



# SUHURU WAGA SYSTEM



## Our Vision

To digitally transform Sri Lankan agriculture by optimizing market access, land use, disease management, and stakeholder communication through smart, accessible, and offline-capable technology.

## Background

Sri Lankan Agriculture Industry face major challenges:

- Market gluts leading to crop waste and low profits
- Idle agricultural lands going uncultivated
- Weak links between farmers and buyers

These issues reduce farmer income, increase food waste, and hinder local food security.

# Problems



## 1. Idle agricultural lands going uncultivated

- Corporate workers & migrants hold vast fallow land the state cultivated.
- Finding tenant farmers relies on word of mouth or ads.
- Land-poor farmers can't access land to expand.



## 2. No Market Access & Bargaining Power

- Farmers sell locally, accepting broker prices to avoid spoilage.
- Buyers lack a central source for vetted growers.



## 3. Logistics & Resource Scarcity

- Peak harvest strains demand for tractors, lorries, and threshers.
- Informal rentals cause price spikes or no-shows.

# Problems



## 4. Information Vacuum

Govt officers still deliver info by hand, weather alerts are in English PDFs with poor rural reach, and disease help depends on neighbors or costly experts leading to slow disaster response and avoidable crop loss.



## 5. Crop Planning by Guesswork

Farmers base planting on past prices, leading to gluts like the 2023 onion surplus and causing income swings and food waste every 6–12 months.

2025 / 08 / 02

# Ada Derana NEWS



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# Motivation

## Farmers

- Our system empowers farmers to plan ideal crops
- assign land smartly
- automate daily tasks
- and track income easily while also offering verified profiles
- AI-driven advice
- direct buyer access
- land bidding,
- resource booking
- real-time local updates.



## Buyers/Companies

- Buyers can post orders
- view farmer profiles
- offer agreements
- track submissions
- and access verified
- cost-effective supply chains with demand forecasts.

## Landowners

- Landowners can list land
- review farmer offers
- Use digital lease templates
- track progress
- earn passive income
- reduce legal risk with transparent agreements.

# Motivation



## Resource Providers

- Resource providers can list equipment
- manage farmer requests
- Offer calendar-based rentals
- boost utilization and income predictability.

## Government Officers

- Government officers can manage notices digitally
- Track market trends
- Cut 60–80% travel/paperwork
- respond faster to crises with data-driven decisions.

# Aim

- Build a smart, inclusive platform for Sri Lanka's agriculture sector
- Connect farmers, landowners, buyers, companies, and government staff
- Simplify land bidding, crop selling, and resource sharing
- Provide real-time info, advisory services, and government updates
- Support Sinhala, Tamil, and English for wider access
- Empower rural farmers and reduce dependency on middlemen
- Strengthen local agri-economy through digital transformation



# Objectives

- **User Needs Analysis** - Talk to 45 + stakeholders for needs analysis.
- **System Design & Prototyping** - Produce 5 + approved multilingual prototypes.
- **Core Feature Development-Build & unit-test core features in 8 weeks.**
- **AI & Data Integration**-Integrate AI (crop, pest, weather) and validate accuracy.
- **Multilingual & Accessibility** - Deliver full Sinhala / Tamil / English support, mobile-first.
- **User Acceptance Testing** - Run 3 rounds of UAT; resolve all issues.
- **Launch & Onboarding**-Launch with 500 farmers, 50 companies, 20 officials in first 3 months.

# System overview

Users,

- Farmers
- Landowners
- Buyers
- Government Officers
- Resource providers

Benefits:

- Farmers find land, sell crops, get advice
- Landowners lease idle land
- Buyers get fresh produce directly
- Officials manage notices and monitor trends
- Resource provider List Resources



# Literature Review

Feature / Solution	Suhuru Waga	Geo Goviya	Govipola	Govi Mithuru	Krushi Advisor
Market Demand and Forecasting	✓ Yes	✗ No	✗ No	✗ No	✗ No
Disease Prevention	✓ Yes	✗ No	✗ No	✓ Yes	✓ Yes
Farmer-Buyer Connection	✓ Yes (Profiles & Marketplace)	✗ No	✓ Yes	✗ No	✗ No
Land Matching	✓ Yes	✓ Yes	✗ No	✗ No	✗ No
AI Features	✓ Yes (Forecasting, Diagnosis, Crop suggestion)	✗ No	✗ No	✗ No	✗ No
Resource Providers	✓ Yes (Dedicated system)	✗ No	✗ No	✗ No	✗ No
Government Services	✓ Yes (Centralized notices)	✓ Yes	✗ No	✓ Yes	✓ Yes
Local Relevance	✓ Yes	✓ Yes	✓ Yes	✓ Yes	✓ Yes

# Websites with Similar Concepts

# GeoGoviya

The image shows the GeoGoviya logo on the left, which consists of the word "GeoGoviya" in a bold, black, sans-serif font. To its right is a vertical line, followed by the official emblem of the Government of Tamil Nadu and the text "தமிழ்நாடு சட்டப் பொறுப்புக் கலை மன்றம்" in Tamil and "Department of Agrarian Development" in English.

