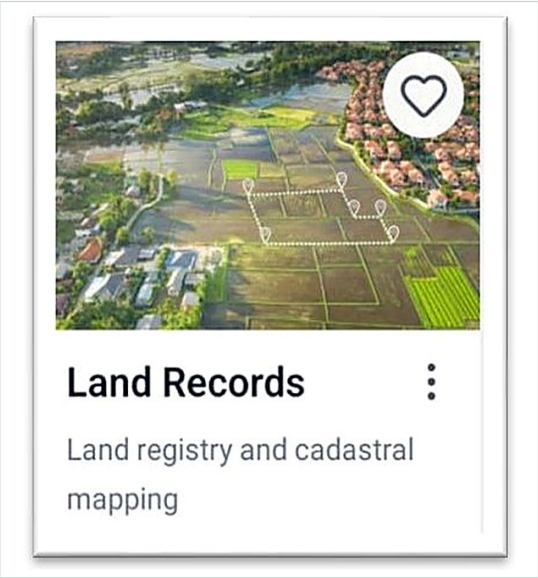


Figure 9.57 Land Records sector card

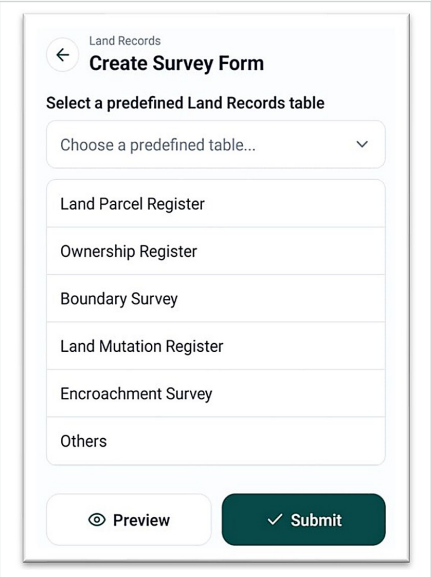


Figure 9.58 Predefined Land Records tables

Tap **Create Form**, open the predefined-table list and select **Land Parcel Register**. G-Field proposes the table name `land_parcel_register` with the following default fields:

Table 9.9 Land Parcel Register — default fields

Field	Field type	Data type	Description
parcel_id	Text	String	Parcel identifier
survey_number	Text	String	Survey number, e.g. 631/2a
owner_name	Text	String	Recorded owner
parcel_area	Number	Float	Area in hectares
land_use	Dropdown	String	e.g. agriculture, residential

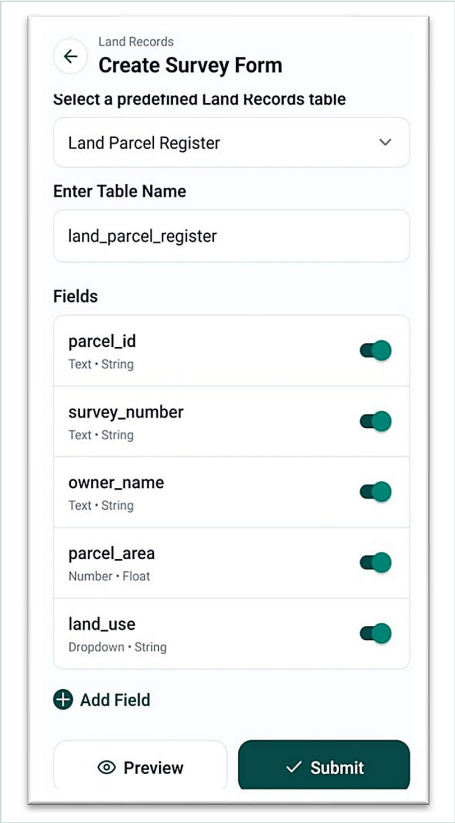


Figure 9.59 *Create Survey Form — Land Parcel Register fields*

Recommended geometry: Polygon for parcel boundaries; LineString for boundary lines; Point for encroachment locations. Select the geometry type when prompted; G-Field then confirms that the form has been created.

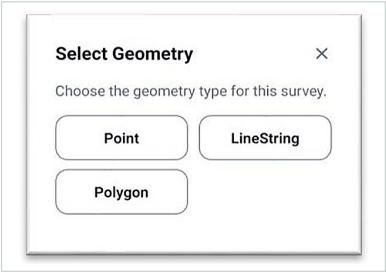


Figure 9.60 *Select Geometry dialog*

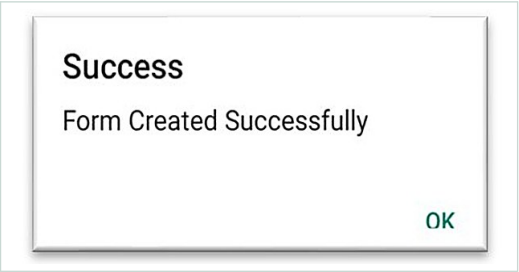


Figure 9.61 *Form created successfully*

The form is listed under **My Forms**. Records collected with it can be opened in the **Survey Information** panel, where **Edit** lets you modify them.

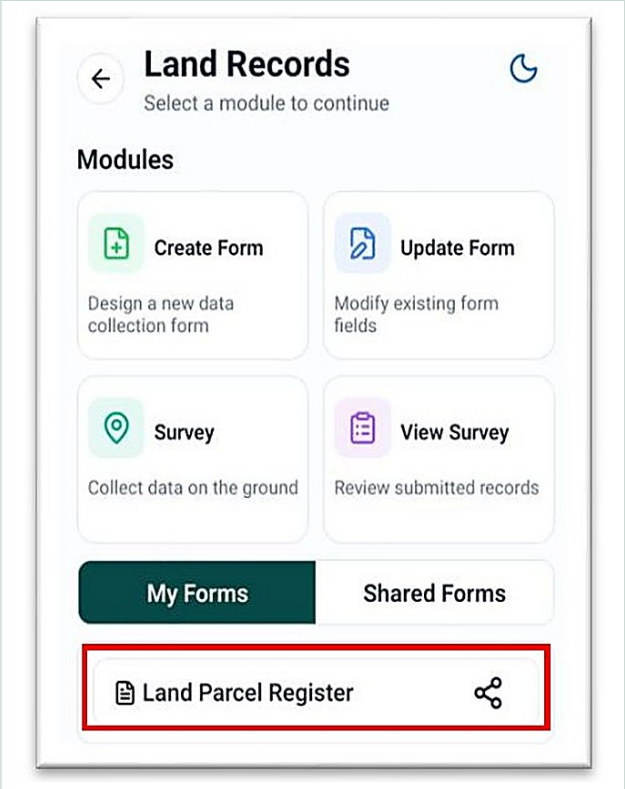


Figure 9.62 Land Parcel Register under My Forms

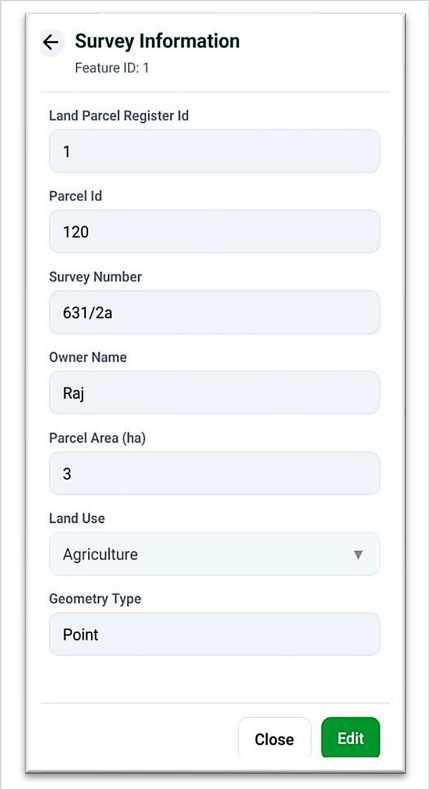


Figure 9.63 Survey Information — Land Parcel Register record

To change the fields later, tap **Update Form**, select the form and add or remove columns.

