

System Requirements Specification: Farmer/Administrator Role

This document details the functional and non-functional requirements for the **Farmer/Administrator** role within the Farm Operations Management System (FOMS).

I. Functional Requirements (FR)

A. User/Account Management (FR-A)

ID	Requirement
FR-A.1	The system must allow the Farmer/Administrator to register and log in securely .
FR-A.2	The system must allow the Farmer/Administrator (as admin) to approve new user registrations and manage access roles (e.g., set user roles for laborers, buyers).
FR-A.3	The system must allow the Farmer/Administrator to manage user accounts and modify user credentials.
FR-A.4	The system must allow the Farmer/Administrator to update their profile information .

B. Farm Operations Management (FR-B)

ID	Requirement
FR-B.1	The system must allow the Farmer/Administrator to create, update, and delete farm plans, crop records, and batch schedules .
FR-B.2	The system must allow the Farmer/Administrator to track farm activities such as planting, fertilization, and harvesting.
FR-B.3	The system must allow the Farmer/Administrator to log and view the use of farm resources (e.g., seeds, fertilizer, equipment).
FR-B.4	The system must allow the Farmer/Administrator to log and update harvest data and move rice product to inventory or mark it as wasted.

C. Inventory and Supply Handling (FR-C)

ID	Requirement
FR-C.1	The system must allow the Farmer/Administrator to manage and manipulate inventory , categorizing items as Farm Supply or Farm Product Items .
FR-C.2	The system must track usage, stock levels, and supply needs for both Farm Supply and Farm Product Items.

FR-C.3	The system must allow the Farmer/Administrator to create and record supply purchase orders .
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D. Labor Management (FR-D)

ID	Requirement
FR-D.1	The system must allow the Farmer/Administrator to allocate and assign labor tasks to laborers.
FR-D.2	The system must allow the Farmer/Administrator to record laborer activity and wages .
FR-D.3	The system must generate wage reports and payroll details for laborers.

E. Weather Analytics Integration (FR-E)

ID	Requirement
FR-E.1	The system must fetch and display real-time weather data using the OpenWeather API.
FR-E.2	The system must display and update weather forecasts regularly (e.g., 5-day forecasts).
FR-E.3	The system must provide weather-based decision support , such as alerts and recommendations for planting, irrigation, and harvesting.

F. Online Product Marketplace (FR-F)

ID	Requirement
FR-F.1	The system must allow the Farmer/Administrator to post rice products for sale with details, pricing, and quality.
FR-F.2	The system must allow the Farmer/Administrator to track orders, and accept or decline client orders/negotiations .
FR-F.3	The system must allow for direct communication/messaging between the Farmer/Administrator (seller) and buyers.
FR-F.4	The system must allow the Farmer/Administrator to manually confirm sales transactions (direct payment processing is not supported).

G. Expense Tracking and Reporting (FR-G)

ID	Requirement
FR-G.1	The system must allow the Farmer/Administrator to capture and classify all operation, labor, and supply costs (expenses).

FR-G.2	The system must generate visual analytics and reports of historical farm data, weather trends, sales, expenses, and profit/loss.
FR-G.3	The system must provide the Farmer/Administrator with a dashboard that gives a unified overview of farm schedules, resource usage, and sales performance.
FR-G.4	The system must allow the Farmer/Administrator to track their sales and order records .

II. Non-Functional Requirements (NFR)

A. Performance and Reliability (NFR-A)

ID	Requirement
NFR-A.1	Weather data should be processed and displayed quickly after retrieval.
NFR-A.2	Weather data refreshes must occur at least every 10 minutes.
NFR-A.3	The system must maintain high availability with minimal downtime.

B. Security and Data Integrity (NFR-B)

ID	Requirement
NFR-B.1	Users must authenticate using email and password.
NFR-B.2	The system must ensure secure handling of transaction data and user information.
NFR-B.3	The system must provide protection against unauthorized access.
NFR-B.4	All data entry must be validated to rule out null values and duplication issues to maintain data accuracy.

C. Usability and Scalability (NFR-C)

ID	Requirement
NFR-C.1	The system should be accessible across various devices (mobile phones to desktop screens).
NFR-C.2	Users should be able to navigate the system with minimal instructions.