

**milma****Thiruvananthapuram Regional Co-operative Milk Producers'
Union Limited**

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Call for Expression of Interest for Development of Dairysoft for TRCMPU (Thiruvananthapuram Regional Co-operative Milk Producers' Union Ltd)

Introduction

Thiruvananthapuram Regional Co-operative Milk Producers' Union Ltd (TRCMPU) serves as a Regional Milk Union encompassing the four southern districts of Kerala: Thiruvananthapuram, Kollam, Alappuzha, and Pathanamthitta. It is one of the regional unions under KCMF. Its main objective is to support dairy farmers by procuring milk at fair prices, processing and distributing quality dairy products, and promoting dairy farming through cooperative societies. The union produces and markets a wide range of Milma products such as milk, curd, butter, ghee, ice cream, and flavored beverages. TRCMPU also plays an important role in improving rural livelihoods by providing welfare schemes, incentives, and technical support to dairy farmers across southern Kerala.

Purpose

The purpose of the Expression of Interest (EOI) is to identify a startup for the development of software for submitting and processing applications by farmers and cooperative societies to obtain financial assistance under various schemes implemented by Thiruvananthapuram Regional Co-operative Milk Producers' Union Ltd (TRCMPU). The proposed software is intended to simplify, streamline, and digitize the application, verification, approval, and monitoring processes related to the financial assistance schemes offered by TRCMPU.

Overall description

The proposed software system for Thiruvananthapuram Regional Co-operative Milk Producers' Union Ltd (TRCMPU) shall provide an

integrated digital workflow for managing farmer and society data, scheme configuration, online application submission, automated eligibility validation, and multi-level approval processes. The system shall support budget management, fund allocation, and financial assistance disbursement through integration with the milk bill payment system or other approved payment methods. The system shall support a role based user hierarchy with defined access privileges and responsibilities for each user category.

Product scope

The proposed system for Thiruvananthapuram Regional Co-operative Milk Producers' Union Ltd (TRCMPU) comprises multiple integrated modules to support comprehensive scheme administration, financial management, veterinary services, and farmer ecosystem management.

The Scheme Management module (P1 - Immediate) includes scheme formulation and configuration, eligibility and priority criteria setup, dynamic eligibility engine, custom application form creation, application processing, beneficiary selection, fund/equipment disbursement, and grievance handling.

The Scheme Finance Module (P1 - Immediate) covers a chart of accounts, budgeting, budgetary control, financial appropriation, disbursement, accounting, financial statements, MIS reporting, and recovery functions.

The Society, Farmer & Cattle Profile module (P1 - Prerequisite) supports society registration, login, profile management, farmer registration, KYC, farmer login, active member tracking, dairy collection reporting, and cattle profile management.

The Veterinary Service Delivery module (P2 - Phase 2) includes veterinary personnel management, assignment to societies, transfer and posting, service requests, field visits, treatment recording, veterinary medicine stock and inventory management, and procurement integration for medicine disbursement tracking.

HRMS Integration (P2) will support appointment of temporary veterinary doctors and payroll/salary processing inputs.

The Scheme Arrear Recovery module (P3) enables digitization of arrear data, monitoring, and collection.

Overall, the system is designed to provide a phased, scalable digital platform integrating scheme management, financial operations, veterinary services, HRMS functions, and arrear recovery to ensure efficient and transparent operations.

In addition, the system shall include an **Admin Module** responsible for overall system administration, office management, society and user profile management, and role-based access control. An **Employee Management Module** shall also be included to manage employee

records, assignments, and operational workflows across departments.

Overall, the system is designed as a phased and scalable digital platform integrating scheme management, financial operations, veterinary services, HRMS functions, arrear recovery, and administrative control to ensure efficient, transparent, and well-governed operations.

Detailed Functional Requirement Specification(FRS) has been incorporated as Annexure I.

Product Description with workflow

The proposed software system for Thiruvananthapuram Regional Co-operative Milk Producers' Union Ltd (TRCMPU) shall provide an integrated digital workflow for managing farmer and society data, scheme configuration, online application submission, automated eligibility validation, and multi-level approval processes. The system shall support budget management, fund allocation, and financial assistance disbursement through integration with the milk bill payment system or other approved payment methods. Comprehensive reporting and audit trail features shall ensure transparency, accountability, and efficient monitoring of scheme implementation and fund utilization.

User hierarchy

The system shall support a role based user hierarchy with defined access privileges and responsibilities for each user category. The approval workflow shall include multiple levels comprising Field Supervisor, P&I Officer, P&I Section Head, Unit Head, Functional Head- Head Office, Managing Director, and Finance Department, with provision for verification, recommendation, approval, rejection, and fund processing at respective stages. User roles, permissions, and access controls shall be configurable based on departmental requirements.

