

# Ecosystem Map

## Introduction

The ecosystem map provides a representation of the interconnected stakeholders and components that contribute to the success of our DApp in transforming the agricultural supply chain. This document outlines key roles, interactions, and dependencies essential for fostering transparency, traceability, and direct engagement.

---

## Stakeholders

1. **Farmers:**
  1. **Role:** Provide agricultural products with detailed origin and production information.
  2. **Interaction:** Add products to the platform, set prices, and manage inventory.
  3. **Dependency:** Depend on blockchain technology for transparent transactions and direct consumer engagement.
2. **Consumers:**
  1. **Role:** Purchase agricultural products, access detailed product information via QR codes.
  2. **Interaction:** Browse products, make purchases, and provide feedback.
  3. **Dependency:** Rely on blockchain for traceability and assurance of product authenticity.
3. **Transportation Companies:**
  1. **Role:** Transport products from farmers to consumers or distribution centers.
  2. **Interaction:** Coordinate logistics, ensure timely delivery, and maintain product quality.
  3. **Dependency:** Integrate with blockchain for shipment tracking and supply chain visibility.
4. **Blockchain Network:**
  1. **Role:** Store immutable records of product data, transactions, and supply chain events.
  2. **Interaction:** Execute smart contracts, validate transactions, and ensure data integrity.
  3. **Dependency:** Support ecosystem transparency, traceability, and decentralized governance.
5. **QR Codes:**
  1. **Role:** Bridge physical products with digital information on the platform.
  2. **Interaction:** Provide consumers with instant access to product details and transaction history.
  3. **Dependency:** Generated for each product to enhance transparency and consumer trust.

#### 6. **Smart Contracts:**

1. **Role:** Automate and enforce transactions between farmers and consumers.
  2. **Interaction:** Execute purchase agreements, manage payments, and update inventory.
  3. **Dependency:** Ensure fair pricing, eliminate intermediaries, and enhance transaction security.
- 

### **Interactions and Dependencies**

#### 1. **Direct Transactions:**

1. Farmers interact directly with consumers, bypassing intermediaries, to set fair prices and provide product information.
2. Consumers engage directly with farmers, leveraging blockchain for secure transactions and traceable product histories.

#### 2. **Supply Chain Integration:**

1. Transportation companies integrate with blockchain to track product shipments, ensuring timely delivery and maintaining product integrity.
2. QR codes link physical products to digital records, allowing consumers to trace product origins and farming practices.

#### 3. **Blockchain Infrastructure:**

1. Provides a decentralized ledger for recording transactions and maintaining data integrity across the supply chain.
2. Enables transparent and traceable interactions between stakeholders, fostering trust and accountability.