

Plantation Management Dashboard



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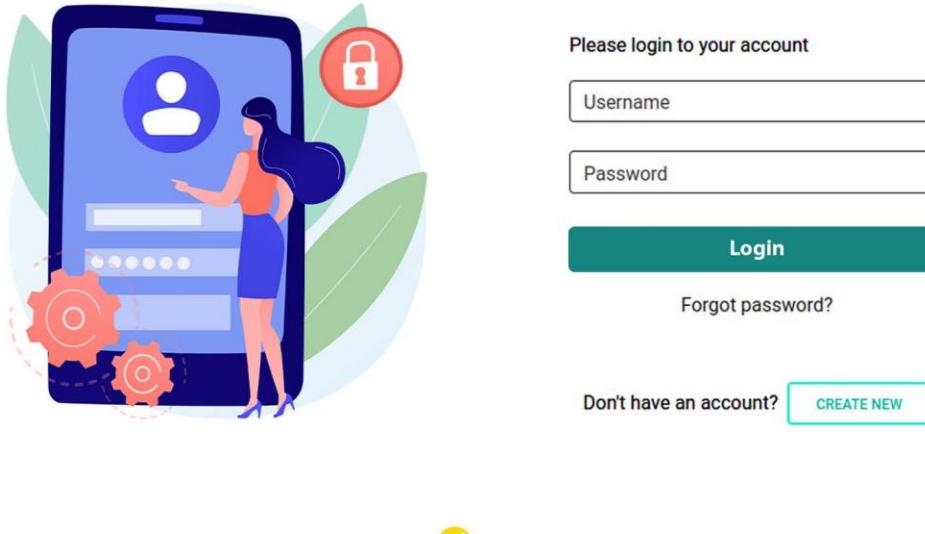
Introduction

- **Overview of the Plantation Management System**

A web-based solution designed to digitize and streamline plantation management processes, replacing traditional manual methods for greater efficiency and accuracy.

- **Purpose**

To enhance plantation operations by improving record accuracy, and accessibility, and providing tools for efficient planning, monitoring, and reporting.



Technology Overview

- **Web-Based Platform**

The system is developed as a web application accessible via browsers, ensuring cross-device compatibility and ease of use.

- **Database Integration**

Incorporates a robust database backend to securely store plantation data, task records, and financial details.

- **User Interface**

An intuitive interface designed for task assignments, data entry, report generation, and record management.

Plantation Management Process

- **Inputting Records**

Users can input plantation data, including crop type, plantation area, season, and associated activities like irrigation, fertilization, and harvesting.

- **Validation and Verification**

Built-in validation ensures data accuracy and completeness before submission.

- **Report Generation**

Detailed reports summarizing plantation productivity, costs, and activity logs can be generated and printed for documentation and analysis.

Dashboard Features

1. Field Officer Dashboard

- **Crop Achievements:** Displays crop yield and productivity metrics.
- **Morning & Evening Muster Approval:** Allows approval of daily attendance and activity records for plantation workers.
- **Muster Review:** Facilitates review and validation of workforce attendance and task completion.
- **General Stock:** Provides real-time updates on available stock, including seeds, fertilizers, and equipment.
- **Key Performance Indicators (KPIs):** Tracks critical metrics related to plantation efficiency, productivity, and resource utilization.

2. Manager Dashboard

- **Pending Approvals:** Lists stock requests and other pending actions requiring managerial approval.
- **Crop Book:** Comprehensive records of all crops, including planting schedules, growth stages, and yield analysis.

Field Officer Dashboard

Mr. S. Sahan
Field Officer

- [Work program](#)
- [Morning Muster](#)
- [Evening Muster](#)
- [Work distribution](#)
- [Fertilizer Application](#)
- [Cost](#)
- [Crop Achievement](#)
- [Order Request / Return](#)
- [Leave Application](#)
- [Correspondence](#)

Dunwatta Estate
GC Division

Date 02/03/2024
Time 7.55 AM

	TEA		RUBBER		CINNAMON	
	Today	To Date	Today	To Date	Today	To Date
Budgeted Crop	1381			545		
Crop						
Crop per day						
Balance						
Per Day						
Work Offered days		1371				
Plucking Average						
Plucking Cost						
Weeding Cost						
RLO						
Crop/Acre						
Checkroll Weight				2691		