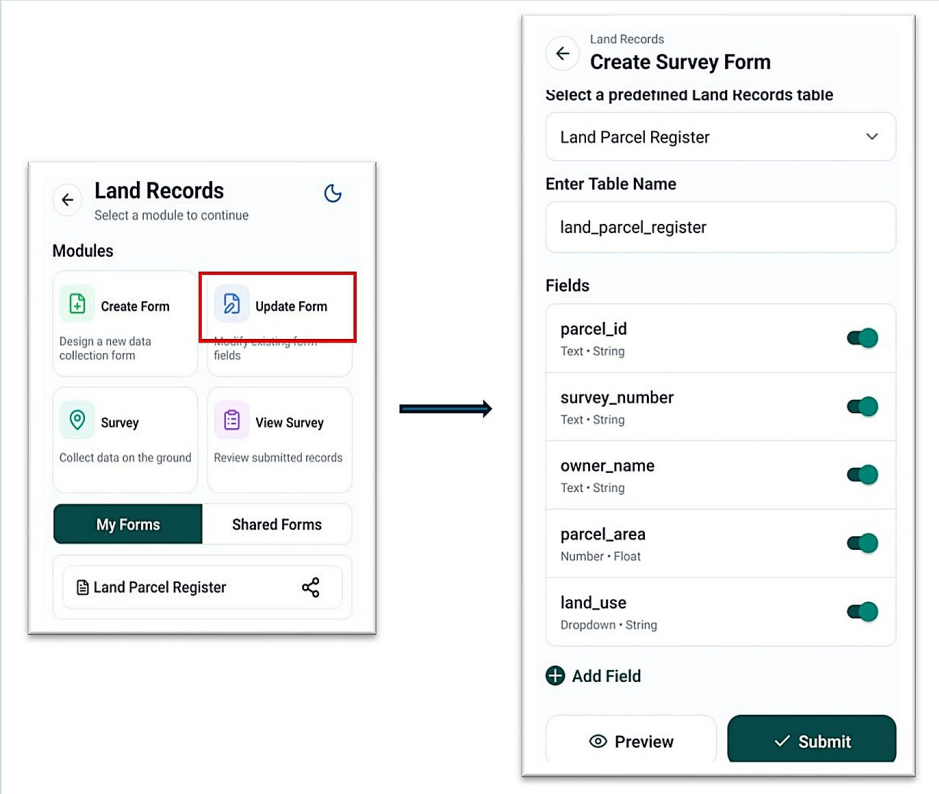


Figure 9.64 Update Survey Form — Land Records

STANDARDS

For cadastral work, align field names and code lists with ISO 19152 (Land Administration Domain Model) and your State's land-records schema so that parcels, rights and owners can be linked to the official register.

9.10 Use Case 9 — Mining

Use the Mining sector to register mine sites and record extraction, equipment, safety inspections and environmental monitoring.

Predefined tables: Mine Site Register, Extraction Record, Mining Equipment, Safety Inspection, Environmental Monitoring, Others.

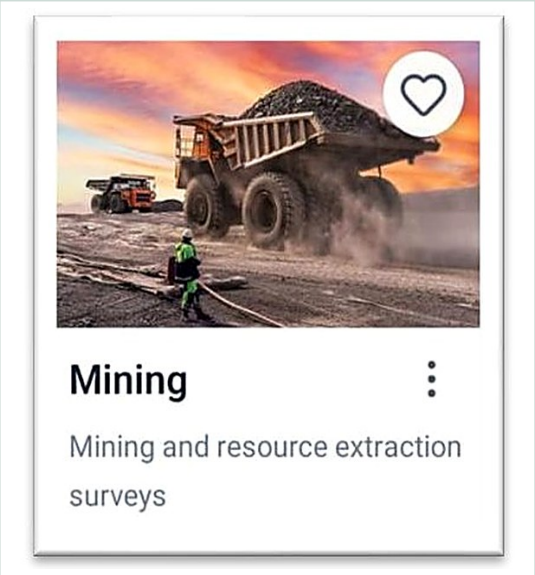


Figure 9.65 Mining sector card

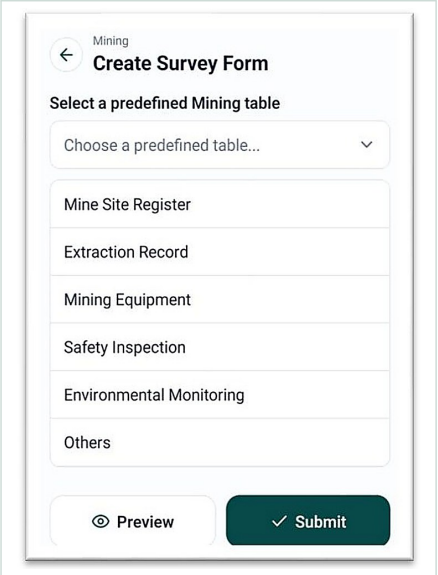


Figure 9.66 Predefined Mining tables

Tap **Create Form**, open the predefined-table list and select **Mine Site Register**. G-Field proposes the table name `mine_site_register` with the following default fields:

Table 9.10 Mine Site Register — default fields

Field	Field type	Data type	Description
mine_name	Text	String	Name or code of the mine
mineral_type	Dropdown	String	e.g. coal, iron ore
lease_area	Number	Float	Lease area in hectares
operator_name	Text	String	Operating company
operational_status	Dropdown	String	e.g. active, closed

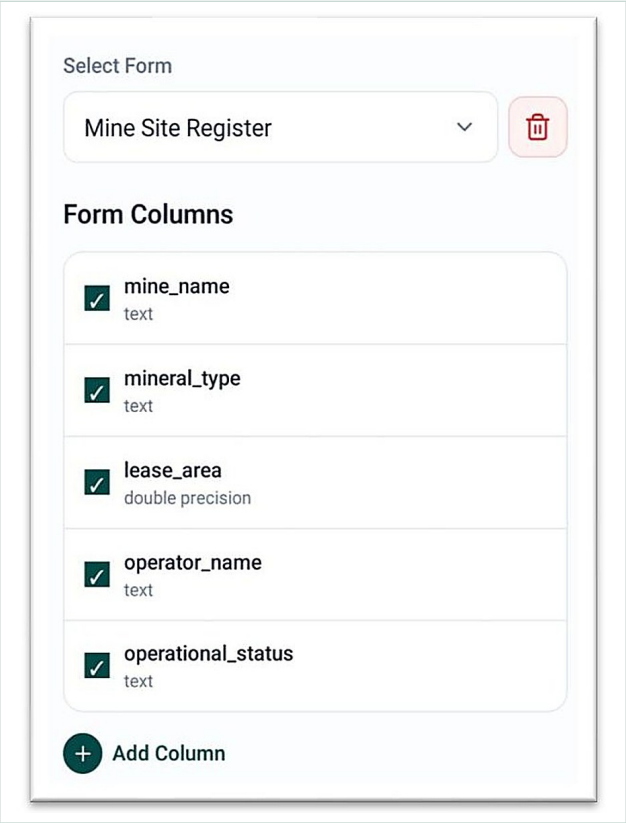


Figure 9.67 *Create Survey Form — Mine Site Register fields*

Recommended geometry: Polygon for lease boundaries, pits and dumps; LineString for haul roads; Point for equipment and monitoring stations. Select the geometry type when prompted; G-Field then confirms that the form has been created.

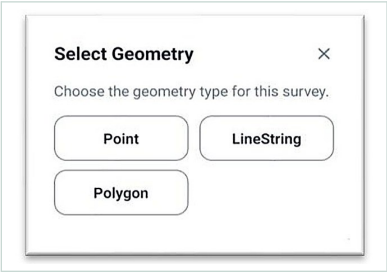


Figure 9.68 *Select Geometry dialog*

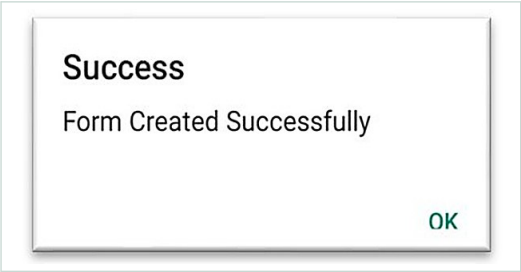


Figure 9.69 *Form created successfully*

The form is listed under **My Forms**. Records collected with it can be opened in the **Survey Information** panel, where **Edit** lets you modify them.