Non-Functional Requirements

1. The system shall support concurrent usage for above 1000 users, including society and farmer logins, without performance degradation.
2. The application shall be mobile and web friendly, with a responsive design supporting access through smartphones, tablets, and desktop devices.

3. The system shall provide multi-language support to ensure usability in English and regional languages.
4. The system shall incorporate strong security measures and shall be open for periodic security audits by the internal software team to ensure data protection and system integrity.
5. The software shall also undergo a mandatory security audit conducted by a CERT-In empanelled agency prior to hosting and go-live, to ensure compliance with prescribed security standards, identify vulnerabilities, and confirm that the system is secure for production deployment.

Maintenance and Support

The maintenance and support requirements of the proposed system shall include the following:

1. **Regular Functional Updates** – Updating the system with new schemes, policy changes, and workflow modifications to ensure continued relevance and alignment with departmental requirements.
2. **Software Updates & Patch Management** – Periodic updates of application frameworks, modules, security patches, and system components to ensure stability, performance, and security.
3. **Bug Fixes & Technical Support** – Timely identification and resolution of functional issues, workflow errors, integration issues, and system bugs to ensure smooth operations.
4. **Server & Infrastructure Support** – Continuous monitoring of server performance, storage, uptime, and system health, along with coordination with hosting providers for infrastructure-related issues.
5. **User Support & Training** – Providing ongoing support and training for administrators, officers, and end users to ensure effective use of the system.
6. **Documentation & Reporting** – Maintenance of updated technical documentation, user manuals, and periodic reports on system performance, uptime, and issue resolution.
7. **Post-Launch Technical Support** – Dedicated support after go-live for stabilization, issue resolution, enhancements, and smooth transition to operational use.

The EOI process

Kerala Startup Mission is approached by various Government Departments for the development of mobile and web applications. These requests are met through a facilitation devised by KSUM. Kerala Startup Mission facilitates the entire process by helping departments to finalise technical specifications, circulating the same among startups, initial technical assessment and shortlisting for the committee to take final decision.

Following are the steps involved:

1. Call for Expression of Interest among startups

incubated/registered with KSUM

2. Submission of EOI (in the link provided by KSUM)
3. KSUM to organise interaction with the Department for clarifying doubts and queries of interested startups.
4. Technical Proposals are then obtained from startups who have submitted the interest.
5. Technical proposals are then evaluated.
6. Startups who qualify the technical evaluation are then asked to submit the financial proposal.
7. L1 among the startups is identified by the method of Quality and Cost Based Selection (QCBS) wherein 70% marks for the technical proposal and 30% for the financial proposal.
8. The L1 startup is then recommended to the Department.
9. KSUM ensures that the startup delivers the product to the Department and Department is satisfied with the work.
10. The payment is made directly by the department to the startup after signing an Agreement.
11. The Department is also expected to do the Security auditing of the application developed by the startup through CERT-K and also to host the application in the State Data Center

Eligibility for Startup to participate in the EOI

The startup has to be registered with Kerala Startup Mission and Startup India.

1. Years of Experience Criteria - minimum 5 years of experience
2. Experience in Similar Projects - similar projects in any Govt .sector

Annexure

Functional requirement Document

RARARAJ R KAS

Signed by

MANAGING DIRECTOR

Rararaj.r

Date: 26-05-2026 16:53:42

MILMA

Thiruvananthapuram Regional Co-operative Milk Producers' Union Ltd

Society Management Information System

1. Project Overview

Module	Sub- Modules	Functions/Features	Priority
Scheme Management	Scheme Formulation & Configuring	<ol style="list-style-type: none"> 1) Setting Eligibility Criteria 2) Setting Priority Criteria 3) Dynamic Scheme Eligibility Engine 4) Custom Scheme Application Form Creation 	P1- Immediate
	Application & Processing, Beneficiary Selection, Fund/Equipment Disbursement		
	Scheme Grievance facility		
Scheme Finance Module	Chart of Accounts, Budgeting, Budgetary Control, Financial Appropriation, Disbursement, Accounting, Financial Statements/Reports, Financial MIS, Recovery		P1-Immediate
	Scheme Arrear Recovery	Arrear Data Digitalisation Arrear Monitoring Arrear Collection	
Veterinary Service Delivery	Veterinary Service Personnel Management	<ol style="list-style-type: none"> 1. Assigning Veterinary Service Personnel to Societies, 2. Transfer & Posting 3. HRMS Integration Appointment of Temporary Veterinary doctors 4. HRMS Integration for Inputs for Salary/Payroll Management etc 	P2-Phase 2