A standard white hamburger menu icon with three horizontal lines inside a white box.

# Welcome to GeoGoviya

## Cultivating Data, Harvesting Insights for the Nation.

Harness the power of GeoGoviya to capture and utilize real-time data that supports innovative agricultural development. Our Android mobile and cloud-based web application tool is designed to improve smallholder farmers' livelihoods with interactive feedback and comprehensive data management.

[Learn More](#)

# Govi Mithuru

**කාබනික පොහොර යෙදීම**

*Fertilizer management*

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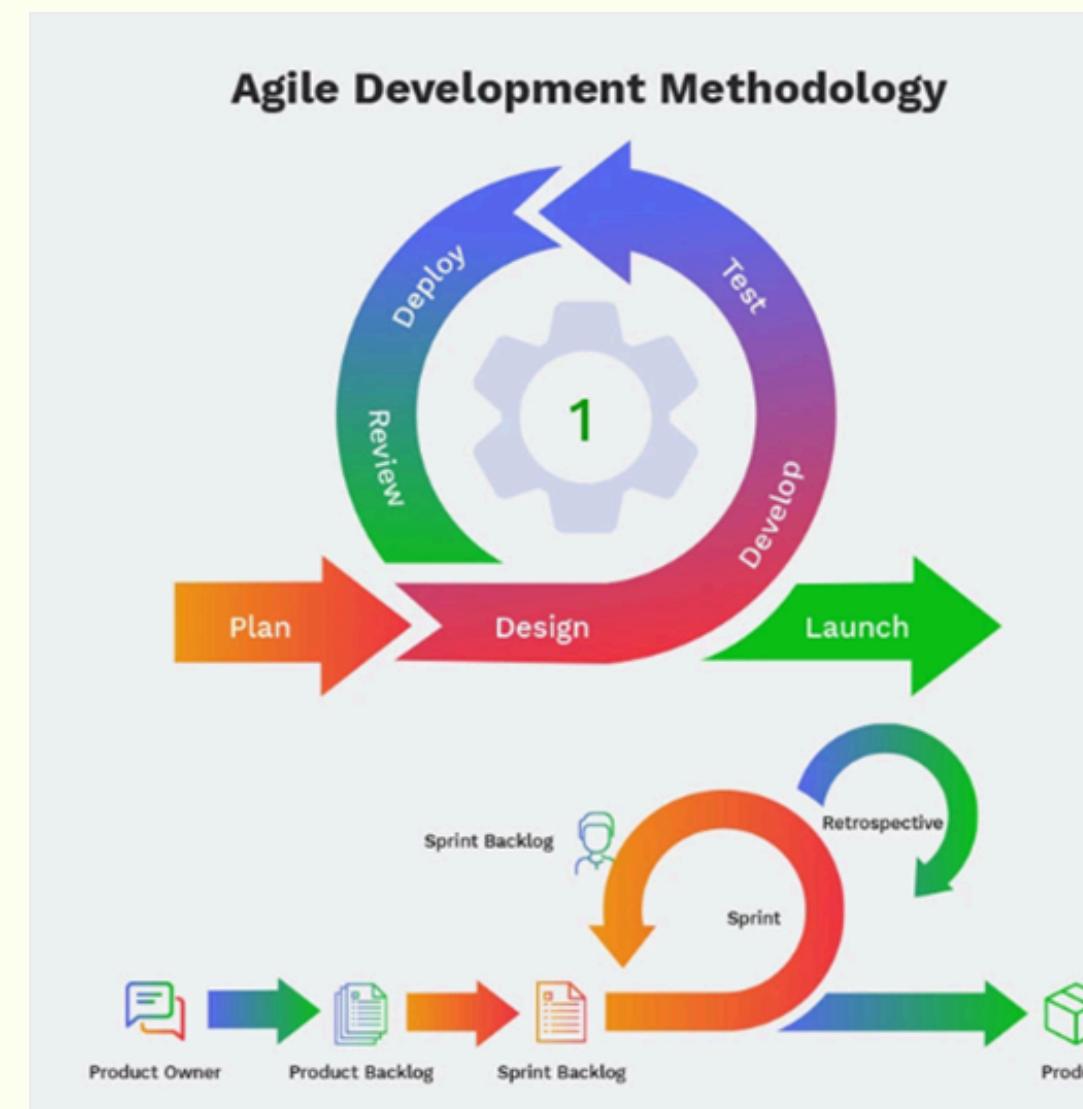
# Govipala