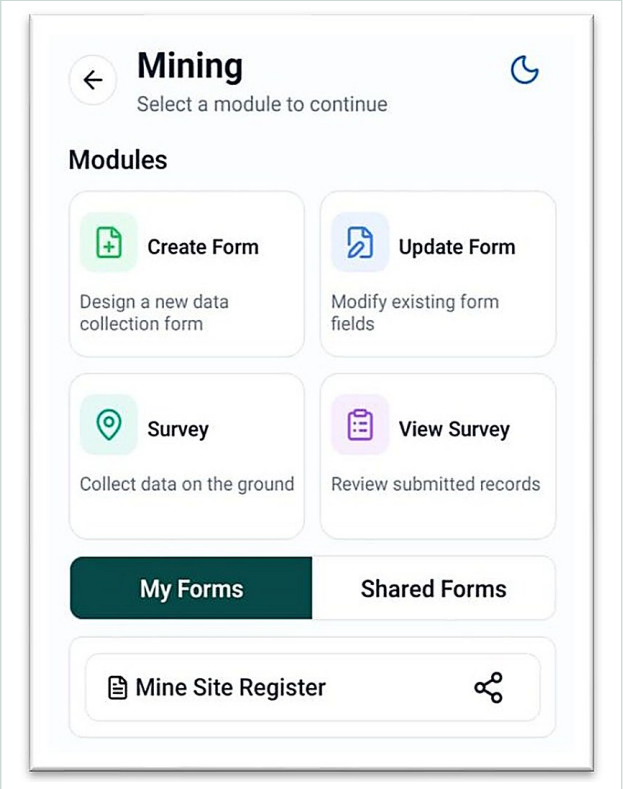


Figure 9.70 Mine Site Register under My Forms

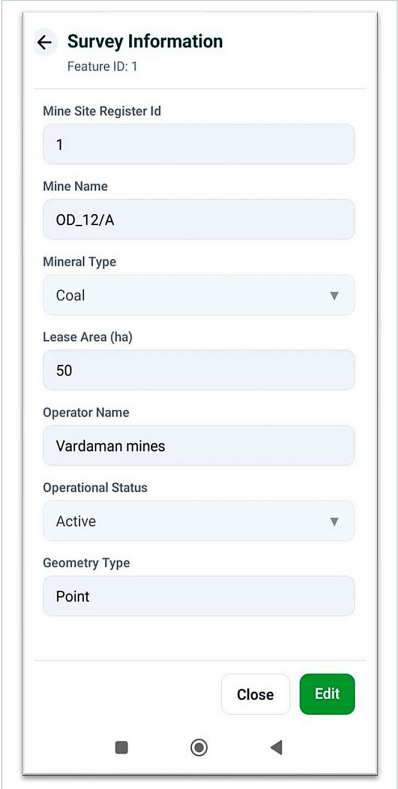


Figure 9.71 Survey Information — Mine Site Register record

To change the fields later, tap **Update Form**, select the form and add or remove columns.

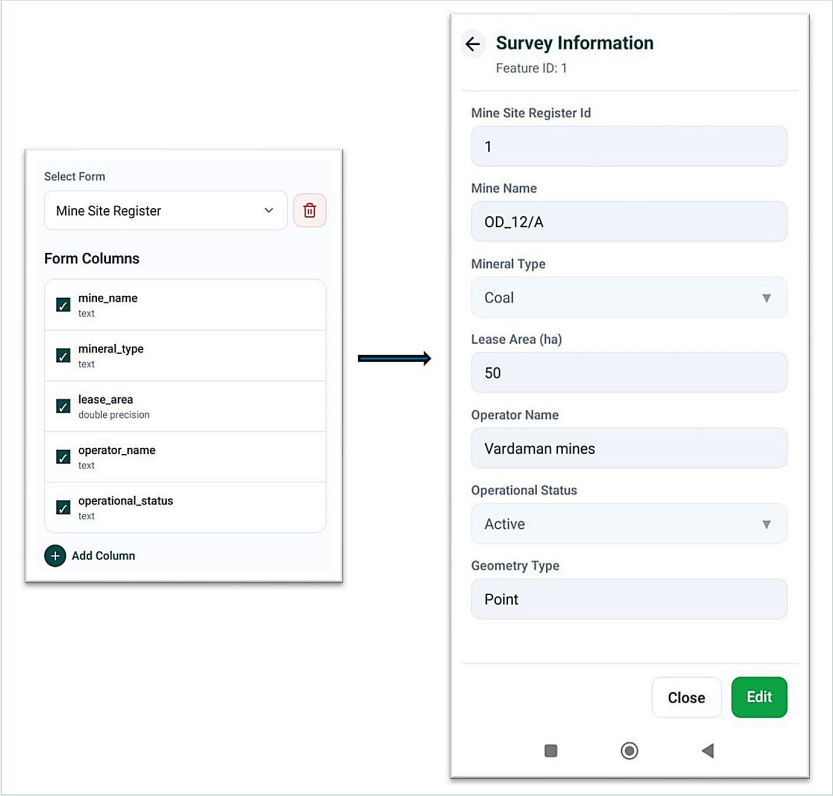


Figure 9.72 Update Survey Form — Mining

9.11 Use Case 10 — Real Estate

Use the Real Estate sector for property registration, land and building assessment and valuation surveys.

Select **Property Register** (or another Real Estate table) from the predefined list.

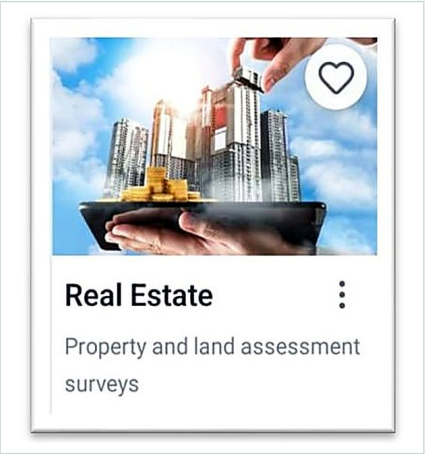


Figure 9.73 *Real Estate sector card*

Tap **Create Form**, open the predefined-table list and select **Property Register**. G-Field proposes the table name `property_register` with the following default fields:

Table 9.11 *Property Register — default fields*

Field	Field type	Data type	Description
property_id	Text	String	Property identifier
owner_name	Text	String	Owner
property_type	Dropdown	String	e.g. residential, commercial
plot_area	Number	Float	Plot area in square metres
address	Text	String	Postal address

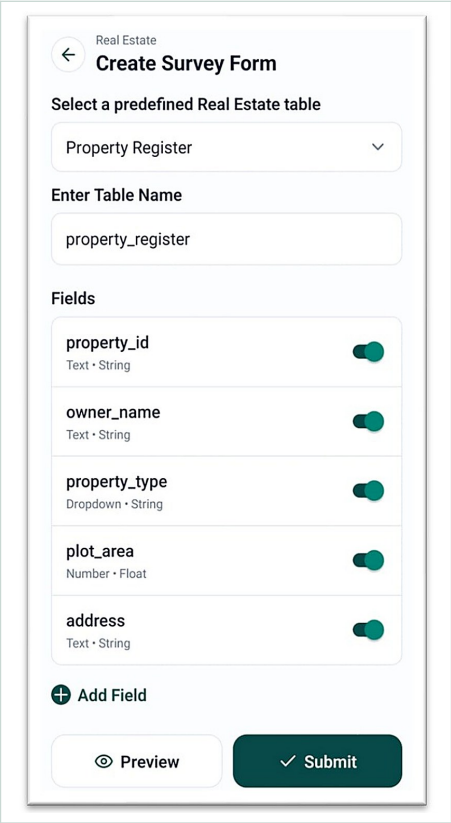


Figure 9.74 *Create Survey Form — Property Register fields*

Recommended geometry: Polygon for plots and building footprints; Point for a property location. Select the geometry type when prompted; G-Field then confirms that the form has been created.

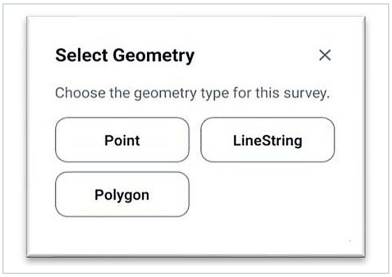


Figure 9.75 *Select Geometry dialog*

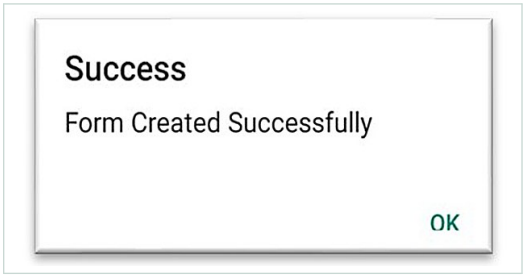


Figure 9.76 *Form created successfully*

The form is listed under **My Forms**. Records collected with it can be opened in the **Survey Information** panel, where **Edit** lets you modify them.