	Service Request, Field Visit, Treatment Recording, Veterinary Medicine Stock/Inventory Management, Store/Procurement Integration for Medicines disbursement tracking		
Society, Farmer & Cattle Profile	Registration, KYC, Active Member Tracking, Dairy Collection Reporting.	Society Registration Society Login Society Profile	P1- Prerequisite
		Farmer Registration Farmer KYC Farmer Login Farmer Profile Cattle Profile	
HRMS Integration			P2
			P2
Arrear Recovering Module	For return collection		P3

2. Module, Sub Module & Functionalities Summary

3. Introduction

3.1 Purpose

This Functional Requirements Specification (FRS) document describes the functional requirements for the Farmer Financial Assistance and Schemes Distribution Software. The purpose of this module is to automate and streamline the process of distributing/disbursing/implementing various welfare/production enhancement schemes to eligible dairy farmers/societies affiliated to TRCMPU Ltd.

This document serves as the primary reference for all stakeholders including the Procurement & Inputs (P&I) department, P&I Officers, Section Heads, Unit Heads, Functional Heads, Managing Director, and Finance Department involved in scheme management and disbursement.

3.2 Scope

The software system covers the following functional areas:

- Farmer Master Data Management
- Dynamic Scheme Engine for managing multiple scheme types
- Scheme Finance Module for budgeting and fund management
- Farmer Scheme Application Workflow
- Multi-level Approval Workflow (Field Supervisor → P&I Officer → Section Head → Unit Head → Functional Head → Managing Director → Finance)
- Financial Disbursement through Milk Bill Integration
- Reporting and Audit Trail

3.3 Intended Audience

Stakeholder	Role in System	Access Level
Farmer / DCS Staff	Submit scheme applications	Applicant
Field Supervisor	Verify and forward applications	Level 1 Approver
P&I Officer	Review, recommend, and forward to Section Head	Level 2 Approver

Stakeholder	Role in System	Access Level
Section Head	Review, recommend, and forward to Unit Head	Level 3 Approver
Unit Head	Review and forward with recommendation to Head Office	Level 4 Approver
Functional Head	forward to MD	Level 5 Approver
P&I Officer HO	Review, recommend, and forward to Functional Head	
Functional Head	Final recommendation and forward to MD	Level 5 Approver
Managing Director	Final approval authority	Level 5 Approver
Finance Head / Department	Disbursement authorization via milk bill	Disbursement Authority
P&I Department Admin	Master data and scheme finance management	System Administrator

3.4 Definitions and Acronyms

Term / Acronym	Definition
MILMA	Kerala Co-operative Milk Marketing Federation Ltd.
FRS	Functional Requirements Specification
P&I	Procurement & Input Department
DCS	Dairy Co-operative Society
MD	Managing Director
FAM	Financial Assistance Module
SFM	Scheme Finance Module
DSE	Dynamic Scheme Engine
SLA	Service Level Agreement
UID	Unique Identifier
KYC	Know Your Customer (farmer identity verification)
NACH	National Automated Clearing House (bank transfer)

4. System Overview

4.1 System Functional Architecture Summary

The Farmer Financial Assistance & Schemes Distribution Module is a web-based application integrated with TRCMPU's existing billing systems. It comprises six major sub-systems that interact with each other in a defined workflow:

Core Sub-Systems	
1. Society/Farmer/Cattle Master Management Module	Centralized repository for farmer demographic, financial, and milk production data.
2. Dynamic Scheme Engine (DSE)	Configurable engine that supports any type of scheme with parameterized eligibility criteria, benefit types, and disbursement rules.
3. Scheme Finance Module (SFM)	Manages scheme-wise annual budget, tracks utilization, and controls disbursement limits.
4. Scheme Application & Workflow Module	Captures farmer scheme applications and routes them through a structured multi-level approval workflow.
5. Approval & Recommendation Engine	Manages role-based access and workflow transitions with remark and recommendation capture at each level.
6. Finance Disbursement Module	Processes approved scheme amounts against farmer milk bills for final disbursement.

4.2 Workflow Overview

The end-to-end workflow of the system follows a sequential approval chain:

Stage	Actor	Action	Next Stage
1	Farmer / DCS Entry Operator	Submit scheme application with required documents	Field Supervisor Verification
2	Field Supervisor	Verify application details and supporting documents; Forward or Reject	Dairy P&I Officer Review
3	Dairy P&I Officer	Review, add recommendations; Forward to Unit Head or Return	Unit Head Review
4	Unit Head	Review with recommendation; Forward to Functional Head or Return	Functional Head Review
5	Functional Head	Final recommendation; Forward to Managing Director or Return	MD Approval
6	Managing Director	Approve or Reject the application	Finance Disbursement
7	Finance Head / Department	Authorize disbursement through milk bill deduction/credit	Application Closed

3. Farmer Financial Assistance & Schemes Distribution Module

3.

