

Usage Scenario

Smart Agriculture Information System

**Course Title:**  Information System Analysis and Design

**Course Code:** CSE 347

**Submitted To:**

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**Usage Scenario**

### 1) Account Management

#### 1.1) Create Account

**User Perspective:**

A farmer must create an account to access the system. Required information includes:

* Full name
* Mobile number
* National ID
* Password
* Village/location

Once verified, a confirmation code is sent to the farmer’s mobile number. Inputting this code activates the account.  
  
  
**1.2) Verification**

The system verifies farmer credentials using local agricultural databases or government farmer registries to ensure authenticity.

**1.3) Update Account**

Farmers can update their profiles including:

* Mobile number
* Password

#### 1.4) Password Recovery

Farmers who forget their passwords can recover access via:

* **Recover through Mobile:** An OTP is sent to the registered mobile number, which must be entered within 1 minute, then a new password can be set.

#### 1.5) Log In

Farmers log in using their registered mobile number along with their password.  
Admins log in with predefined usernames and passwords.

### 2) Accessing Agricultural Information & Alerts

Farmers must be logged in to receive:

* Localized weather forecasts and climate alerts relevant to their farming location.
* Crop-specific farming tips and pest/disease alerts.
* Personalized farming calendar reminders (planting, fertilizing, harvesting).
* Market price updates for their crop types from nearby markets.

**3) Market and Input Trading**

Farmers can:

* Browse current crop prices from local markets.
* Post offers to sell their produce or place orders to buy seeds, fertilizers, or tools directly from other farmers or verified suppliers.
* Negotiate prices and confirm transactions within the system.
* Track orders, payment status, and delivery updates.

### 4) Financial Services Guidance

Based on farmer input (crop type, income), recommends:

* Suitable micro-loans and subsidy programs.
* Crop and livestock insurance packages.  
   Farmers can apply through integrated forms or receive contact details of relevant institutions. The system sends reminders for application deadlines, repayments, or renewals.

### 5) Personalized Farming Calendar & Task Management

* A dynamic calendar shows key farming tasks according to the crop cycle and location.
* Farmers receive alerts before important activities such as irrigation, fertilization, and harvesting.
* Tasks can be marked completed, rescheduled, or flagged for follow-up.

### 6) Community and Expert Support

* Farmers join community groups based on location or crop types to share experiences and advice.
* Agricultural officers and experts post advisories and respond to farmer questions.
* A helpdesk feature allows farmers to report urgent issues or request expert visits.

### 7) Database Management

* **Admin Database:** Stores farmer profiles, transaction records, financial service applications, alerts sent, and expert advisories.
* **User Database:** Stores farmer-specific data such as alert history, transaction records, and calendar tasks, synchronized with admin database for consistency.

### 8) Additional Features

* Frequently used inputs or crops are shown on the farmer’s dashboard for quick access.
* System suggests sustainable farming practices and crop diversification ideas based on data analysis.
* Admin dashboard displays popular crops,and system usage metrics to improve services.

### 9) Administrative Management

#### 9.1) Content & Alert Management

Admins update:

* Weather data sources
* Market price feeds
* Advisory content and pest/disease alerts  
   They customize notifications according to region and crop cycles.

#### 9.2) User Monitoring and Support

* Admins monitor system activity, user feedback, and success rates of advisory messages.
* Generate reports on loan uptake, insurance enrollment, and market transactions to inform agricultural policy and support programs.