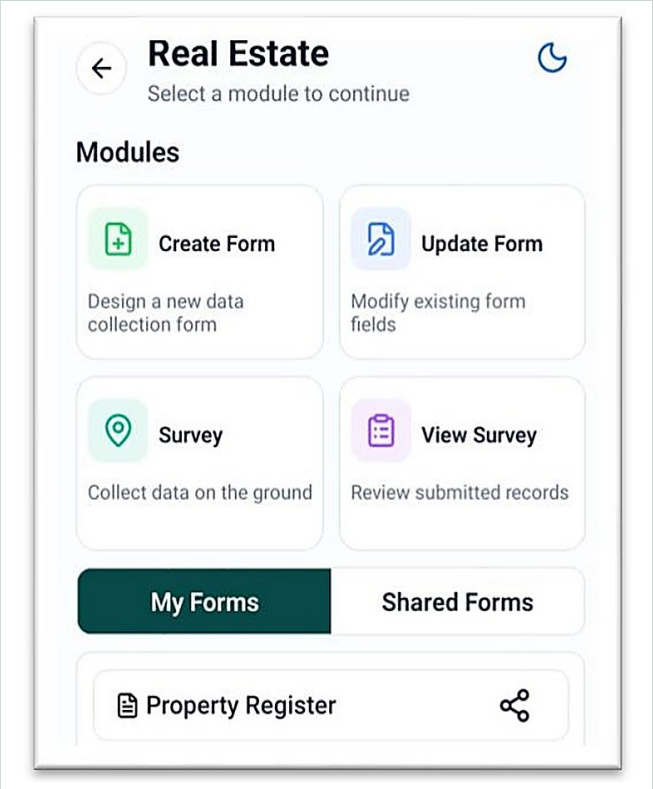


Figure 9.77 Property Register under My Forms

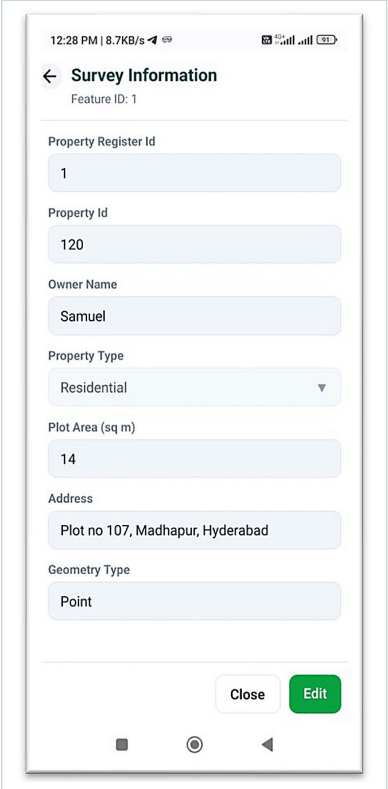


Figure 9.78 Survey Information — Property Register record

To change the fields later, tap **Update Form**, select the form and add or remove columns.

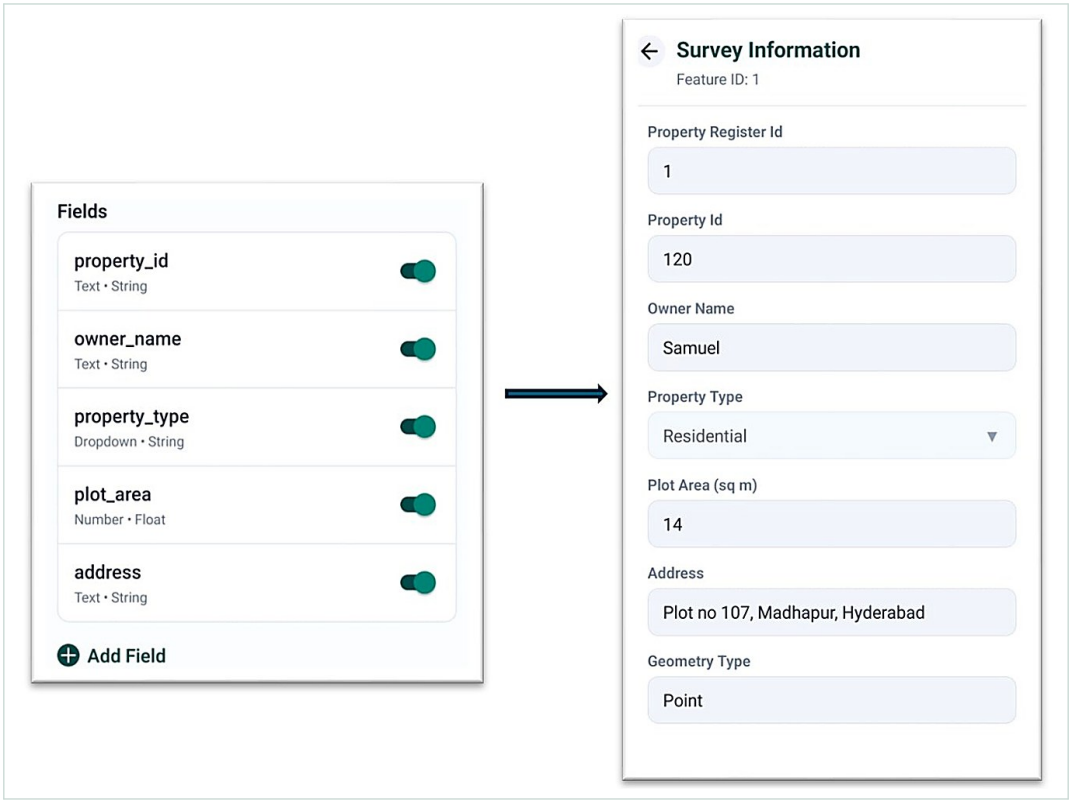


Figure 9.79 Update Survey Form — Real Estate

9.12 Use Case 11 — Telecom

Use the Telecom sector for tower registers, network coverage surveys, fibre routes, equipment inventories and network fault reporting.

Predefined tables: Telecom Tower Register, Network Coverage Survey, Fiber Route Survey, Telecom Equipment, Network Fault Register, Others.

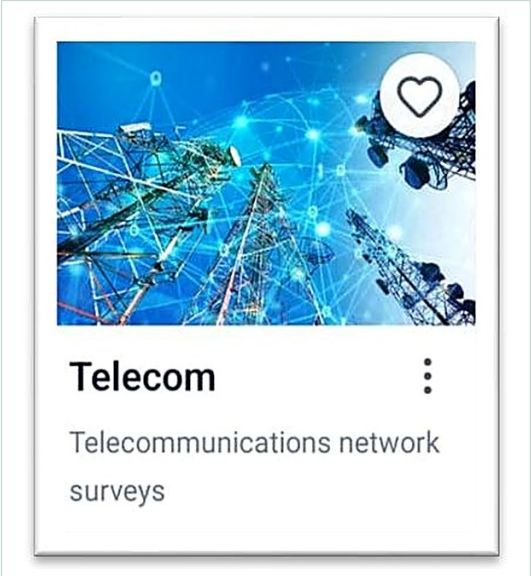


Figure 9.80 Telecom sector card

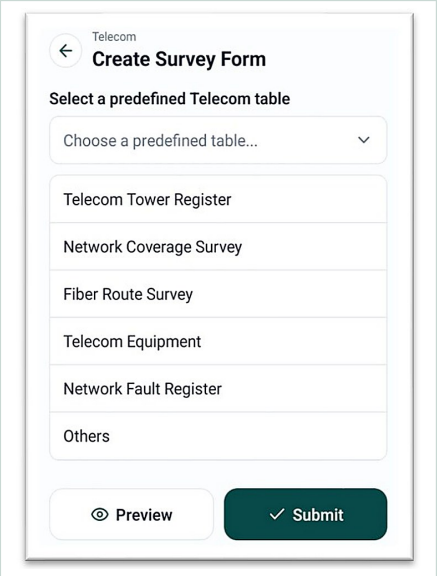


Figure 9.81 Predefined Telecom tables

Tap **Create Form**, open the predefined-table list and select **Telecom Tower Register**. G-Field proposes the table name `telecom_tower_register` with the following default fields:

Table 9.12 Telecom Tower Register — default fields

Field	Field type	Data type	Description
tower_id	Text	String	Tower identifier
operator_name	Text	String	Network operator
tower_type	Dropdown	String	e.g. rooftop, ground-based
tower_height	Number	Float	Height in metres
operational_status	Dropdown	String	e.g. active, inactive

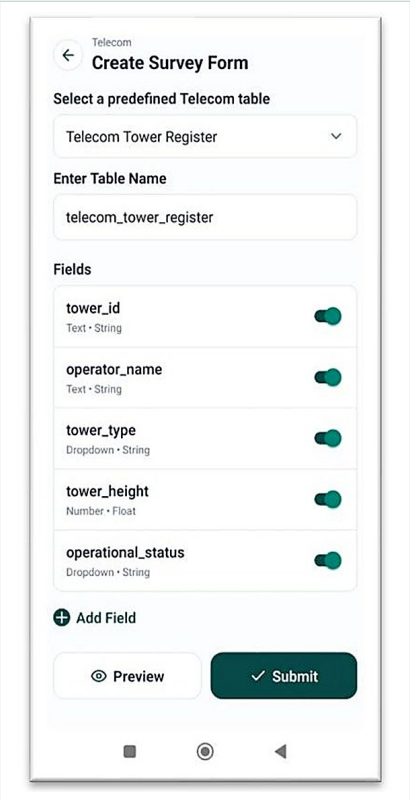


Figure 9.82 *Create Survey Form — Telecom Tower Register fields*

Recommended geometry: Point for towers and equipment; LineString for fibre routes; Polygon for coverage areas. Select the geometry type when prompted; G-Field then confirms that the form has been created.