5. Farmer Master Management Module

5.1 Module Description

The Farmer Master Management Module serves as the central repository for all farmer-related data within TRCMPU Ltd. This module is maintained by the P&I Department and is the foundational data source used by the Dynamic Scheme Engine to validate farmer eligibility for various schemes.

5.2 Functional Requirements

5.2.1 Farmer Registration

The system shall allow authorized users to register new farmers with the following details:

Personal Information

Farmer ID (Auto-generated, unique)
 Full Name (as per Aadhaar)
 Date of Birth | Gender | Category (SC/ST/OBC/General)
 Aadhaar Number | Ration Card Number
 Address (Ward, Village/Town, Panchayat/Municipality, Taluk, District, Pincode)
 Mobile Number | Alternate Contact | Email ID (Optional)
 Photo Upload (passport size, max 200KB)

DCS / Society Information

DCS (Dairy Co-operative Society) Code and Name
 Union / Dairy to which DCS is affiliated
 Member Number
 Active / Inactive Status | Date of Last Milk Supply

Cattle / Farm Information

Number of Cattle (Cows / Buffaloes — breed-wise)
 Average Daily Milk Production (litres)
 Land Holding (in acres) | Land Type (Own / Leased)
 Insurance Status of Cattle | Insurance Policy Number

Banking Information

Bank Name | Branch | Account Number | IFSC Code
 Account Type (Savings / Current) | Account linked to Milk Bill (Yes/No)

5.2.2 Master Data Management

- The system shall support search of farmer records by Farmer ID, Name, DCS Code, Aadhaar, or Mobile Number.
- The system shall allow authorized users to update farmer details; all modifications shall be captured in an audit log with timestamp and user details.
- The system shall support deactivation of farmer records (soft delete) rather than permanent deletion.
- The system shall provide a bulk import facility for farmer data via Excel/CSV template with validation checks.
- The system shall integrate farmer milk supply data (daily/monthly) from the existing milk procurement system.

5.3 Master Data Configuration Pages

The following master configuration pages shall be maintained by the P&I Department:

Master Page	Description	Maintained By
District Master	List of districts in Kerala	P&I Admin
Union / Dairy Master	MILMA Union and Dairy details	P&I Admin
DCS Master	All Dairy Co-operative Societies under TRCMPU Ltd	P&I Admin
Cattle Breed Master	Recognized breeds (HF, Jersey, Sahiwal etc.)	P&I Admin
Scheme Category Master	Categories under which schemes are grouped	P&I Admin
Bank Master	Bank and IFSC code reference	P&I Admin
Financial Year Master	Financial year definitions for budget cycle	P&I Admin
User Role Master	Roles and permission matrix	System Admin

6. Dynamic Scheme Engine (DSE)

6.1 Module Description

The Dynamic Scheme Engine is the core intelligence layer of the system that provides a flexible, configurable framework to define, manage, and execute any type of farmer welfare scheme. The engine is designed to handle diverse scheme types without requiring software changes — all scheme parameters, eligibility criteria, benefit structures, and disbursement rules are configurable by the P&I Department through the scheme master configuration interface.

6.2 Scheme Master Configuration

The P&I Department shall configure each scheme with the following parameters:

Scheme Identification

Scheme Code (Auto-generated) | Scheme Name (English & Malayalam)
 Scheme Category (Government / MILMA / External Agency)
 Funding Source (Government / MILMA Own Fund / Joint)
 Scheme Description | Scheme Objectives
 Scheme Active Period (Start Date / End Date) | Renewable (Yes/No)

Eligibility Criteria Configuration (Parameterized)

Minimum Membership Duration (in months) with DCS
 Minimum Daily Milk Supply (litres/day) — average over configurable period
 Minimum Number of Cattle (type-specific: Cow / Buffalo / Mixed)
 Farmer Category Eligibility (SC/ST/OBC/General — multi-select)
 Gender Eligibility (Male / Female / Transgender / Any)
 Age Limit (Minimum / Maximum)
 Land Holding Limit (Maximum acres — to target small/marginal farmers)
 Geographic Restriction (Union / District / Statewide)
 Scheme Application Limit per Farmer (One-time / Annual / Recurring)

Benefit Structure Configuration

Benefit Type: Fixed Amount | Per Litre Rate | Percentage of Purchase Value | Subsidy on Loan
 Maximum Benefit Amount (ceiling cap per application)
 Calculation Formula (configurable expression based on scheme type)
 Benefit Disbursement Mode: Milk Bill Credit | Direct Bank Transfer | Combination