Plucking Rounds
Tapping Rounds

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Mr. S. Sahan
Field Officer

- [Messegues](#)

Main Menu

Log Out

Manager Dashboard

Mr.Nanayakkara
Manager

- [GC Division](#)
- [SS Division](#)
- [FD Division](#)
- [MK Division](#)
- [Stock](#)
- [Fertilizer Program](#)
- [Crop Books](#)
- [Order Approval](#)
- [KPI](#)
- [Work Distribution](#)

Dunwatta Estate
GC Division

Date 02/03/2024
Time 7.55 AM

Crop Performance - Estate July 2024

	TEA		RUBBER		CINNAMON	
	Today	To Date	Today	To Date	Today	To Date
Budgeted Crop	1381			545		
Crop						
Crop per day						
Balance						
Per Day						
Work Offered days		1371				
Plucking Average						
Plucking Cost						
Weeding Cost						
RLO						
Crop/Acre						
Checkroll Weight				2691		

Plucking Rounds
Tapping Rounds

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Mr.Nanayakkara
Manager

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- [Cash Book](#)
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- [Correspondence](#)

Log Out

Benefits and Features

- **Digital Record Keeping**

Eliminates the need for paper records, reducing errors and enhancing data integrity.

Dunwatta Estate
GC Division

General Stock

Item Category	Availability					
	Item	Unit	Quantity	Pending Order By	Qty	Value
B Stock						
Tyre	U709	Kg	12400			
Tools	Dolomite	Kg	6200			
Fertilizer	TF Mixture	pkts	61			
Fuel	Urea	Kg	75			
PPE	Zinc	Kg	47			
Vehicle Parts	Epsamsalt	Kg	10			
Stationaries	ERP	Kg	320			
Chemicals	MOP	Kg	198			
Furniture	Kieserite	Kg	150			
	Total Value Of Fertilizers					

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Mr.Nanayakkara
Manager

- Messeges** 2
- Crop Achievement
- Plucking Rounds
- Work Program
- Tapping Rounds
- Pending Approvals

Main Menu

- **Accessibility**

Authorized users can securely access plantation data and records from anywhere with an internet connection.

- **Reporting Capabilities**

Generates comprehensive and printable reports suitable for audit and planning purposes.

- **Search and Retrieval**

Enables quick search and retrieval of records based on filters like crop type, date, or location.

Dunwatta Estate

GC Division

Crop Book

Tea	Rubber	Cinnamon	General		Factory Weight	Field Weight	Checked Weight	Yield per Hectare	No Of Hectares	Oven Kilos	Crate Kilos	Packing Average	Packing Cost per Kg
Day	Todate	Day	Todate	Day	Day	Day	Day	Day	Day	Day	Day	Day	Day
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Manager

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Crop Achievement

GC Division

SS Division

FD Division

MK Division

Main Menu

Dunwatta Estate

GC Division

Crop Achievement

Tea	Rubber	Cinnamon	General	Day																	
				Estate			GC Division			SS Division			MK Division			RD Division			Estate		
Day	Todate			Budget	Achieved	%	Budget	Achieved	%	Budget	Achieved	%	Budget	Achieved	%	Budget	Achieved	%	Budget	Achieved	%
				1																	
				2																	
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Crop Achievement

GC Division

SS Division

FD Division

MK Division

Main Menu

- Audit Trail**

Maintains a detailed log of data modifications and user activities for accountability.

Dunwatta Estate

GC Division

Muster Review

Muster Clear All

Muster Chit			Pluckers
Work item	Field No	No of Workers	
Plucking	2A	15	
	5	6	
Total Pluckers		21	
Chemical Weeding			Field No 2A - (15)
Kanganies			
Roads			
Total Tea			
Tapping			Field No 5 - (6)
			
Total Tappers			Chemical Weeding
Hand weeding			
Kanganies			
Total Rubber			
Watcher			Kangani
Tappal			
Bungalow			
Total General			
Grand Total of workers			



Mr. S. Sahan
Field Officer

Messegess 2

Order Request / Return

Plucking Rounds

Work Program

Tapping Rounds

Submit Edit Main Menu

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Labor and Task Management Focus

- Workforce Management

The system is tailored to manage workforce data, allowing for efficient task assignments, attendance tracking, and activity monitoring.