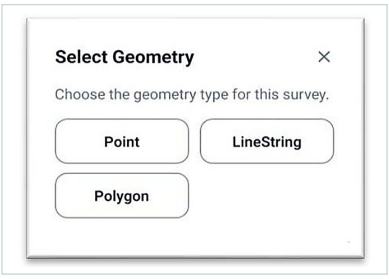


Figure 9.83 *Select Geometry dialog*

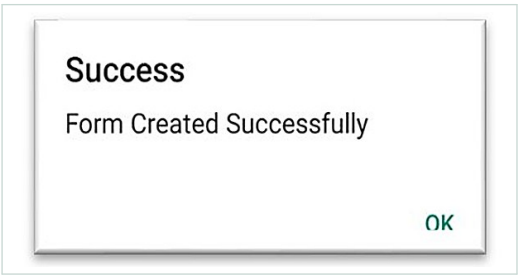


Figure 9.84 *Form created successfully*

The form is listed under **My Forms**. Records collected with it can be opened in the **Survey Information** panel, where **Edit** lets you modify them.

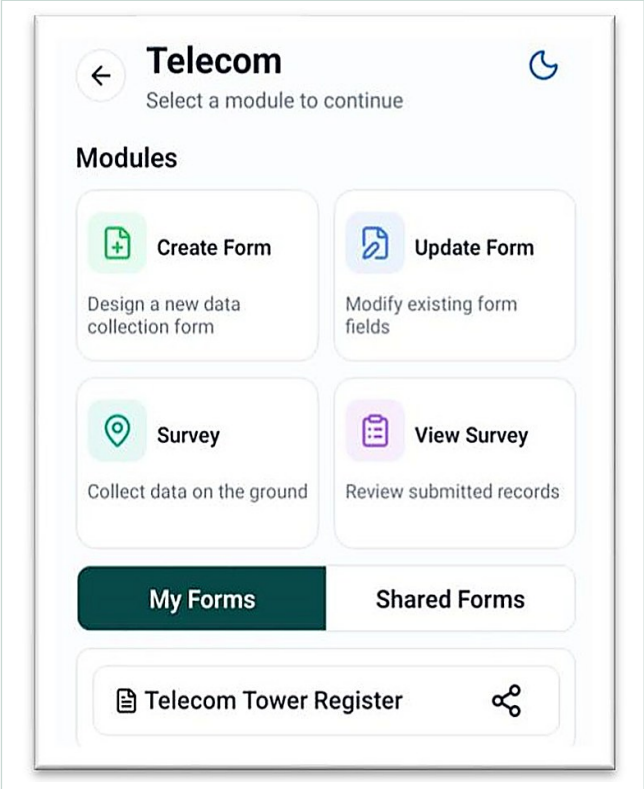


Figure 9.85 Telecom Tower Register under My Forms

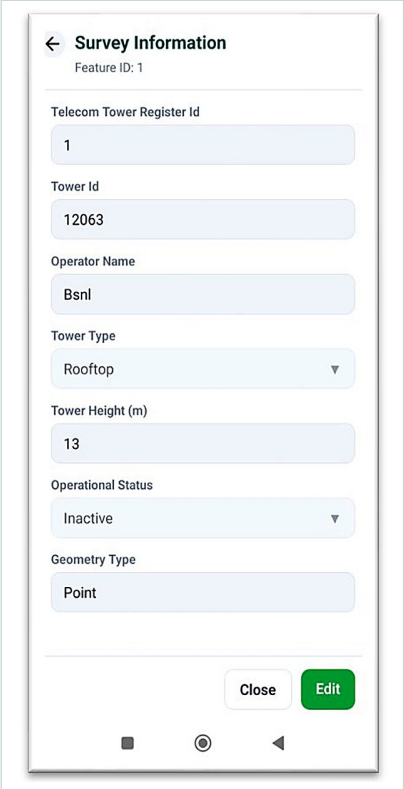


Figure 9.86 Survey Information — Telecom Tower Register record

To change the fields later, tap **Update Form**, select the form and add or remove columns.

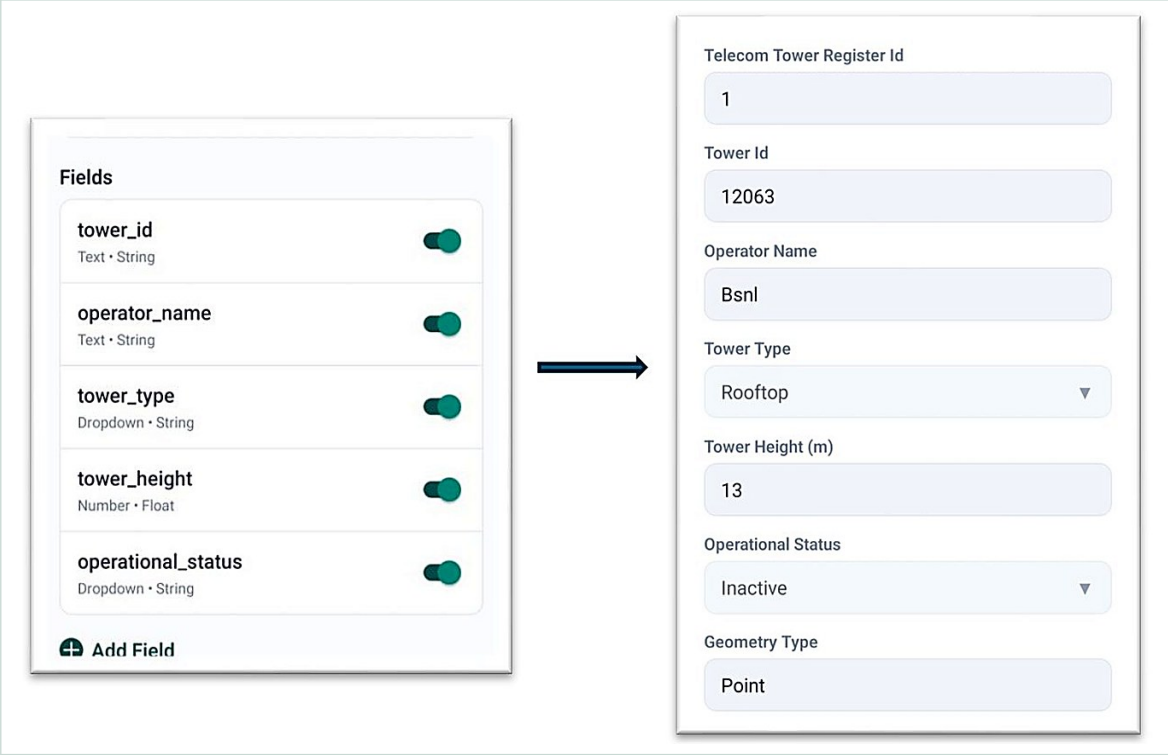


Figure 9.87 Update Survey Form — Telecom

CHAPTER 10

Collecting Survey Data

Use the **Survey** module to record features in the field with the forms you have created.

> **TIP**
> Before you start, enable Location Services and, for best accuracy, stand in open sky and wait a few seconds for the GPS position to stabilise.

1. Open the sector, tap **Survey**, and select the required form from the drop-down list at the top of the map.
2. Tap **Locate My Position** to centre the map on your current location.
3. Tap **Location Marker**, then tap the map at the exact location of the feature.
4. Complete the form fields and tap **Submit**. A **Success — Successfully Inserted A Record** message confirms that the record has been saved.

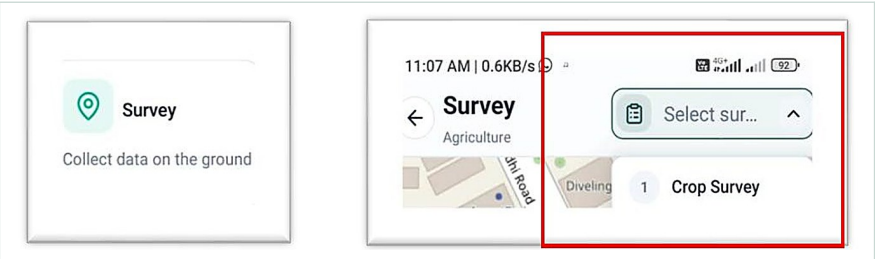


Figure 10.1 *Survey module (left) and form selection on the map (right)*



Figure 10.2 *Locate My Position button*



Figure 10.3 *Location Marker button*

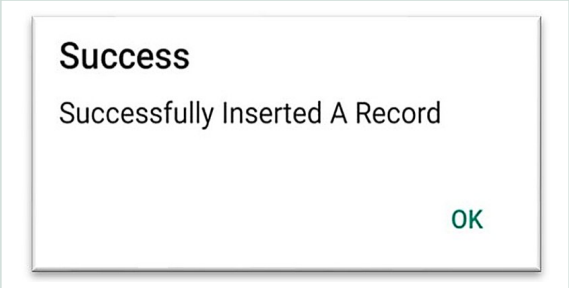


Figure 10.4 *Record saved confirmation*

IMPORTANT

Always place the marker on the actual feature. Do not estimate or type coordinates from memory; positional accuracy is a key data-quality element (Section 2.3).