Document Requirements Configuration

Configurable checklist of supporting documents required per scheme
 Each document tagged as Mandatory / Optional
 Supported format: PDF, JPG, PNG (max 2MB per document)

6.3 Scheme Types Supported

The Dynamic Scheme Engine shall be capable of handling, but not limited to, the following scheme categories:

Example Schemes	Scheme Details	Benefit Mode
Cattle Shed Renovation	Rs. 20,000 To Farmer As Two Instalments	Through Society Milk Bill
Cattle Feed Subsidy	Consolidated Payment To Society	Through Society Milk Bill
Cattle Insurance Premium Subsidy	Subsidy To Farmer Based On Quantity Of Milk Poured	Through Society Milk Bill
Cattle Transportation Subsidy	Subsidy Based Number Of Cattle Purchased By Farmer From Outside State	Through Society Milk Bill
Cow Comfort Mat	Mats Purchased And Distributed By Union	Balance Cost After Subsidy Recovered From Society Milk Bill
Silage / TMR Subsidy	Silage Supplied By Union Through Tender Procedure	1. Balance Cost After Subsidy Recovered From Society Milk Bill 2. Handling Charges Paid To Society Through Milk Bill
Bank Loan Subsidy	Subsidy Paid On Quarterly Basis After Verifying Quarterly Milk Supplied Over And Above Base Quantity	Through Society Milk Bill
Revolving Fund Scheme	Initial Payment Directly To Society From Units	Recovery As 25 Instalments From Last Milk Bill Of Each Subsequent Month
Summer Cattle Insurance Scheme	Premium Recovered Beforehand Through Milk Bill, Payment Only To Eligible Farmers	Through Society Milk Bill
Benevolent Fund - Scholarship	Amount To Farmers Based On Educational Qualification Of Dependent Children	Cheque Payment
Benevolent Fund - Death	Rs. 25,000 To Farmers Legal Heir	Cheque Payment

6.4 Eligibility Auto-Check Engine

- When a farmer logs in or an application is initiated, the system shall automatically evaluate all active schemes against the farmer's master profile data.
- Only schemes for which the farmer is eligible shall be displayed in the application portal.
- The eligibility check shall be real-time and based on current data from the farmer master, milk supply records, and cattle records.
- A clear explanation of eligibility status shall be displayed (e.g., 'You are not eligible for this scheme because your average milk supply is below the required 5 litres/day threshold').
- The system shall re-evaluate eligibility on each application cycle; past eligibility shall not guarantee current eligibility.

7. Scheme Finance Module (SFM)

7.1 Module Description

The Scheme Finance Module is managed exclusively by the P&I Department and serves as the financial control layer for all scheme disbursements. It enables advance budgeting for the upcoming financial year on a scheme-wise basis and enforces budgetary discipline by tracking and deducting disbursed amounts from the sanctioned budget in real time.

7.2 Functional Requirements

7.2.1 Annual Budget Entry

- The P&I Department shall be able to create the budget for each financial year before the commencement of that year.
- Budget shall be entered scheme-wise for each financial year.
- The system shall not allow disbursements under a scheme unless a budget has been allocated for the current financial year.
- Budget revision (upward / downward) shall be supported with proper justification and audit trail.
- Scheme-wise budget shall also support union/dairy-level sub-allocation where required.

7.2.2 Budget Tracking

Field	Description
Financial Year	Budget year (e.g., 2025-26)
Scheme Code & Name	Linked scheme from DSE
Total Sanctioned Budget (Rs.)	Approved budget for the scheme
Total Applications Received	Count of applications submitted
Total Applications Approved	Count of approved applications
Total Amount Sanctioned (Rs.)	Sum of all approved amounts
Total Amount Disbursed (Rs.)	Sum of amounts actually disbursed
Balance Available (Rs.)	Sanctioned Budget minus Disbursed Amount
Commitment (Rs.)	Amounts approved but not yet disbursed
Encumbrance Alert	Warning when balance falls below 10% of budget

7.2.3 Fund Control Rules

- The system shall automatically block further disbursements when the available balance for a scheme is zero or insufficient for the pending disbursement.
- A warning alert shall be triggered when the scheme budget utilization reaches 80% of sanctioned amount.
- A critical alert shall be triggered when utilization reaches 95%.

- Finance Head shall have authority to grant one-time override (with mandatory remarks) in exceptional cases subject to budget availability after revision.
- The system shall ensure that no double-disbursement can occur for the same application.

