

COMPLETE AGRICULTURAL SUPPLY CHAIN SYSTEM

8-Stage Functional Flow Documentation

AgriTrace360™ Comprehensive Traceability System

Generated: 9/1/2025

Ø<ß EXECUTIVE SUMMARY

This document outlines the complete functional agricultural supply chain system featuring 8 interconnected stages with automatic stakeholder registration, real-time notifications, and end-to-end traceability from farmer offer to export completion.

Ø=Ý COMPLETE STAKEHOLDER CHAIN

All stakeholders are automatically registered and connected through the Master Transaction Registry:

- FARMER: Claudio Big (FARMER-1756314707545-846) - Nimba County
- BUYER: Vivaan Gupta (BYR-20250827-041) - VIVAAN AGRO LTD
- WAREHOUSE: Sarah Kpaka (WH-NIMBA-001) - Nimba County Warehouse
- PORT INSPECTOR: James Kofi (INS-PORT-001) - Assigned by DDGOTS
- EXPORTER: ATHRAV GUPTA (EXP-20250826-688) - ATHRAV EXPORTS

Ø=ÜË DETAILED 8-STAGE FUNCTIONAL FLOW

STAGE A: FARMER OFFER CREATION ' FUNCTIONAL

User: Claudio Big (FARMER-1756314707545-846)

Portal: Farmer Dashboard

Process:

- Farmer lists coffee/cocoa products
- Sets quantity: 600 tons, price: \$2,070,000, quality grade
- System generates 1st Identifier: FPO-20250830-817649-923
- Links to GPS location & land mapping data
- Notifications sent to all buyers in system

STAGE B: BUYER ACCEPTANCE + SIMULTANEOUS PROCESSES ' FUNCTIONAL

User: Vivaan Gupta (BYR-20250827-041) - VIVAAN AGRO LTD

Portal: Buyer Dashboard

B1: Offer Acceptance

- Buyer accepts Claudio's offer FPO-20250830-817649-923
- System generates 2nd Identifier: S071XV57
- Establishes Farmer !" Buyer relationship

B2: Simultaneous Bag Request

- Automatic bag request to WH-NIMBA-001 (geographic match)
- Generates warehouse request: REQ-NIMBA-XXXXXX
- Sarah Kpaka notified of incoming request

B3: Payment Workflow

- Payment confirmation to Claudio Big triggered
- Second verification code generated

STAGE C: WAREHOUSE CUSTODY PROCESSING ' FUNCTIONAL

User: Sarah Kpaka (WH-NIMBA-001) - Warehouse Inspector

Portal: Warehouse Inspector Dashboard

C1: Product Custody Registration

- Physical products delivered to Nimba County Warehouse
- Sarah validates bag request from Vivaan Gupta
- System generates 3rd Identifier: CUSTODY-SINGLE-001-20250830-T6M
- QR Batch Code: BE-DISPATCH-NEW-FIXED-2025

C2: Payment & Authorization

- Buyer pays warehouse for storage/processing
- Warehouse confirms payment received
- Authorization to sell granted to buyer

STAGE D: BUYER MARKETPLACE OFFERS ' FUNCTIONAL

User: Vivaan Gupta (now has custody)

Portal: Buyer Dashboard

- Buyer creates marketplace offers for exporters
- Links custody number to new offers
- System maintains traceability: Farmer !' Buyer !' Custody
- Offers available to all registered exporters

STAGE E: EXPORTER ACCEPTANCE ' FUNCTIONAL

User: ATHRAV GUPTA (EXP-20250826-688) - ATHRAV EXPORTS

Portal: Exporter Dashboard

- Exporter browses buyer marketplace offers
- Accepts specific offers from Vivaan Gupta
- System generates 4th Identifier: 107MJMQX
- Establishes Buyer !' Exporter relationship
- Auto-notifications to all stakeholders

STAGE F: DISPATCH SCHEDULING ' FUNCTIONAL

Users: Vivaan Gupta + Sarah Kpaka coordination

Portals: Buyer Dashboard + Warehouse Inspector Portal

- Buyer schedules pickup from warehouse
- Warehouse prepares dispatch with QR codes
- Coordination workflow between buyer and warehouse
- All stakeholders notified of dispatch schedule
- ATHRAV EXPORTS notified: "Products ready for pickup"

STAGE G: INSPECTION BOOKING + ASSIGNMENT ' FUNCTIONAL

Flow: ATHRAV EXPORTS !' DDGOTS !' James Kofi

Portals: Exporter !' DDGOTS !' Port Inspector

- ATHRAV EXPORTS requests port inspection
- DDGOTS receives inspection request
- DDGOTS auto-assigns: James Kofi (INS-PORT-001)
- System generates: Inspection ID PINSP-20250831-TEST
- James Kofi notified: "New inspection assignment"

STAGE H: PORT INSPECTION + COMPLETION ' FUNCTIONAL

User: James Kofi (INS-PORT-001) - Port Inspector

Portal: Port Inspector Dashboard

H1: Inspection Execution

- James scans QR codes: BE-DISPATCH-NEW-FIXED-2025
- Validates: Quality, quantity, EUDR compliance
- Completes inspection with detailed results

H2: Real-time Stakeholder Notifications

- DDGOTS Dashboard: Auto-updated inspection status
- Vivaan Gupta: Transaction completed '
- ATHRAV EXPORTS: Final clearance for export '
- Sarah Kpaka: Warehouse dispatch confirmed '
- Real-time updates: 30-second refresh cycles

Ø<β̄ MASTER TRANSACTION REGISTRY - AUTO-TRACKING SYSTEM

The Master Registry automatically tracks and connects all stakeholders and identifiers:

IDENTIFIER CONNECTIVITY:

- 1st: FPO-20250830-817649-923 (Farmer Offer)
- 2nd: S071XV57 (Buyer Verification)

- 3rd: CUSTODY-SINGLE-001-20250830-T6M (Warehouse Custody)
- 4th: 107MJMQX (Exporter Verification)

AUTOMATIC REGISTRATION FEATURES:

- Geographic Logic: Nimba farmer !' Nimba warehouse assignment
- Role-Based Notifications: Right message to right stakeholder
- Stage-Based Triggers: Automatic progression through workflow
- Real-Time Updates: 30-second auto-refresh across all portals
- Payment Confirmations: Multi-stage payment workflow tracking
- QR Code Integration: Full scanning and verification system

' FUNCTIONAL ACHIEVEMENTS

- Complete Portal System: 7 working portals with role-based access
- End-to-End Traceability: Farm to export documentation
- Automatic Stakeholder Registration: No missed participants
- Real-Time Notification System: Stage-based targeting
- QR Code Integration: Full scanning and verification workflow
- Geographic Assignment Logic: County-based warehouse matching
- Payment Workflow Integration: Multi-stage confirmation system
- Inspection Management: Complete port inspection workflow
- Master Registry: Full transaction connectivity
- DDGOTS Integration: Automatic inspector assignment

Ø<β⁻ SYSTEM SUMMARY

This agricultural supply chain system provides complete traceability and automatic stakeholder management from farmer offer creation to export completion. Every participant is automatically registered, connected, and notified at the appropriate stages, ensuring no stakeholder is missed and all processes flow seamlessly through the 8-stage workflow.

The system successfully connects:

- Claudio Big (Farmer) !' Vivaan Gupta (Buyer) !' Sarah Kpaka (Warehouse) !' James Kofi (Port Inspector) !' ATHRAV GUPTA (Exporter)

With full identifier connectivity and real-time tracking throughout the entire agricultural supply chain process.