CHAPTER 11

Viewing Survey Reports

11.1 Open Submitted Records

1. Open the sector and tap **View Survey**.
2. Select the form from which data was collected.
3. Select the **Start Date** and **End Date** of the period you want to review.
4. Tap **View Data**. The records collected in that period are listed.

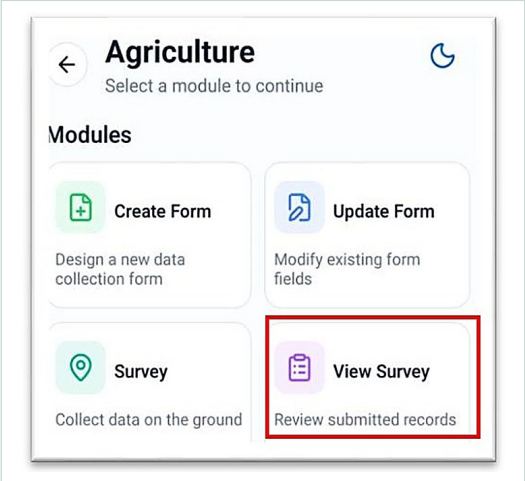


Figure 11.1 *View Survey module*

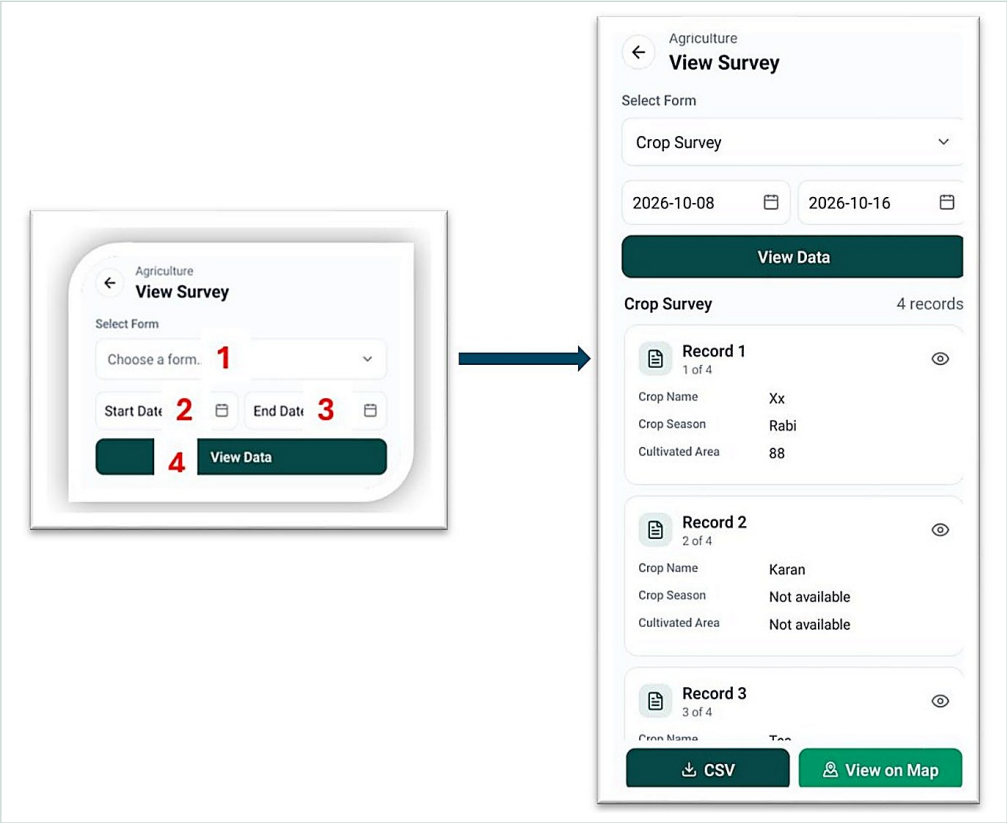


Figure 11.2 *Survey report filters (form and date range) and resulting records*

11.2 Download Records as CSV

Tap **CSV** to download the listed records as a comma-separated values file. The file can be opened in spreadsheet software or imported into desktop GIS. It includes the location of each record as **LATITUDE** and **LONGITUDE** columns, together with the date, time and form attributes.

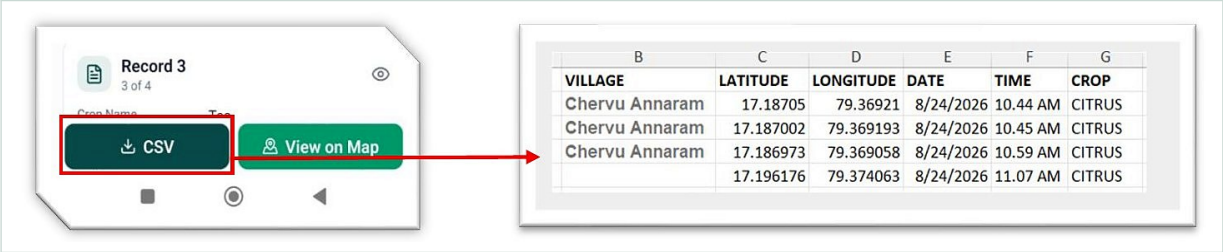


Figure 11.3 *CSV option and the downloaded file opened in a spreadsheet*

> STANDARDS
>
> Spreadsheet programs may display dates in a local format such as 8/24/2026. Convert them to ISO 8601 (2026-08-24) before sharing data. Chapter 14 explains how to turn the CSV into a GIS layer.

11.3 View Records on the Map

Tap **View on Map** to display the records on the map at their recorded locations.

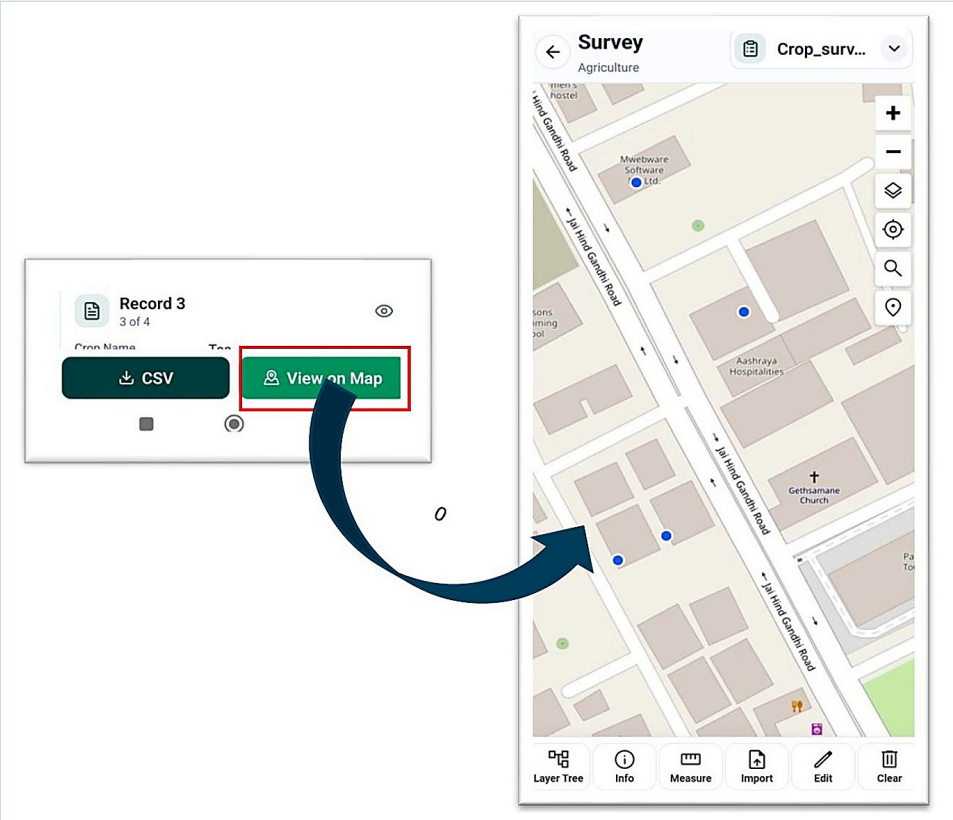


Figure 11.4 *View on Map option*

At the top of the map, select the required form from the drop-down list. Each record is shown as a marker.