7.2.4 Budget Reports

- Scheme-wise budget utilization report (financial year-wise)
- Monthly disbursement report by scheme and by union/dairy
- Pending applications versus available budget dashboard
- Year-on-year budget comparison report
- Fund exhaustion forecast report (based on current utilization rate)

8. Scheme Application Entry Module

8.1 Module Description

The Scheme Application Entry Module allows eligible farmers (or authorized DCS entry operators on behalf of farmers) to submit applications for eligible welfare schemes. The module integrates with the Dynamic Scheme Engine to present only eligible schemes and auto-populate farmer details from the Farmer Master.

8.2 Application Entry Process

8.2.1 Farmer Login / DCS Operator Login

- The farmer or DCS operator logs in using credentials (Farmer ID / registered mobile OTP).
- The dashboard displays all schemes for which the farmer is currently eligible.
- The farmer's master details are auto-populated; the farmer verifies and confirms.

8.2.2 Application Form — Scheme-Specific Fields

In addition to auto-populated farmer details, the application form shall capture scheme-specific information as defined in the scheme master:

Field Category	Fields Captured
Scheme Details	Scheme Code, Scheme Name, Financial Year of Application
Application Details	Date of Application, Application Reference Number (auto), Description of Need
Cattle / Purchase Details	Cattle tag number, Date of purchase, Purchase amount, Seller details (if applicable)
Bank Details	Confirmation of bank account for disbursement (pre-filled from master)
Supporting Documents	Upload of documents as per scheme-specific document checklist
Declaration	Farmer declaration that all information is correct and genuine

8.2.3 Application Validation

- The system shall perform automatic eligibility re-validation at the time of submission.
- Mandatory fields and documents shall be validated before allowing submission.
- Duplicate application check — the system shall prevent re-application within the same cycle if an active application for the same scheme already exists.
- On successful submission, an acknowledgement number shall be generated and sent via SMS to the farmer's registered mobile.

8.3 Application Status Tracking

- The farmer shall be able to track application status at any time using the acknowledgement number.

- SMS notifications shall be sent at each stage change (Submitted, Verified, Approved, Rejected, Disbursed).
- The application status page shall display the current stage, the officer handling it, and the date of last action.

9. Multi-Level Approval Workflow Module

9.1 Workflow Architecture

The approval workflow is a sequential, role-based process. Each level has specific rights to Forward, Return (with remarks), or Reject an application. Rejection at any stage terminates the workflow. Return sends the application back to the previous stage for correction.

9.2 Stage-wise Functional Requirements

9.2.1 Stage 1: Field Supervisor Verification

Field Supervisor Dashboard

Access: Login with Field Supervisor credentials

View all applications submitted under their assigned DCS / geographic area
 Verify physical details: Farmer identity, cattle existence, document authenticity
 Capture field verification notes (free text + checklist)
 Capture GPS location tag of farm visit (optional, configurable)

Actions: VERIFY & FORWARD | RETURN TO APPLICANT | REJECT (with mandatory remark)

9.2.2 Stage 2: Dairy P&I Officer Review

Dairy P&I Officer Dashboard

Access: Login with Dairy P&I Officer credentials

View all verified applications forwarded from Field Supervisors
 Review application details, farmer master data, and field verification remarks
 Check scheme budget availability before forwarding
 Enter recommendation and remarks

Actions: FORWARD TO UNIT HEAD | RETURN TO SUPERVISOR | REJECT (with mandatory remark)

9.2.3 Stage 3: Unit Head Review

Unit Head Dashboard

Access: Login with Unit Head credentials

View all applications forwarded from Dairy P&I Officer
 Review full application file including all previous recommendations
 Enter unit-level assessment and recommendation (Favourable / Unfavourable with reasons)

Actions: FORWARD TO FUNCTIONAL HEAD | RETURN TO DAIRY OFFICER | REJECT (with mandatory remark)

9.2.4 Stage 4: Functional Head Review

Functional Head Dashboard
<p>Access: Login with Functional Head credentials (Head Office) View applications forwarded from multiple Unit Heads Scrutinize application with complete audit trail of remarks from all previous stages Confirm sanctioned amount (may modify within scheme cap, with justification) Enter formal recommendation to Managing Director Actions: FORWARD TO MD RETURN TO UNIT HEAD REJECT (with mandatory remark)</p>

9.2.5 Stage 5: Managing Director Approval

Managing Director Dashboard
<p>Access: Login with Managing Director credentials View summary of all applications pending MD approval Access complete application dossier (farmer details, scheme details, field report, all recommendations) Sanction order generation (digital signature integration where applicable) Actions: APPROVE & FORWARD TO FINANCE REJECT (with mandatory remark)</p>

9.2.6 Stage 6: Finance Department — Disbursement

Finance Department Dashboard
<p>Access: Login with Finance Head / Finance Officer credentials View all MD-approved applications pending disbursement Verify bank account details and sanction order Process disbursement by linking the sanctioned amount to the farmer's milk bill (bill credit) For amounts not coverable through milk bill, initiate direct bank transfer Trigger automatic deduction of disbursed amount from the scheme budget in the SFM Generate disbursement voucher and update application status to DISBURSED</p>

9.3 Workflow Rules

Rule	Description
Mandatory Remarks	Every action (Forward / Return / Reject) must include remarks. Empty remarks are not accepted.
Time Limits (SLA)	Configurable SLA at each stage; system triggers escalation alerts on breach.

