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	✓	▾

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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

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

Record Types
2 Items, Sorted by Record Type Label

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	▼

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

Quick Find | New | Page Layout Assignment

Record Types
3 Items, Sorted by Record Type Label

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	▼

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Quick Find | New | Page Layout Assignment

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

Compact Layouts
2 Items, Sorted by Label

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	✓			

Details
Fields & Relationships
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Buttons, Links, and Actions
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Field Sets
Object Limits
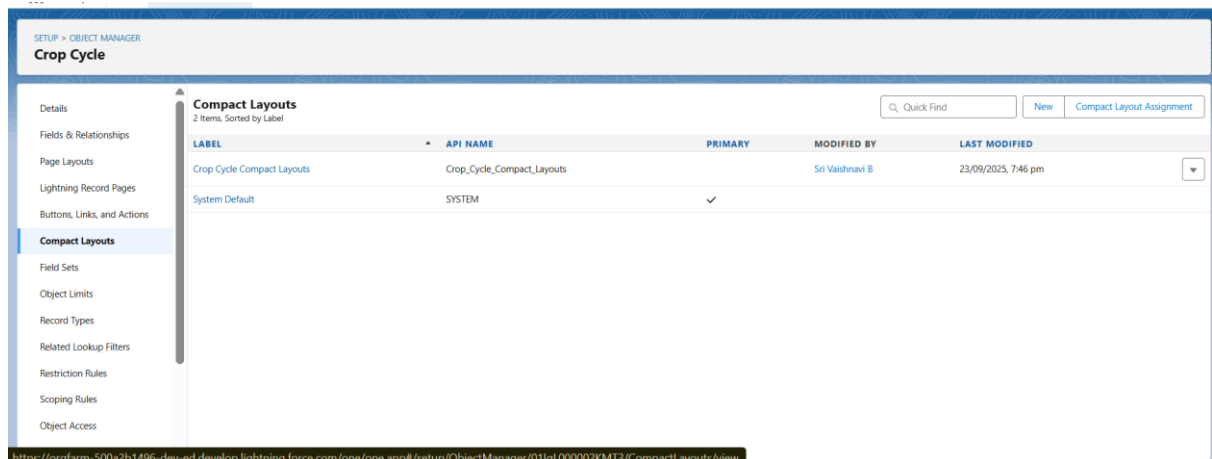Record Types
Related Lookup Filters
Search Layouts
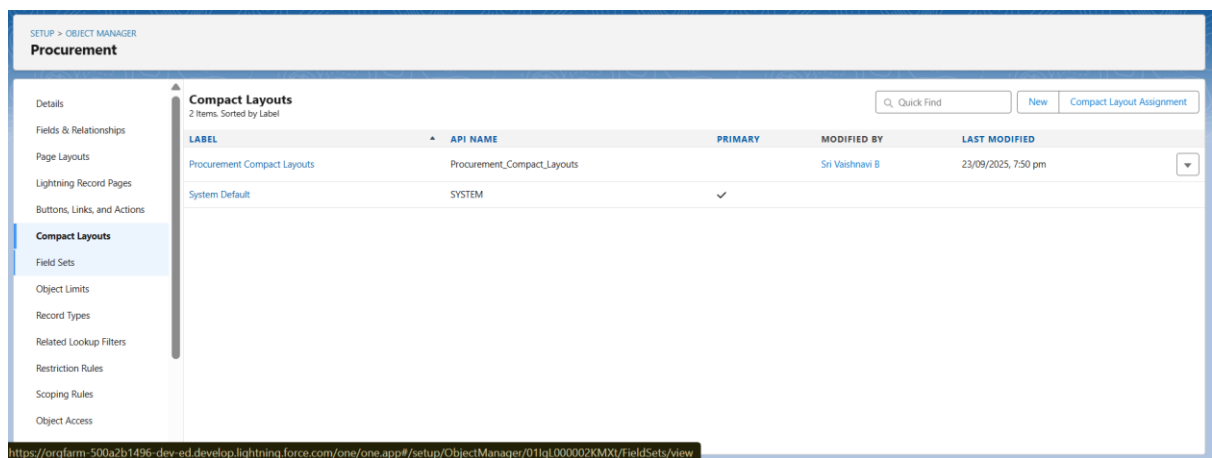List View Button Layout
Hierarchy Columns

Quick Find | New | Compact Layout Assignment

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.
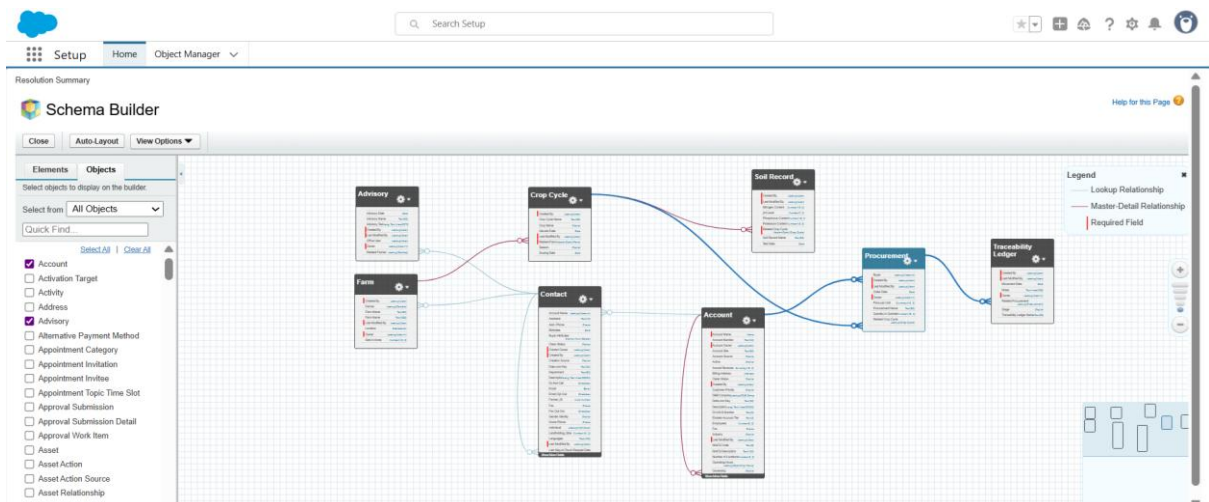
7. Challenges & Learnings

- 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