



# **Farmers First** Powering Progress through Flagship Initiatives

**Dr. Binaya Parida**  
Chief Agronomist  
Coromandel International Ltd

## Indian Agriculture vs. World

### Global Position



2nd in agricultural production value:  
≈\$524 billion

### Contribution to Economy



Agriculture contributor

~18% of GDP

~42-45% of workforce

### Export Status



8th largest agricultural exporter

\$51 billion in 2023

### Production Leadership



Largest producer of pulses, milk, tea, spices, banana

2nd largest producer of rice, wheat, fruits, vegetables, sugarcane

### Export Status



8th largest agricultural exporter

- 2.3% of world's land area
- 18% of global population
- 4% of global freshwater resources

### Challenges vs Developed Nations



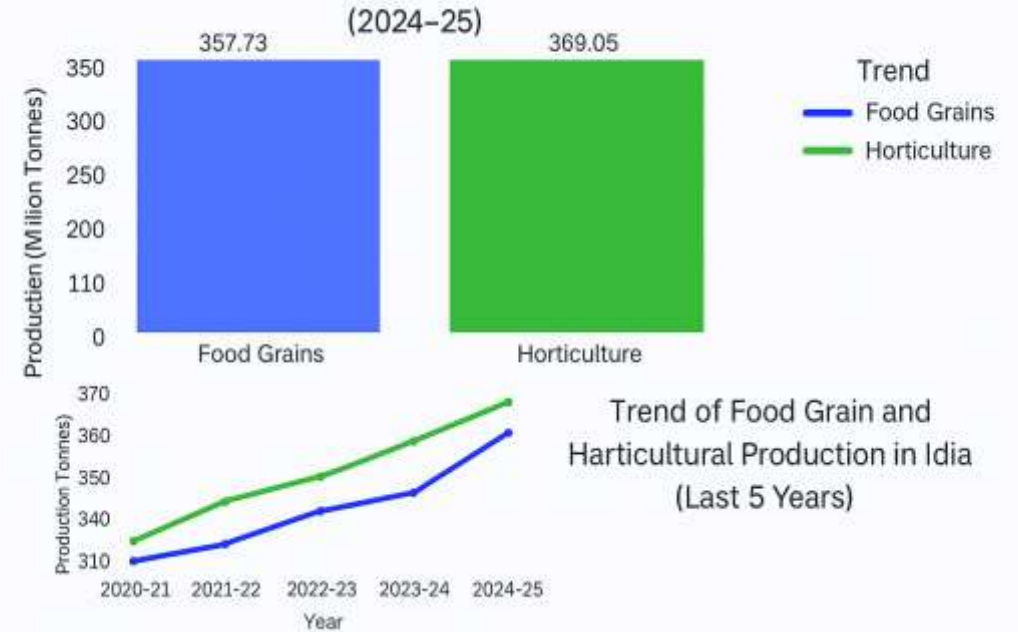
Before mechanization:

<50% 70% in Brazil

Processing: 3%

70% in Brazil

## Comparison of Food Grain vs Horticultural Production in India



## Importance of Indian Agriculture

- Contributes ~18% to India's GDP
- Employs about 42% of the workforce
- Ensures food security for 1.4 billion people
- Diverse crops: rice, wheat, pulses, fruits, vegetables
- Supports rural economy and livelihoods

## Challenges Faced by Indian Farmers

- Small and fragmented landholdings
- Dependence on monsoon and erratic rainfall
- Low mechanization and technology adoption
- Price volatility and market risks
- Impact of climate change on crop yields
- Recent trends: tech adoption, government schemes



**GEOSPATIAL INTELLIGENCE** - Using spatial data to predict, prevent, and plan better

- Satellite Monitoring with AI & ML Models
- Remote Sensing
- Crop Analysis
- Yield Prediction
- Biotic & Abiotic Stress Predictions

