
Agrizon

Executive Summary

Vision

Bridging the knowledge gap in modern agriculture through AI-powered land analysis and personalized farming solutions

Mission

Empowering land owners with data-driven insights to maximize agricultural productivity while creating employment opportunities for agricultural graduates

Target Market

Andhra Pradesh and Telangana (Initial focus)

Git repo

MVP Link

Demo credentials
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vishu123

The Agricultural Knowledge Crisis in India

10.5%

Fallow Land

Of Telangana's total geographical area remains unused

2.39M

Hectares

Total fallow land in Andhra Pradesh

60%

Generational Shift

Of agricultural land owned by non-agricultural professionals

₹15K

Crores Lost

Annual loss due to suboptimal land utilization

Knowledge Deficit

Modern professionals lack traditional agricultural wisdom

Time Scarcity

70% spend less than 10 hours monthly on agricultural planning

Labor Shortage

Migration to industrial sectors reduces farm workforce

Agrizon Platform

[Link]

Comprehensive AI-Powered Agricultural Solution

Geo-Location Mapping

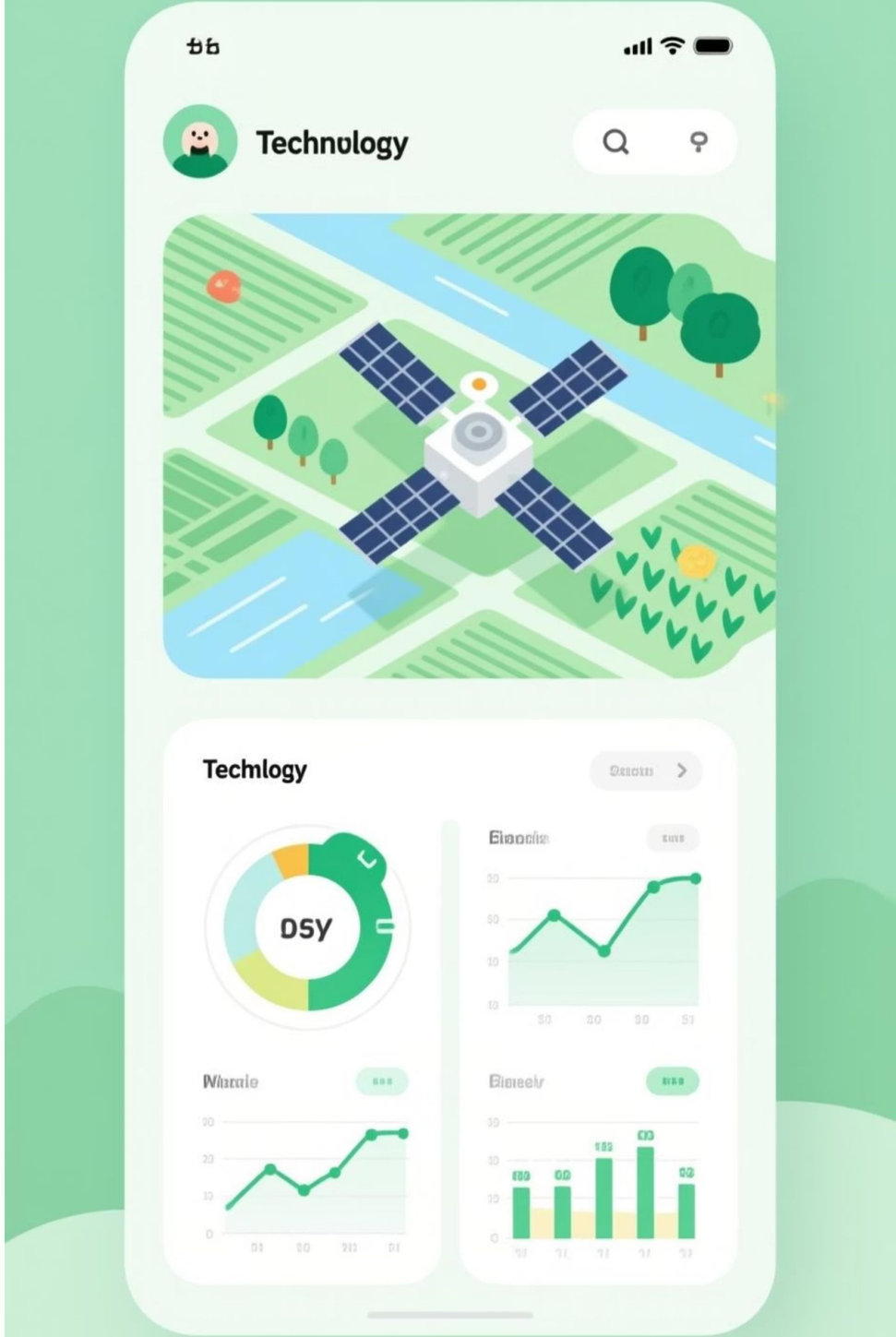
Interactive map interface with 5-10 years of cloud-free satellite imagery and NDVI analysis