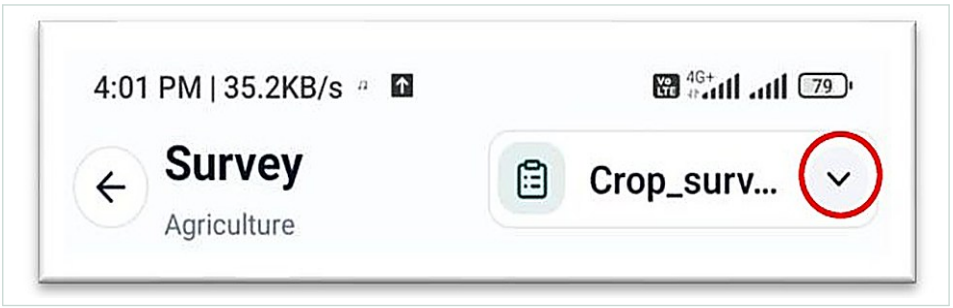


Figure 11.5 *Form selection on the map*



Figure 11.6 *Survey records shown as markers*

CHAPTER 12

Map Tools

The map screen provides navigation buttons on the right-hand side and a toolbar at the bottom.



Figure 12.1 Zoom and layer buttons

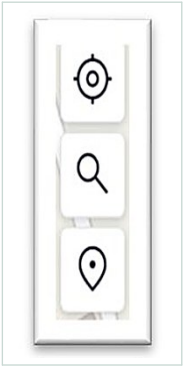


Figure 12.2 Locate, search and marker buttons

Table 12.1 Map tools

No.	Tool	Function
1	Zoom In (+)	Enlarges the map to show more detail.
2	Zoom Out (−)	Shows a wider area.
3	Layers	Selects the base map (Table 12.2).
4	Locate My Position	Centres the map on your current GPS position.
5	Search	Finds a place on the map by name.
6	Location Marker	Places a marker to record a new feature (Chapter 10).
7	Layer Tree	Lists the layers on the map and controls their visibility.
8	Info	Shows the attributes of a selected feature and gives access to editing.
9	Measure	Measures distances and areas on the map.
10	Import	Imports supported spatial data files onto the map.
11	Edit	Opens editing tools for supported features.
12	Clear	Removes temporary items such as measurements and selections from the map.

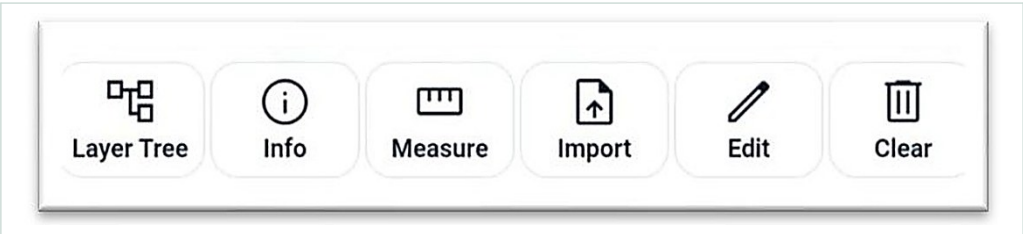


Figure 12.3 Map toolbar: Layer Tree, Info, Measure, Import, Edit and Clear

12.1 Base Map Layers

Tap **Layers** and select a base map. The selected base map is displayed beneath your survey data.

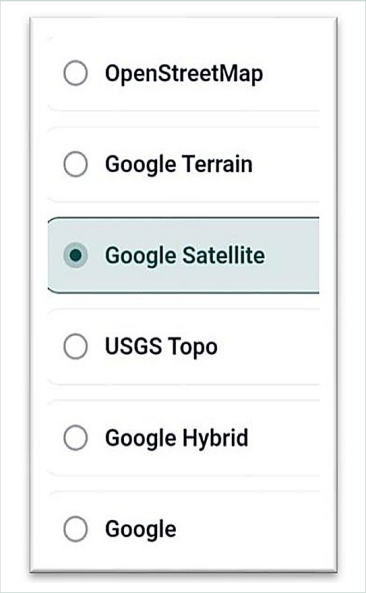


Figure 12.4 *Base map selection*

Table 12.2 *Available base maps*

Base map	Description	Attribution
OpenStreetMap	Community-maintained street map.	© OpenStreetMap contributors (ODbL)
Google Terrain	Relief and elevation shading with roads and labels.	© Google
Google Satellite	Satellite and aerial imagery.	© Google and imagery providers
USGS Topo	Topographic map from the U.S. Geological Survey (detailed coverage mainly within the United States).	U.S. Geological Survey
Google Hybrid	Satellite imagery with roads and labels.	© Google and imagery providers
Google	Standard Google road map.	© Google

NOTE

Base maps are provided by third parties under their own terms of use. Use them for visual reference; do not trace or redistribute base-map content unless the provider's licence allows it.

CHAPTER 13

Editing Survey Data

You can correct or update a record after it has been submitted.

1. Open the map with the required form selected (Section 11.3).
2. Tap **Info** in the toolbar, then tap the record's marker on the map. The **Survey Information** panel opens.
3. Tap **Edit** at the bottom of the panel (or **Close** to exit without changes).
4. Change the required values and tap **Update** (or **Cancel** to discard the changes).
5. A **Success — Successfully Updated Row** message confirms the change.



Figure 13.1 Info tool selected on the map toolbar

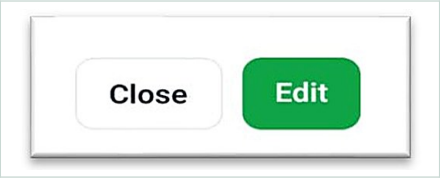


Figure 13.2 Close and Edit buttons



Figure 13.3 Cancel and Update buttons

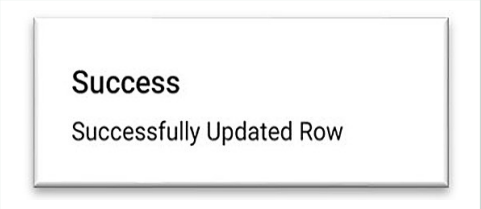


Figure 13.4 Record updated confirmation

TIP

Keep an audit trail: if your organisation requires one, add a text field such as `edit_remarks` to record why and by whom a record was changed.

CHAPTER 14

Exporting Data to GIS

The CSV file downloaded from **View Survey** (Section 11.2) can be converted into standard GIS formats with free, open-source tools. This makes G-Field data available to enterprise GIS platforms and web services.

14.1 Recommended Export Formats

Table 14.1 *Recommended exchange formats*

Format	Standard	Best for
GeoPackage (.gpkg)	OGC GeoPackage	Archiving and exchanging complete layers with attributes and CRS
GeoJSON (.geojson)	IETF RFC 7946	Web maps, APIs and developers
KML (.kml)	OGC KML 2.3	Viewing in Google Earth
Shapefile (.shp)	Esri technical specification	Legacy desktop GIS (10-character field-name limit)
CSV (.csv)	IETF RFC 4180	Spreadsheets and statistical analysis

14.2 Convert CSV to GeoPackage in QGIS

1. Install QGIS (free) from https://qgis.org.
2. Select **Layer** → **Add Layer** → **Add Delimited Text Layer**, and choose the CSV file.
3. Under **Geometry Definition**, select **Point coordinates**; set **X field** = LONGITUDE and **Y field** = LATITUDE.
4. Set **Geometry CRS** to **EPSG:4326 – WGS 84**, then click **Add**.
5. Right-click the new layer and select **Export** → **Save Features As...**; choose **GeoPackage** (or GeoJSON, KML) and save.

14.3 Convert with GDAL (command line)

The open-source GDAL `ogr2ogr` utility can convert files in batch:

```
ogr2ogr -f GPKG crop_survey.gpkg gfield_sample_crop_survey_export.csv \
  -oo X_POSSIBLE_NAMES=LONGITUDE -oo Y_POSSIBLE_NAMES=LATITUDE \
  -a_srs EPSG:4326 -nln crop_survey

ogr2ogr -f GeoJSON crop_survey.geojson crop_survey.gpkg
```

14.4 Sample Data

Three illustrative sample files are attached to this PDF (open your PDF reader's **Attachments** panel) and are supplied with the manual:

- `gfield_sample_crop_survey_export.csv` — same column layout as a G-Field CSV export (VILLAGE, LATITUDE, LONGITUDE, DATE, TIME, CROP).
- `gfield_sample_crop_survey_iso.csv` — the same records normalised to ISO 8601 dates, an explicit CRS column and OGC Well-Known Text (WKT) geometry.

- `gfield_sample_crop_survey.geojson` — the same records as an RFC 7946 GeoJSON FeatureCollection.

