

# AgriTrust Connect – Phase 3: Data Modelling & Relationships Report

Project Title: AgriTrust Connect – Sustainable Agriculture CRM

Phase: 3 – Data Modelling & Relationships

Date: 23 September 2025

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## 1. Introduction

Phase 3 focused on designing the data architecture for AgriTrust Connect. The goal was to create custom objects, fields, and relationships that accurately represent the agricultural ecosystem. This ensures scalability, usability, and the ability to trace farming activities from land preparation to procurement.

## 2. Object Model Design

Core objects identified and configured:

- Farmer (Contact - Standard)
  - Fields: Farmer ID (Auto Number), Village, Landholding Size, Phone Farm (Custom) Farm Name, Location (Text/Geolocation), Size in Acres
  - Relationship: Lookup to Farmer (Contact)
- Farm (Custom)
  - Fields: Farm Name (Text), Location (Text / Geolocation), Size in Acres (Number)
  - Relationship: Lookup → Farmer (Contact)
- Crop Cycle (Custom)
  - Fields: Crop Name (Picklist), Season (Picklist), Sowing Date, Harvest Date
  - Relationship: Master-Detail to Farm
- Soil Record (Custom)
  - Fields: Nutrient Level, pH Value, Test Date
  - Relationship: Master-Detail to Crop Cycle
- Advisory (Custom)
  - Fields: Advisory Type (Picklist), Message, Date Issued
  - Relationship: Lookup to Crop Cycle
- Procurement (Custom)
  - Fields: Order Quantity, Price, Order Date
  - Relationships: Lookup to Crop Cycle, Lookup to Buyer (Account)
- Traceability Ledger (Custom - Optional/Future)
  - Fields: Movement Date (Date), Stage (Picklist: Farm, Warehouse, Processing, Retail), Notes (Text Area)
  - Relationship: Lookup to Procurement, Crop Cycle, and Farm

LABEL	API NAME	TYPE	DESCRIPTION	LAST MODIFIED	DEPLOYED	
Advisory	Advisory_c	Custom Object		22/09/2025	✓	▼
Crop Cycle	Crop_Cycle_c	Custom Object		22/09/2025	✓	▼
Traceability Ledger	Traceability_Ledger_c	Custom Object		22/09/2025	✓	▼
Procurement	Procurement_c	Custom Object		22/09/2025	✓	▼
Soil Record	Soil_Record_c	Custom Object		22/09/2025	✓	▼
Farm	Farm_c	Custom Object		22/09/2025	✓	▼

### 3. Relationships Defined

- Farmer → Farm: One farmer can own multiple farms (Lookup)
- Farm → Crop Cycle: One farm can have multiple crop cycles (Master-Detail)
- Crop Cycle → Soil Record: One cycle can have multiple soil records (Master-Detail)
- Crop Cycle → Advisory: Multiple advisories linked to one cycle (Lookup)
- Crop Cycle → Procurement: A crop cycle may generate multiple procurement orders (Lookup)
- Procurement → Buyer (Account): Each order tied to a buyer (Lookup)

### 4. Page Layouts & Record Types

- Page Layouts:
  - Farmer Layout: Simple fields for farmer profile
  - Extension Officer Layout: Includes farm, crop, and advisory details
  - Buyer Layout: Shows procurement and traceability information

The screenshot shows the Salesforce Setup interface for the 'Farm' object. The left sidebar contains a navigation menu with options like Details, Fields & Relationships, Page Layouts (selected), Lightning Record Pages, Buttons, Links, and Actions, Compact Layouts, Field Sets, Object Limits, Record Types, Related Lookup Filters, Restriction Rules, Scoping Rules, Object Access, and Triggers. The main content area displays the 'Layout Properties' for the 'Farm' object. It includes a 'Fields' section with a 'Quick Find' bar and a list of fields: Farm Name, Owner, Farm Name, Size in Acres, Created By, Last Modified By, Farmer, and Location. Below this, there are sections for 'System Information' (Created By: Sample Text, Last Modified By: Sample Text), 'Custom Links' (header visible on edit only), 'Mobile Cards (Salesforce mobile only)' (a placeholder for drag-and-drop mobile cards), and 'Related Lists' (a section for related records).

The screenshot shows the Salesforce Setup interface for the 'Crop Cycle' object. The left sidebar is identical to the previous screenshot, with 'Page Layouts' selected. The main content area displays the 'Layout Properties' for the 'Crop Cycle' object. It includes a 'Fields' section with a 'Quick Find' bar and a list of fields: Crop Name, Season, Harvest Date, Sowing Date, Created By, Last Modified By, Crop Cycle Name, and Related Farm. Below this, there are sections for 'System Information' (header visible on edit only), 'Custom Links' (header visible on edit only), 'Mobile Cards (Salesforce mobile only)' (a placeholder for drag-and-drop mobile cards), and 'Related Lists' (a section for related records, including 'Soil Records' and 'Procurements').