**DIGITAL ADVISORY** - Tech-enabled guidance that reaches farmers instantly

- Mobile Application based crop Advisory
- Online connect with Crop Experts
- Video Consultation
- Weather-integrated guidance
- WhatsApp Based Chat-Bot
- Vernacular language assistance

**ON-GROUND AGRONOMY** - Human touch that builds trust and ensures adoption

- One-to-one Crop Advisory
- Drone Spraying Services
- Soil & Leaf Testing Services
- Field Demonstrations
- Farmer Training Programs on new technologies

Our field strength and digital intelligence work as one connected system — enabling precision, scale, and trust for every farmer we serve.

## On-Ground Agronomy: The Human Touch

- Presence across **20+ States**
- **130+ Agronomy Experts** driving farmer engagement.
- Training programs on INM, soil health & advanced Agri-tech.

## Gromor Agronomy Services:

- **Soil & Leaf Testing Network**  
58 Gromor Nutri Clinics & Central Lab for advanced analysis.
- Farmer adoption of **advanced Agri tech tools**: Green Seeker, X-machines, local weather sensors.

## Drone Services:

- **Gromor Drive**: 2,50,000+ acres, 50,000+ farmers, 60+ crops.
- **Namo Drone Didi**: Empowering 200 NDDs covering 40,000+ acres.

## Digital Intelligence: The Tech

**Touch** Digital tools that enhance, scale, and strengthen our field agronomy services.

## Digital Advisory & Integration:

- **Gromor Nutri Connect**: Mobile Application and WhatsApp-based Advisory (crop, nutrient, weather & nutrition management).
- Farmer can connect with Crop Experts online along with vernacular advisory.
- Satellite stress indicators (future-ready).

## Digital Agronomy Enablement:

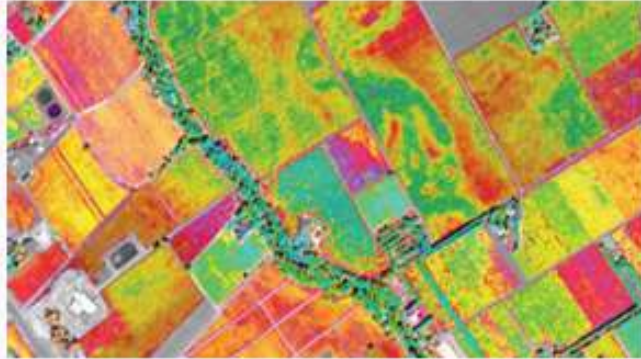
- Digital enablement for drone services and soil testing services.
- Cluster-level digital engagement for FPOs (seasonal plans, mass advisories).



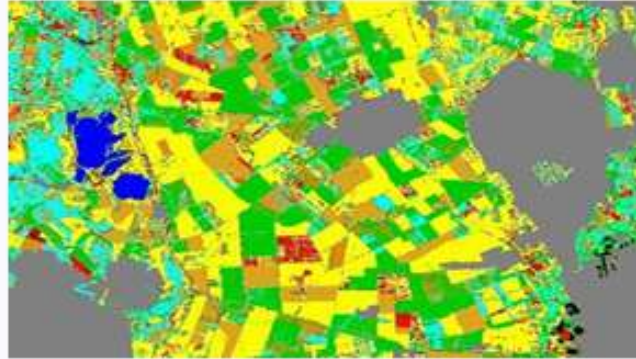
# Coromandel's Farmer Centric Approach



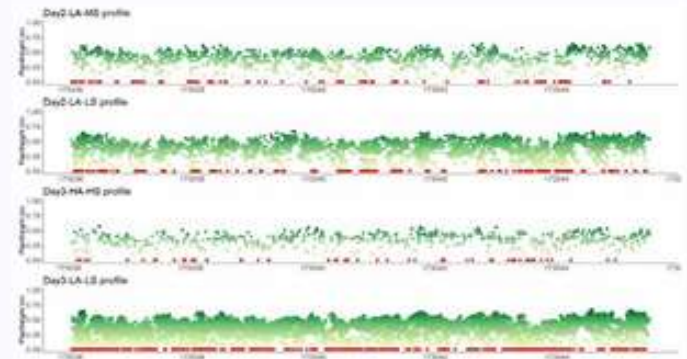
## Smart Agriculture Predictive Analytics with UAVs (Drones)