The image shows a mobile application interface for 'Govipola'. At the top, there's a navigation bar with three tabs: 'Selling' (highlighted in green), 'Statistics', and 'Buying'. Below this is a search bar with a magnifying glass icon and the placeholder text 'Search Products'. The main content area is titled 'Select the category' and features six categories arranged in a grid: 'Vegetables (76)', 'Fruits (36)', 'Spices (48)', 'Leafy Vegetables (8)', 'Rice (13)', and 'Processed Food (7)'. Each category has a representative image: vegetables like tomatoes and beans, various fruits, spices like turmeric and pepper, leafy greens, rice grains, and processed food items like chips and snacks.

# Krushi Advisor

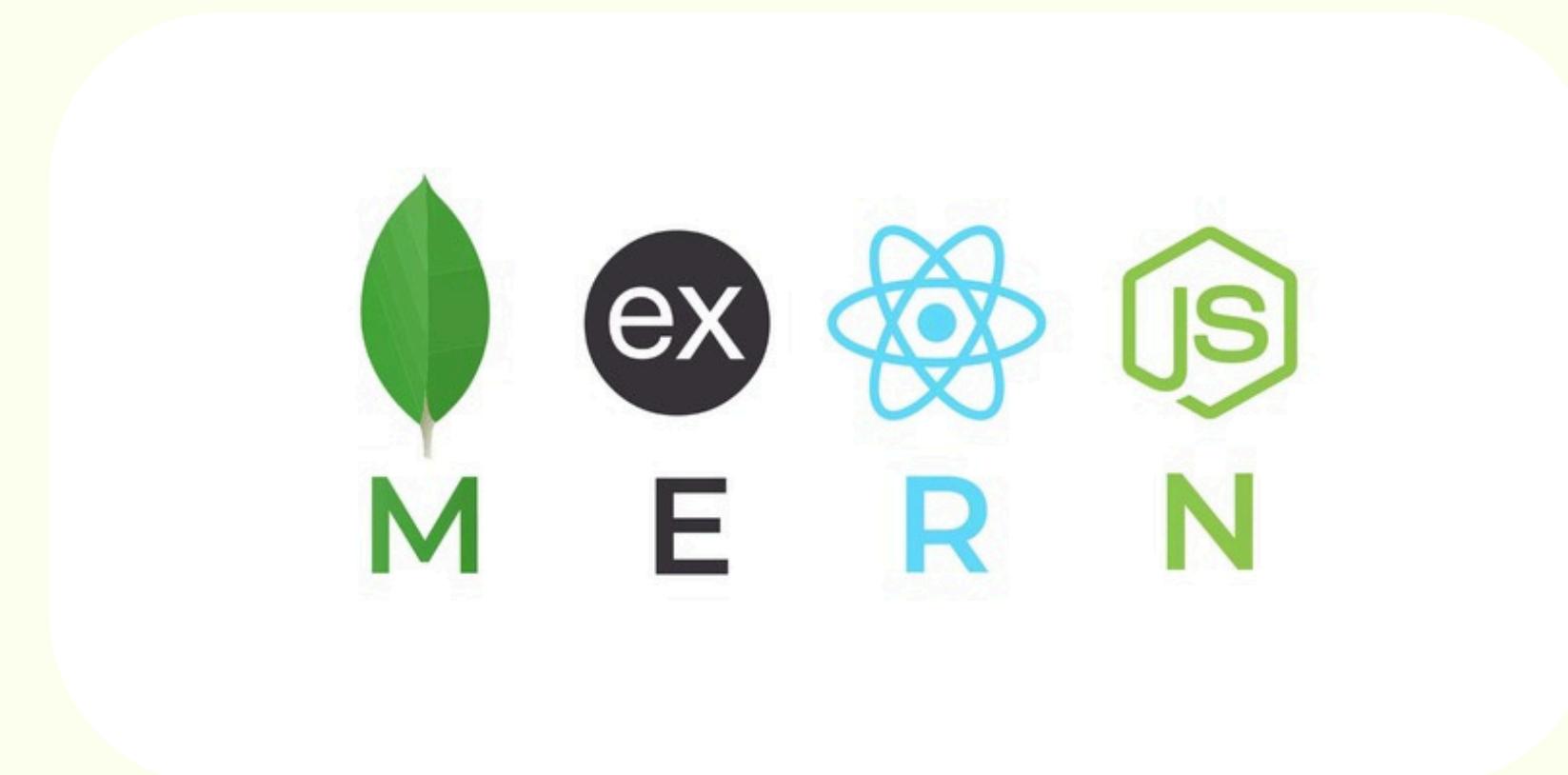
# Methodology

Our team will follow an **Agile Software Development Approach** chosen for its flexibility, allowing us to deliver working features incrementally and adapt to stakeholder feedback throughout the project. The project will be divided into sprints, with a focus on continuous improvement and collaboration.



# TOOLS AND TECHNOLOGIES

We have chosen the **MERN** stack, which consists of **MongoDB**, **Express.js** , **React.js** and **Node.js**. This combination provides a comprehensive framework for building scalable and maintainable web applications





# LAND BIDDING SYSTEM

## What It Does:

- **Land Listing**

**Landowner submits Idle agricultural land info & uploads images**

- **Bidding Opens**

