

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.



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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 Achivement

Order Request / Return

Leave Application

Correspondence

Dunwatta Estate

GC Division

Date02/03/2024Time7.55 AM

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

Plucking RoundsTapping Rounds

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Mr. S. Sahan

Field Officer

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Main Menu

Log Out

Manager Dashboard

Mr.Nanayakkara

Manager

GC Division2

SS Division2

FD Division2

MK Division

Stock

Fertilizer Program

Crop Books

Order Approval

KPI

Work Distribution

Dunwatta Estate

GC Division

Date02/03/2024Time7.55 AM

Crop Performance - Estate July 2024

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

Plucking RoundsTapping Rounds

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Mr.Nanayakkara

Manager

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Cash Book

Pending Payments

Payments Approval9

Leave Application

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



Mr.Nanayakkara
Manager

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Crop Achivement


Plucking Rounds

Work Program

Tapping Rounds

Pending Approvals

Main Menu

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- **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 Pickets	Overkilos	Cash Kilos	Packing Average	Packing Cost per	
				Day	Todate	Day	Todate	Day	Todate	Day	Todate	Day	Todate
Budgeted crop for the Year 2024/25				1									
820000 Kg				2									
Achived Crop Upto end June				3									
206101 Kg				4									
Achivement				5									
25%				6									
Budgeted crop up to June				7									
210000 Kg				8									
Achivement up to June				9									
98.14333%				10									
Budgeted crop for the month				11									
67000 Kg				12									
Achived Crop - Todate				13									
14791%				14									
Budgeted Crop for todate				15									
12967%				16									
				17									
				18									
				19									
				20									
				21									
				22									
				23									
				24									
				25									
				26									
				27									
				28									
				29									

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Crop Achivement

GC Division

SS Division

FD Division

MK Division

Main Menu

Dunwatta Estate

GC Division

Crop Achievement

Tea	Rubber	Cinnamon	General	Day													
Day		Todate		GC Division			SS Division			MK Division			FD Division			Estate	
				Budget	Achived	%	Budget	Achived	%	Budget	Achived	%	Budget	Achived	%		
Budgeted crop for the Year 2024/25		820000 Kg		1													
Achived Crop Upto end June		206101 Kg		2													
Achivement		25%		3													
Budgeted crop up to June		210000 Kg		4													
Achivement up to June		98.14333%		5													
Budgeted crop for the month		67000 Kg		6													
Achived Crop - Todate		14791%		7													
Budgeted Crop for todate		12967%		8													
				9													
				10													
				11													
				12													
				13													
				14													
				15													
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				27													
				28													
				29													

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Crop Achivement

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 Reviwe

Muster

Clear All

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

Mr. S. Sahan
 Field Officer

Messeges

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

Clear All

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

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Mr. S. Sahan
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

Clear All

Muster Chit			Pluckers
Work item	Field No	No of Workers	
Plucking	2A	15	Field No 2A - (15)
	5	6	           
Total Pluckers		21	
Chemical Weeding			2A - <input type="checkbox"/> AC <input type="checkbox"/>
Kanganies			5 - <input type="checkbox"/> AC <input type="checkbox"/>
Roads			
Total Tea			
Tapping			
Total Tappers			Chemical Weeding
Hand weeding			
Kanganies			Field No 9 - (3)
Total Rubber			2A - <input type="checkbox"/> AC <input type="checkbox"/>
Watcher			Chemical QTA
Tappal			
Bungalow			
Total General			           
Grand Total of workers			

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Order Request / Return

Plucking Rounds

Work Program

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- **Data Synchronization**


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



Dunwatta Estate
GC Division

Pending for approval for Stock requests

Division	Availability						Remarks	
	Item	Unit	Quantity	Value (Rs)	Availability	Approval	FO	Manager
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

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Crop Achivement

Plucking 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.