- Record Types:
  - Procurement: Retail vs Corporate orders
  - Advisory: Pest Control, Irrigation, Market Pricing

SETUP > OBJECT MANAGER

### Procurement

Details

Fields & Relationships

Page Layouts

Lightning Record Pages

Buttons, Links, and Actions

Compact Layouts

Field Sets

Object Limits

**Record Types**

Related Lookup Filters

Restriction Rules

Scoping Rules

Object Access

Triggers

**Record Types**  
2 Items. Sorted by Record Type Label

Q, Quick Find   New   Page Layout Assignment

RECORD TYPE LABEL	DESCRIPTION	ACTIVE	MODIFIED BY
Corporate Order		✓	Sri Vaishnavi B, 23/09/2025, 8:38 pm
Retail Order	Record type for small-scale Retail Orders placed by buyers (restaurants, local markets).	✓	Sri Vaishnavi B, 23/09/2025, 8:38 pm

SETUP > OBJECT MANAGER

### Advisory

Details

Fields & Relationships

Page Layouts

Lightning Record Pages

Buttons, Links, and Actions

Compact Layouts

Field Sets

Object Limits

**Record Types**

Related Lookup Filters

Restriction Rules

Scoping Rules

Object Access

Triggers

**Record Types**  
3 Items. Sorted by Record Type Label

Q, Quick Find   New   Page Layout Assignment

RECORD TYPE LABEL	DESCRIPTION	ACTIVE	MODIFIED BY
Irrigation		✓	Sri Vaishnavi B, 23/09/2025, 8:40 pm
Market Pricing		✓	Sri Vaishnavi B, 23/09/2025, 8:40 pm
Pest Control		✓	Sri Vaishnavi B, 23/09/2025, 8:39 pm

## 5. Compact Layouts

Compact layouts configured for better Salesforce Mobile experience:

- Farmer: Farmer Name, Village, Phone, Landholding Size
- Crop Cycle: Crop Name, Season, Sowing Date
- Procurement: Order Quantity, Order Date, Buyer