**Farmers see available lands and submit their cultivation bids (price + proposal)**





# LAND BIDDING SYSTEM

**Bidding Period Ends**

**System shows highest bid to landowner**

**Contact & Finalize**

**Landowner directly contacts chosen bidder (farmer/company)**

**Digital Agreement**

**Optional lease agreement created & digitally signed (PDF download)**



# Cultivating Management System

- **Crop Planning & Field Assignment**

Selection of what to grow based on market insights and selection of land based on plot size, soil type, irrigation system, location.

- **Auto task Scheduling**

Generate a calendar view that includes everything you do, such as sowing, watering, fertilizing, pest control, weeding, harvesting, etc.



# Cultivating Management System

- **Income Tracker**

Create a report that includes quantity sold, price per unit, and profit after expenses.

- **Create farmers profile**

Adding and Displaying Personal and Working Experience.



# Marketplace Trade Management System

- Buyer can search crop using filters.(type, quantity, price & location)
- Buyer can post advertisements for products they want to buy.
- View farmer profiles.



Check farmer's ratings, locations & crop details.

- Negotiate & chat with farmers.

Discuss prices and terms with farmers directly by phone calls.

- Place and Manage Orders(By Digital Agreement)

Order confirmation dashboard notification and signed digital agreement(pdf).



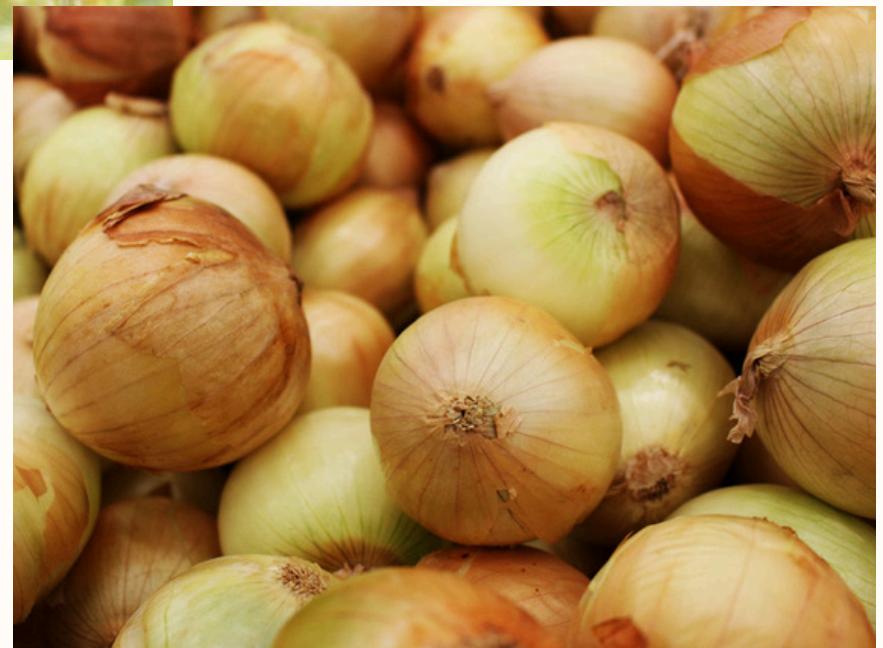
# Marketplace Trade Management System

## Role of a Buyer

- Find and purchase high-quality crops.
- Connect with trusted farmers.
- Streamline bulk orders with ease.