Rule	Description
Return Limit	An application returned more than 2 times to the same stage generates an alert to the supervisor.
Rejection Finality	Rejection at any stage closes the application permanently; re-application requires fresh submission.
Concurrent Access Control	An application in edit/review by one officer is locked for others to prevent concurrent modification.
Bulk Actions	Finance and MD dashboards support bulk approval for batch processing.
Escalation Matrix	If an application is pending at any stage beyond SLA, auto-escalation to the next higher authority.

10. Finance Disbursement — Milk Bill Integration

10.1 Module Description

The Finance Disbursement module manages the final transfer of approved scheme amounts to farmers through integration with existing ERP- finance module. The scheme assistance amount is credited directly to the farmer's milk bill, effectively reducing the payable amount from MILMA to the farmer or adding a bonus credit.

10.2 Disbursement Modes

Mode	Description	When Used
Milk Bill Credit	Scheme amount added as a credit line item in the farmer's monthly milk payment bill	Primary mode for all scheme disbursements
Direct Bank Transfer	Amount transferred directly to farmer's registered bank account via NEFT/RTGS	When milk bill amount is insufficient to absorb the credit
Installment Disbursement	Large amounts disbursed in configured installments over multiple billing cycles	For high-value schemes (e.g., cattle purchase, shed construction)

10.3 Disbursement Process Flow

1. Finance officer receives MD-approved application in the disbursement queue.
2. System displays farmer bank details, scheme amount, and disbursement mode as per scheme configuration.
3. Finance officer verifies details and initiates disbursement.
4. System checks current scheme budget balance in SFM — if insufficient, system blocks and alerts.
5. On confirmation, the disbursement is tagged to the farmer's next milk bill cycle.
6. Scheme amount is deducted from the scheme budget in the SFM in real time.
7. Disbursement voucher is generated with unique transaction reference.
8. Farmer is notified via SMS upon successful disbursement.
9. Application status is updated to 'DISBURSED' with date, amount, and transaction reference.

10.4 Disbursement Register

The system shall maintain a disbursement register with the following fields:

Field	Description
Disbursement ID	Unique auto-generated disbursement reference number
Application Reference No.	Linked application number
Farmer ID & Name	Beneficiary farmer details

Field	Description
DCS Code	Society of the farmer
Scheme Code & Name	Scheme under which disbursement is made
Sanctioned Amount (Rs.)	Amount approved by MD
Disbursed Amount (Rs.)	Actual amount disbursed in this transaction
Disbursement Mode	Milk Bill Credit / Direct Transfer / Installment
Milk Bill Reference	Linked milk bill number (if bill credit)
Transaction Reference	Bank transaction ID (if direct transfer)
Disbursement Date	Date of disbursement
Processed By	Finance officer who processed the disbursement
Financial Year	Financial year of disbursement

11. Reports and Analytics Module

11.1 Operational Reports

Report Name	Description	Available To
Application Status Report	Real-time status of all applications by scheme, stage, and date range	All Roles
Pending Applications Report	Applications pending at each workflow stage with aging analysis	All Roles
Scheme-wise Application Summary	Count and value of applications per scheme (applied, approved, rejected, disbursed)	P&I, Finance, MD
Farmer-wise Application History	Complete application history of a specific farmer	All Roles
Field Supervisor Activity Report	Applications verified, returned, or rejected by each supervisor	P&I, Unit Head
Dairy/Union-wise Summary	Scheme utilization summary per dairy or union	Unit Head, Functional Head, MD

11.2 Financial Reports

Report Name	Description	Available To
Scheme Budget Utilization Report	Budget vs. actual disbursement per scheme per financial year	P&I, Finance, MD
Disbursement Register	Complete ledger of all disbursements with transaction details	Finance, P&I
Monthly Disbursement Report	Scheme-wise amounts disbursed in each month	Finance, MD
Budget Balance Report	Remaining balance per scheme with commitment deducted	P&I, Finance
Year-on-Year Comparison	Scheme utilization comparison across financial years	P&I, MD
Milk Bill Adjustment Summary	Summary of scheme credits applied to milk bills by billing cycle	Finance

11.3 Audit and Compliance Reports

- Complete audit log of all actions (create, update, approve, reject, disburse) with user ID, timestamp, and IP address.
- Change history report for any modified farmer master record.
- Scheme parameter change log — captures every modification to scheme configuration with before/after values.