SETUP > OBJECT MANAGER

### Contact

Details

Fields & Relationships

Page Layouts

Lightning Record Pages

Buttons, Links, and Actions

**Compact Layouts**

Field Sets

Object Limits

Record Types

Related Lookup Filters

Search Layouts

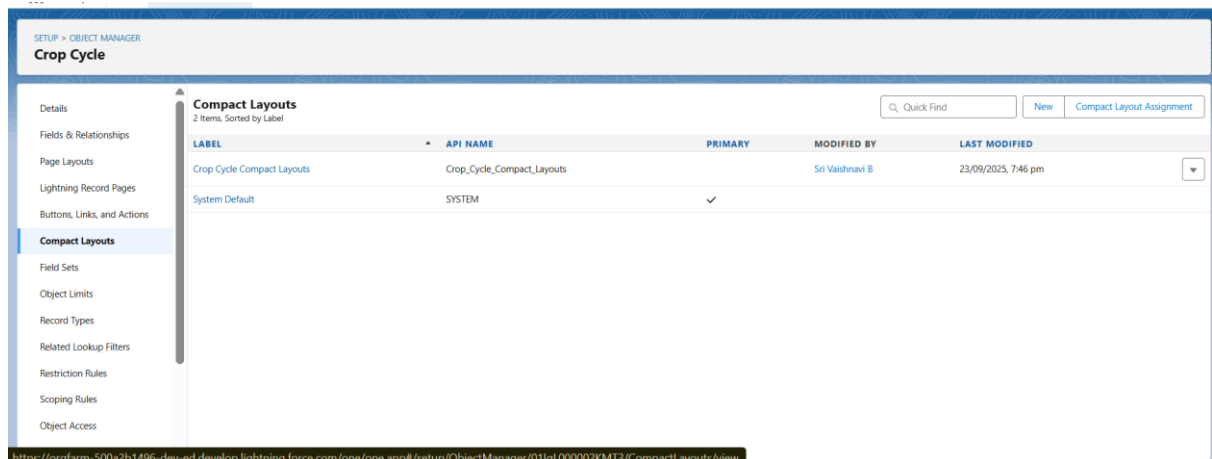
List View Button Layout

Hierarchy Columns

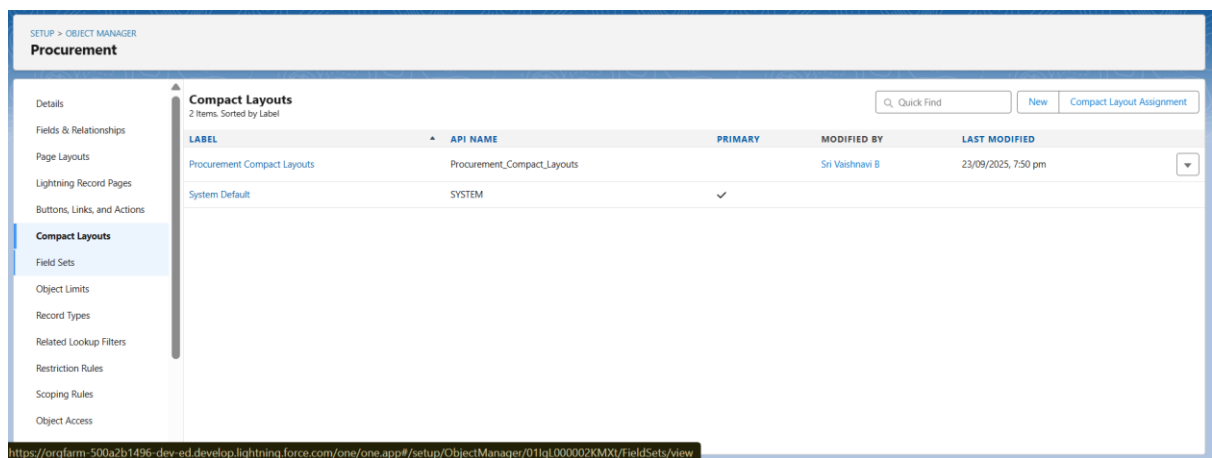
**Compact Layouts**  
2 Items. Sorted by Label

Q, Quick Find   New   Compact Layout Assignment

LABEL	API NAME	PRIMARY	MODIFIED BY	LAST MODIFIED
Farmer Compact Layout	Farmer_Compact_Layout		Sri Vaishnavi B	23/09/2025, 7:42 pm
System Default	SYSTEM	✓		



<https://orgfarm-500a2b1496-dev-ed.develop.lightning.force.com/one/one.app#/setup/ObjectManager/01gl000002KM13/CompactLayouts/view>

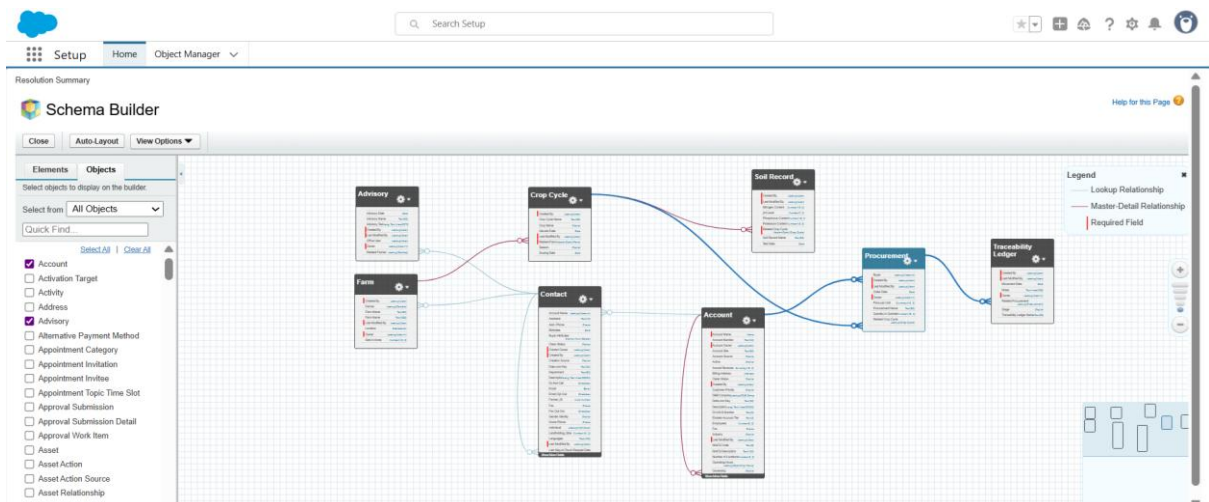


<https://orgfarm-500a2b1496-dev-ed.develop.lightning.force.com/one/one.app#/setup/ObjectManager/01gl000002KM13/FieldSets/view>

## 6. Schema Builder Visualization

All objects and relationships were mapped using Salesforce Schema Builder.

The schema diagram provides a clear, visual understanding of how the agricultural CRM data model is structured.



## 7. Challenges & Learnings

- Learned to differentiate Lookup vs Master-Detail and when to apply each
- Understood the importance of junction objects for complex many-to-many scenarios
- Hands-on experience with Schema Builder enhanced understanding of data model design
- Designing compact layouts improved awareness of mobile-first considerations

## **8. Next Steps**

With Phase 3 completed, the project is ready to proceed to Phase 4: Process Automation.

Next activities:

- Create Validation Rules for data accuracy
- Build Process Builder and Flow automations
- Setup Approval Processes for procurement and advisories

**Phase 3 Completion Status: DONE**

**Prepared for Phase 4 Development**