## Benefits

- Direct purchase from farmers.
- Filter crops by type, location and price.
- Transparent order and payment process.
- Rate & review farmers for trust-building.



# Government Information Management System

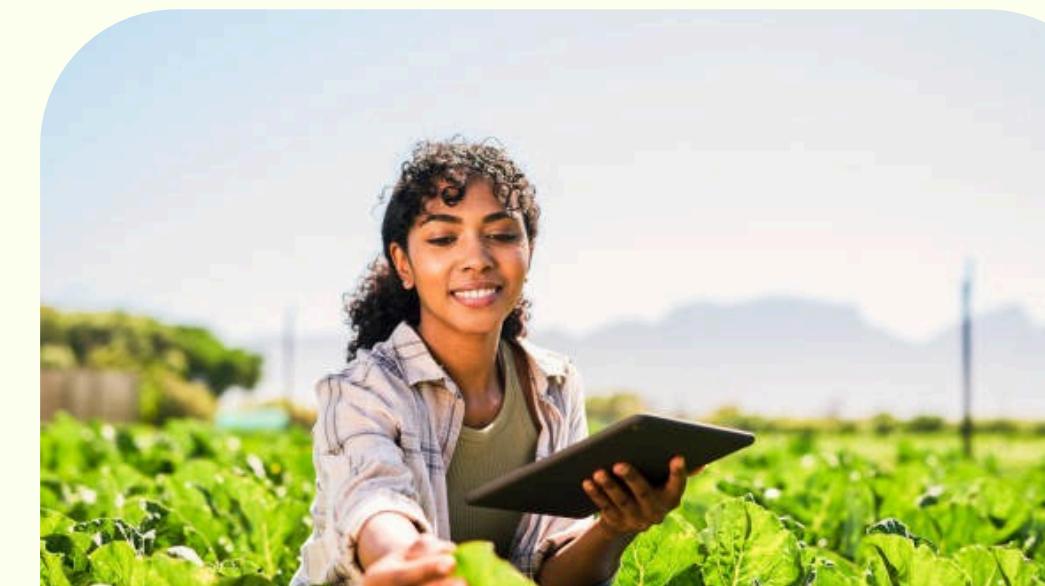


## Government Notice Board

fertilizer dates, relief venues, scheme launches, Training programs  
multilingual support

## Form Distribution & Collection

Give official Online Forms and  
PDF forms to download and upload for farmers and landowners  
Farmer Registration, Subsidy requests, Loan Applications  
Crop Damage compensation and more



# Government Information Management System



## Emergency & Advisory Broadcasting

Quickly inform users about diseases, give advice to prevent them weather warnings



## Agriculture Resource Database

Crop cultivation Guides  
Expert knowledge sharing by videos and Documents

# Smart AI Crop Suggestion System

**Problem-** Farmers lack data to choose the best crops for their land  
**Our Solution-** create an AI crop suggestion system to provide recommendations with a few simple inputs..



How It Works:

Farmer Inputs,

- Location
- Soil Type
- Water Availability
- Farming goals

AI will generate a list of 3-5 suitable crops, along with a brief explanation for each.

# Resource Demand System



1. Real-Time Demand Tracking
2. Rule-Based Predictions
3. Farmer-Provider Collaboration

## Predictive Scheduling & Fair Distribution

### Rule-Based Forecasting

01

- Uses historical booking trends and seasonal crop cycles (e.g., Maha/Yala seasons)
- Identifies high-demand periods in advance

### Shortage Detection

02

- Flags low-resource zones before critical depletion
- Warns suppliers to restock or redistribute