Extract from the normalised sample (selected columns):

```
record_id,village,latitude,longitude,survey_date,crop_name,wkt
GF-CS-0001,Chervu Annaram,17.187050,79.369210,2026-08-24,Citrus,POINT (79.369210 17.187050)
GF-CS-0002,Chervu Annaram,17.187002,79.369193,2026-08-24,Citrus,POINT (79.369193 17.187002)
GF-CS-0005,Chervu Annaram,17.191420,79.371880,2026-08-25,Mango,POINT (79.371880 17.191420)
```

NOTE

Sample values are illustrative and do not represent real survey results. The column names of your own export depend on the fields in your form; check the header row before converting.

STANDARDS

WKT and GeoJSON list coordinates as longitude, latitude (x, y), whereas tables and ISO 6709 notation usually list latitude first. Mixing up the order is the most common cause of points appearing in the wrong place.

CHAPTER 15

Troubleshooting and FAQ

Table 15.1 *Troubleshooting*

Problem	Possible cause	Solution
G-Field cannot be found in the Play Store.	Spelling, region or device compatibility.	Search for "G-Field" or open the direct link. Check that your device and Android version are supported.
No activation e-mail.	Account not yet approved, or message filtered as spam.	Check the spam or junk folder. If nothing arrives within one business day, contact support@garudalytics.com.
Cannot sign in.	Account not activated, or incorrect e-mail or password.	Confirm activation, check the e-mail address, and use **Forgot Password?** if necessary.
Location is not shown or is inaccurate.	Location Services disabled, permission denied or weak GNSS signal.	Enable Location, grant G-Field location permission, move to open sky and wait for the position to stabilise.
Camera does not open for image fields.	Camera permission denied.	Open Android **Settings** → **Apps** → **G-Field** → **Permissions** and allow Camera.
Base map does not load.	No internet connection or slow network.	Check mobile data or Wi-Fi, or select a different base map.
Form not visible under Shared Forms.	The form has not been shared with you, or you lack permission.	Ask the form owner to share it with your account.
No records in View Survey.	Wrong form or date range selected.	Check the selected form and widen the Start and End dates.
Points appear in the wrong place in GIS.	Latitude and longitude swapped, or wrong CRS.	Set X = LONGITUDE, Y = LATITUDE and CRS = EPSG:4326 (Chapter 14).
Leading zeros lost in IDs or phone numbers.	Field stored as a number, or spreadsheet reformatting.	Use Text/String for identifiers; import CSV columns as text in the spreadsheet.

15.1 Frequently Asked Questions

Can I change the geometry type of a form after collecting data?
Plan the geometry type before you submit the form. If a different type is needed, create a new form with the correct geometry.

Can several surveyors use the same form?
Yes. Share the form from **My Forms**; colleagues will find it under **Shared Forms**.

How do I remove a field I no longer need?
Use **Update Form**, select the form and remove or add columns as required (see the use cases in Chapter 9).

Which coordinate system does G-Field use?
Device GNSS positions are expressed in WGS 84 latitude and longitude (EPSG:4326). Confirm any

project-specific CRS with your administrator.

Which application version do I have?
Open **Settings** → **About** (Section 4.4).

CHAPTER 16

Support and Contact

Garudalytics provides technical support for G-Field users. To help us resolve your query quickly, include the following in your request: your registered e-mail address, the application version and build (Settings → About), the device model and Android version, the sector and form name, a description of the steps that led to the problem and, where possible, screenshots.

Table 16.1 *Contact details*

Channel	Details
Technical support	support@garudalytics.com
Support portal	https://garudalytics.com/support
General enquiries	info@garudalytics.com
Website	https://garudalytics.com
Download G-Field	https://play.google.com/store/apps/details?id=com.gfield.app

CAUTION

Garudalytics staff will never ask for your password. Do not include passwords or unnecessary personal data in support requests or screenshots.

APPENDIX A

Glossary and Abbreviations

Table A.1 *Glossary and abbreviations*

Term	Definition
Attribute	A descriptive property of a feature, captured by a form field (for example asset type or condition).
Base map	A background map (street, satellite, terrain or topographic) displayed beneath survey data.
CRS	Coordinate Reference System — defines how coordinates relate to locations on the Earth (ISO 19111).
CSV	Comma-Separated Values — a plain-text tabular file format (RFC 4180).
Data type	The kind of value a field stores: String, Integer, Float or Boolean.
EPSG:4326	The registry code for the WGS 84 geographic coordinate reference system.
Feature	A real-world object recorded in G-Field, with a geometry and attributes.
Field type	How a question is presented: Text, Dropdown, Radio, Checkbox, Number, Date, Image or Video.
Form (survey table)	A set of fields used to collect data about one type of feature.
FPO	Farmer Producer Organisation.
GeoJSON	A JSON-based format for geographic features (RFC 7946).
GeoPackage	An open, SQLite-based OGC standard format for geospatial data.
Geometry type	Point, LineString or Polygon (OGC Simple Features).
GIS	Geographic Information System.
GNSS / GPS	Global Navigation Satellite System; GPS is the United States' GNSS. Used by the device to determine position.
ISO	International Organization for Standardization.
KML	Keyhole Markup Language, an OGC standard for geographic visualisation.
LADM	Land Administration Domain Model (ISO 19152).
Metadata	Information that describes a dataset — who, what, when, where, how and why (ISO 19115).
OGC	Open Geospatial Consortium — the international body that develops open geospatial standards.
Predefined table	A ready-made form supplied for a sector.
WGS 84	World Geodetic System 1984 — the global datum used by GPS.
WKT	Well-Known Text — an OGC text representation of geometry, e.g. POINT (79.3692 17.1870).

Term	Definition
WMS / WMTS	OGC Web Map Service / Web Map Tile Service standards for delivering maps over the web.

APPENDIX B

Dataset Metadata Template

Complete this template, based on the core elements of ISO 19115-1, for every dataset exported from G-Field before you share or archive it.

Table B.1 *Minimum metadata record (ISO 19115-1 core elements)*

Element	Description	Example
Title	Name of the dataset	Crop survey, Chervu Annaram, Kharif 2026
Abstract	Summary of content and purpose	Point survey of horticulture crops for the district crop register
Point of contact	Responsible organisation and role	District Horticulture Office — data custodian
Date	Creation or publication date (ISO 8601)	2026-08-25
Topic category	ISO 19115 topic category	farming
Keywords	Search keywords	crop, horticulture, G-Field, Telangana
Geographic extent	Bounding box in decimal degrees	W 79.366, E 79.375, S 17.184, N 17.197
Temporal extent	Period of data collection	2026-08-24 to 2026-08-25
Reference system	Coordinate reference system	EPSG:4326 (WGS 84)
Lineage	How the data was collected and processed	Collected with G-Field 1.0.0 on Android; exported to CSV; converted to GeoPackage in QGIS
Data quality	Results of quality checks (ISO 19157-1)	100% of planned plots surveyed; positions checked against imagery
Constraints	Access and use restrictions, licence	Internal use only; contains personal data
Language and character set	Language and encoding	English; UTF-8

APPENDIX C

Quick Reference

Table C.1 *Quick reference: common tasks*

Task	Path	See
Install G-Field	Google Play Store → search “G-Field” → Install	Section 3.1
Register	Start screen → Sign Up → Create Account	Section 3.2
Sign in	Start screen → Sign In	Section 3.3
Change theme	Home → moon icon, or Settings → Light Mode	Section 3.5
Create a form	Sector → Create Form → choose table → Submit → geometry	Section 6.4
Add a field	Create Survey Form → Add Field	Section 6.5
Custom form	Create Form → Others	Section 6.6
Collect data	Sector → Survey → Locate → Marker → Submit	Chapter 10
Review data	Sector → View Survey → form and dates → View Data	Chapter 11
Export CSV	View Survey → CSV	Section 11.2
Edit a record	Map → Info → marker → Edit → Update	Chapter 13
Convert to GIS	QGIS or GDAL → GeoPackage / GeoJSON	Chapter 14
Log out	Home → Log Out icon	Section 4.5

GARUDALYTICS
Think Location

G-Field

Map | Capture | Verify

G-Field is a mobile GIS application for field data collection and survey management. Build digital survey forms in minutes, capture geo-tagged observations with GPS positions, photographs and attributes, and turn field work into accurate, standards-based data for enterprise GIS.

Key features

- Fifteen sectors with ready-to-use survey forms
- Custom forms with eight field types
- Point, line and polygon capture on the map
- Photographs, video and GPS location
- Review, edit and map submitted records
- CSV export for spreadsheets and GIS

G-Field
MAP. CAPTURE. VERIFY.

Scan to download
G-Field on Google Play

https://play.google.com/store/apps/details?id=com.gfield.app

WEBSITE
https://garudalytics.com

SUPPORT PORTAL
https://garudalytics.com/support

TECHNICAL SUPPORT
support@garudalytics.com

GENERAL ENQUIRIES
info@garudalytics.com

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