AI-Driven Insights

Clustering algorithms identify distinct land zones and classify into 6 productivity classes

Crop Optimization

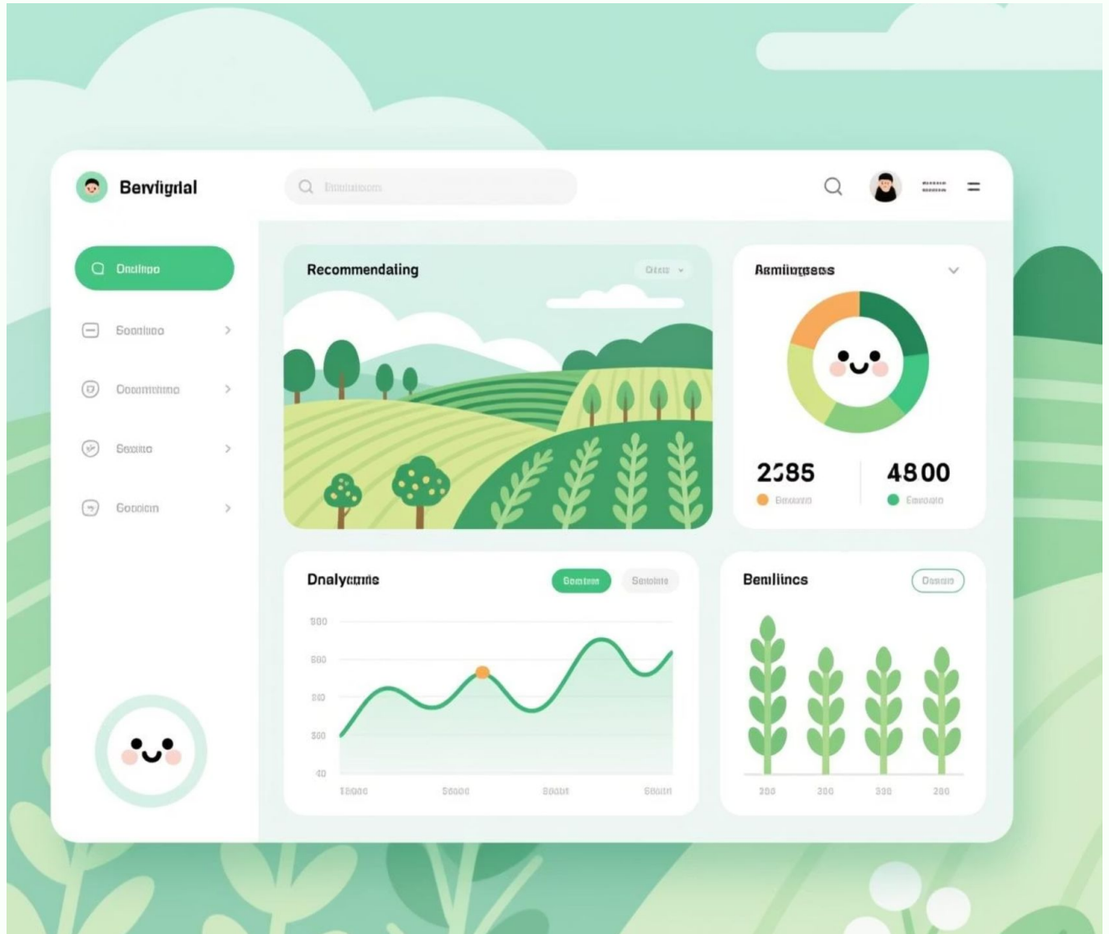
Personalized crop recommendations based on land characteristics, climate, and market demand