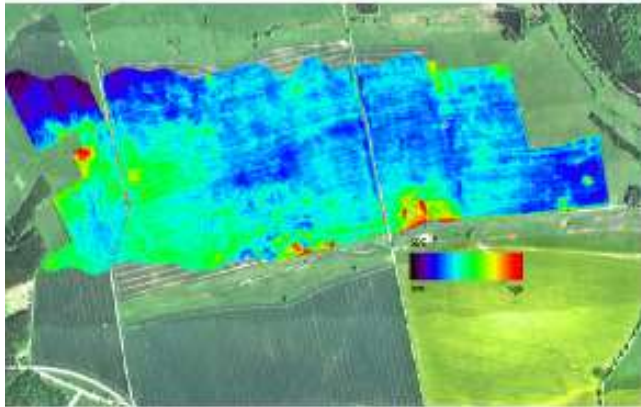
Crop Health Risk Assessment and Monitoring



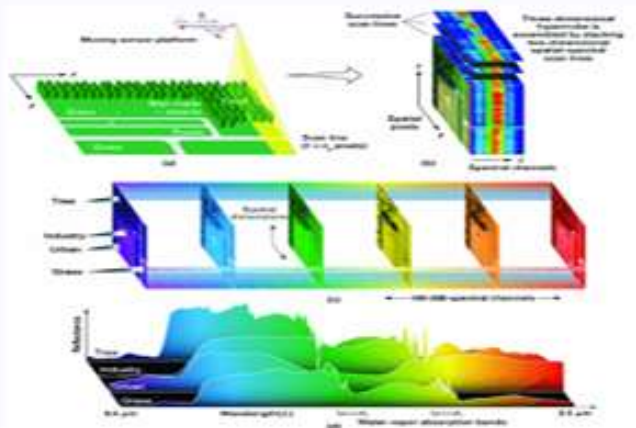
AI/ML based Yield Prediction



Crop Biomass Estimation



Soil Analysis and Management



Hyperspectral Based Crop Mapping



Irrigational Management and Planning

## Remote Sensing based Crop Analysis

- Remote sensing-based crop health prediction
- Crop Yield -Prediction through advanced ML Crop Models
- Plot Level prediction
- Regionals level prediction understanding cropping patterns
- Weather based automated smart advisory
- Water Stress Identification models – Aiding Smart Irrigation
- Soil Health Analysis



Purple Marked Areas:  
Pest Damage



Yellow Marked Areas:  
Water Stress  
Probabilities

# Way Forward-Digital Agriculture advisory system for Precision Farming

## 1. Real-Time, Field-Level Insights

Farmers receive **precise agronomy advisories** tailored to their specific fields enabling **timely interventions**.

## 2. Mobile-Based Accessibility

Advisories are delivered through **mobile apps**, making it easy for farmers to access recommendations anytime, anywhere.

## 3. Remote Sensing & Spatial Analysis

Satellite imagery and GIS tools provide **accurate crop health monitoring** and detect stress areas early and optimize **fertilizer and water use**

## 4. Improved Decision-Making

Data-driven recommendations help farmers choose the **right inputs at the right time**, improving productivity and profitability.

## 5. Resource Efficiency & Sustainability

Precision farming reduces **wastage of fertilizers, pesticides, and water**, lowering environmental impact and Supports **climate-smart agriculture**

## 6. Increased Yields & Profitability

By acting on accurate advisories, farmers can achieve **higher yields**, better **quality** produce, and improved income.