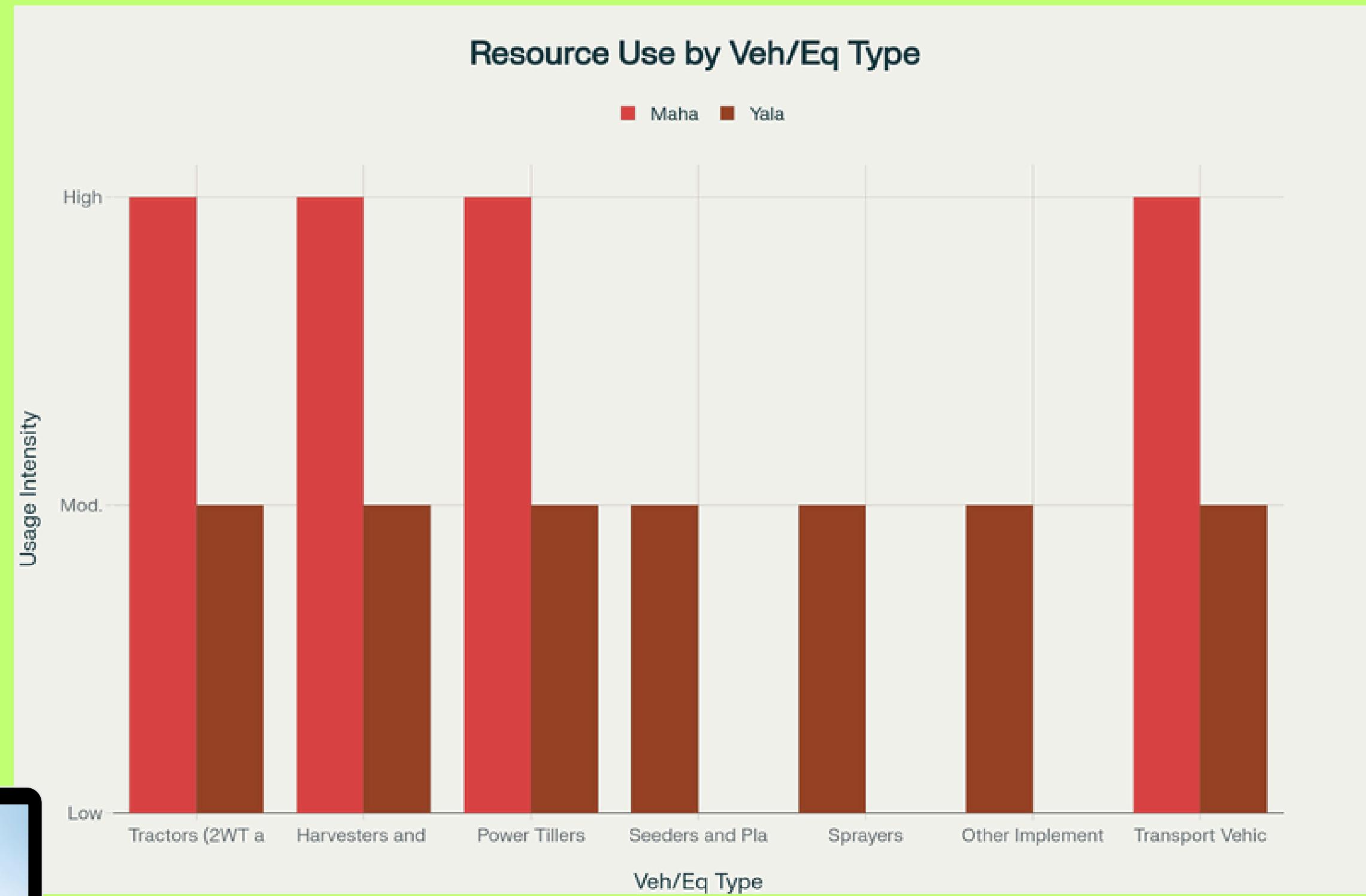
### Anti-Price-Gouging Logic

03

- Alerts system admins if prices spike unusually during shortages
- Lock-in maximum price ceilings when needed



# Resource Demand System



# Resource Demand System

## Empowering Farmers to Secure Resources in Advance

### Pre-Booking System

- Farmers can reserve critical equipment and supplies ahead of time
- Optional partial payment to confirm booking

### Confirmation Mechanism

- Suppliers approve or suggest alternative timeslots
- Visual calendar with availability markers



### Benefits

- Reduces last-minute unavailability
- Builds confidence in farming schedules
- Supports equitable access, especially for small-scale farmers





A wide-angle photograph of a tea plantation. In the foreground, there's a dense field of low-growing green plants. Beyond them, several layers of tea bushes are planted on hills that slope upwards towards the horizon. The sky is overcast with a light grey mist. In the upper right quadrant of the image, the word "thank" is written in a large, dark green sans-serif font. A small graphic of two light green leaves is positioned above the letter "k". Below it, the word "you" is also written in a large, dark green sans-serif font.

thank  
you