Dunwatta Estate

GC Division

Morning Muster

Muster Chit			Pluckers
Work item	Field No	No of Workers	
Plucking	2A	15	
	5	6	
Total Pluckers		21	
Chemical Weeding			Field No 2A - (15)
Kanganies			
Roads			
Total Tea			
Tapping			Field No 5 - (6)
Total Tappers			
Hand weeding			Chemical Weeding
Kanganies			
Total Rubber			Field No 9 - (3)
Watcher			
Tappal			
Bungalow			Kangani
Total General			
Grand Total of workers			

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Field Officer

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Crop Achivement

Plucking Rounds

Work Program

Tapping Rounds

Approved

Return

Main Menu

Dunwatta Estate

GC Division

Evening Muster

Muster Chit			Pluckers
Work item	Field No	No of Workers	
Plucking	2A	15	
	5	6	
Total Pluckers		21	
Chemical Weeding			Field No 2A - (15)
Kanganies			
Roads			
Total Tea			
Tapping			Field No 5 - (6)
Total Tappers			
Hand weeding			Chemical Weeding
Kanganies			
Total Rubber			Field No 9 - (3)
Watcher			
Tappal			
Bungalow			
Total General			
Grand Total of workers			

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Mr. S. Sahan
Field Officer

Messegess 2

Order Request / Return

Plucking Rounds

Work Program

Tapping Rounds

Submit

Edit

Main Menu

- **Data Synchronization**

Ensures manual updates of workforce and activity data are consistently reflected across the platform, keeping records accurate and current.



Pending for approval for Stock requests

Division	Availability						
	Item	Unit	Quantity	Value (Rs)	Availability	Approval	Remarks
GC Division	U709	Kg	300	39000	12400	✓ ✗	
SS Division	TF Mixture	Pkts	12	15000	61	✓ ✗	
FD Division	Alawangu	Nos	1	6100	1	✓ ✗	
MK Division							
General Stores							
Tea Factory							
Rubber Factory							
Cinnamon Peeling Center							
Office							



Mr.Nanayakkara
Manager

Messeges 2
Crop Achievment

Plucking Rounds
Work Program

Tapping Rounds
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Security and Data Protection

- **Data Encryption**

Implements encryption protocols to secure sensitive plantation data during transmission and storage.

- **Access Control**

Utilizes role-based access control (RBAC) to restrict access based on user roles and permissions.

- **Regular Backups**

Scheduled backups safeguard data integrity and facilitate recovery in case of system failures or data loss incidents.

Algorithm Development for Workforce Optimization

Workforce Analysis

Algorithms analyze manually entered workforce data to provide actionable insights into labor distribution, efficiency, and task completion rates.

Key Features of the Algorithm

- **Data Analysis:** Evaluate workforce performance and task data to identify bottlenecks and inefficiencies.
- **Real-Time Processing:** Provides timely insights for workforce adjustments and task reassignments.
- **Integration:** Directly integrates with the web system for seamless workforce monitoring and management.

Model Training and Dataset Creation

- **Dataset Creation:** Collects and labels workforce data for training purposes.
- **Model Training:** Develops and validates machine learning models to optimize task assignments and predict labor requirements.

Advantages of Automation Over Manual Methods

Consistency and Accuracy

- **Automated Systems:** Provide consistent results, reducing variability and errors.
- **Manual Methods:** Prone to human errors and inconsistencies.

Speed and Efficiency

- **Automated Systems:** Enable real-time data processing and decision-making.
- **Manual Methods:** Slower and less efficient.

Scalability

- **Automated Systems:** Can handle large-scale plantations without compromising quality.
- **Manual Methods:** Scaling requires more labor, increasing costs and risks.

Data and Reporting

- **Automated Systems:** Generate detailed, accurate reports for decision-making.
- **Manual Methods:** Often lack precision, making data analysis difficult.

Cost-Effectiveness

- **Automated Systems:** Offer long-term savings through efficiency and reduced labor costs.
- **Manual Methods:** Higher ongoing costs due to labor and inefficiencies.