- Dual-disbursement check report — verifies no farmer has received duplicate disbursement for the same application.

12. Non-Functional Requirements

Requirement	Specification
Performance	Application pages shall load within 3 seconds; approval workflow transitions within 2 seconds under normal load.
Scalability	System shall support up to 500 concurrent users without performance degradation.
Availability	System shall have 99.5% uptime SLA during business hours (8 AM – 8 PM IST on working days).
Security	Role-based access control; data encryption in transit (HTTPS/TLS 1.2+); encrypted storage of sensitive fields (Aadhaar, bank account).
Audit Trail	All create, update, delete, and workflow actions shall be logged with user, timestamp, and IP address.
Mobile Responsiveness	The application shall be accessible on mobile devices for field supervisors; responsive web design required.
Language Support	UI shall support both English and Malayalam languages; all notifications in Malayalam for farmers.
Browser Support	Chrome (latest), Firefox (latest), Edge (latest), Safari (latest).
Data Retention	Application data and disbursement records shall be retained for a minimum of 10 years.
Backup	Daily automated backup; recovery point objective (RPO) of 24 hours; recovery time objective (RTO) of 4 hours.
Integration	API-based integration with existing MILMA milk procurement and billing system; standards-compliant REST APIs.

13. User Access and Role Matrix

Feature / Module	Farmer/DCS	Field Supv.	Dairy P&I	Unit Head	Func. Head	MD	Finance	P&I Admin
Farmer Master — View	Own	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Farmer Master — Create/Edit	No	No	No	No	No	No	No	Yes
Scheme Master — View	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Scheme Master — Create/Edit	No	No	No	No	No	No	No	Yes
Scheme Finance/Budget — View	No	No	Yes	Yes	Yes	Yes	Yes	Yes
Scheme Finance/Budget — Edit	No	No	No	No	No	No	No	Yes
Submit Application	Yes	No	No	No	No	No	No	No
Field Verify & Forward	No	Yes	No	No	No	No	No	No
Dairy Level Review & Forward	No	No	Yes	No	No	No	No	No
Unit Head Approve & Forward	No	No	No	Yes	No	No	No	No
Functional Head Recommend	No	No	No	No	Yes	No	No	No
MD Final Approval	No	No	No	No	No	Yes	No	No
Disburse via Milk Bill	No	No	No	No	No	No	Yes	No
View Reports	Own	Limited	Dairy	Unit	All	All	Finance	All

14. Assumptions, Constraints & Dependencies

14.1 Assumptions

- MILMA already operates an existing milk procurement and billing system; the new module will integrate via APIs.
- Farmer master data will be migrated from existing records during initial setup.
- All users will have access to a computer or mobile device with internet connectivity.
- P&I Department will be responsible for all scheme master configuration and budget entry.
- Digital signature / e-sign integration at MD level is optional in Phase 1 and can be added in Phase 2.

14.2 Constraints

- The system must operate within MILMA's existing IT infrastructure and security policies.
- Disbursement through milk bill is constrained by the milk bill generation cycle (10 DAYS).
- Budget entry for a financial year must be completed before the start of that financial year.

14.3 Dependencies

- Integration API from existing milk procurement and billing system.
- Aadhaar validation API (UIDAI) for KYC verification of farmers.
- SMS gateway for farmer notifications.
- Bank IFSC master data for bank details validation.

15. Appendix — Glossary

Term	Definition
DCS	Dairy Co-operative Society — the primary farmer organization through which milk is collected
MILMA Union	Regional union of DCS societies under MILMA's federal structure
Dairy	The dairy plant / processing unit at union level
P&I Department	Procurement & Input Department at MILMA — responsible for scheme management
Milk Bill	Monthly payment statement issued to farmer for milk supplied to DCS
Eligibility Criteria	Configurable set of conditions a farmer must satisfy to apply for a scheme
Dynamic Scheme Engine	The configurable module that handles scheme definition, eligibility checking, and benefit calculation
Scheme Finance Module	Module for budget planning and fund control for all schemes
Disbursement	Actual transfer of scheme assistance amount to the farmer
Audit Trail	Complete log of all system actions for compliance and traceability
Sanction Order	Official approval document generated upon MD's approval of a scheme application
SLA	Service Level Agreement — agreed turnaround time for each workflow stage