Two-Tier Service Model

Tier 1: Field Intelligence System

- Visual land productivity maps
- Profitability forecasting with ROI projections
- Crop Recommendation



Tier 2: AgroConsulting

On-Field Analysis

Soil testing and personal consultation by agricultural graduates

Smart Farm Setup

IoT sensors, automated irrigation, drone monitoring

Continuous Support

Regular visits, crop health monitoring, pest management

Tech Stack Overview

TS
React
Frontend

mongoDB
FastAPI
Backend

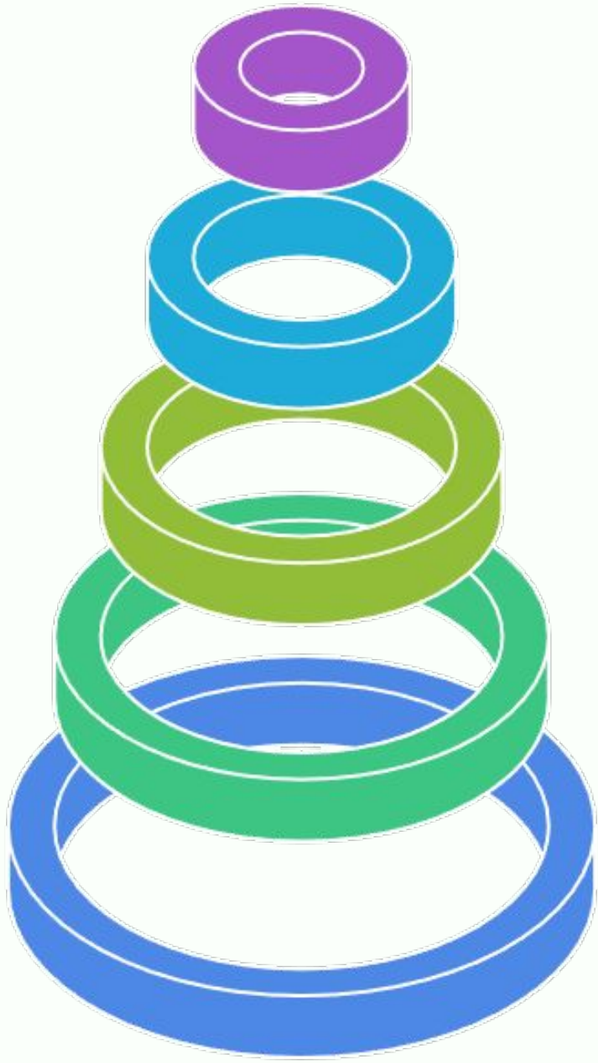
Docker
Github
aws
Infrastructure

Firecrawl
Gemini
groq
API Layer

Twilio
sarvam.ai
Leaflet
Google Earth

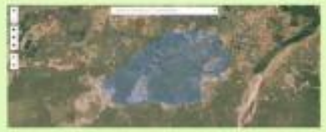
Hugging Face
TensorFlow
LangChain
AI & ML

OpenCV
Ollama
influxdb
tavily
crewai



Flow diagram

Web application



Leaflet
Get coordinates

Google earth engine
Lansat 8 and 9

5 years of data
With removal of clouds

Stack all the images

Getting statical measures and setting threshold

Affinity Propagation Clusters formed

Defining 6 classes and mapping them

NVDI Analysis result

Soil test

Weather dats

Water availability

Soil type

Budget

Excepted revenue

Crop Cards

Crop Recommendation

crewai

Scrapegraph and Serper to scrape data from the internet and research platforms

Numeric Data Extractor and processor

Shared Memory and a new efficient **domain wise memory**

ML Models for yield and revenue

Output

Data sourced from agricultural repositories, region-specific crop plans, and condition-aware farming guidelines

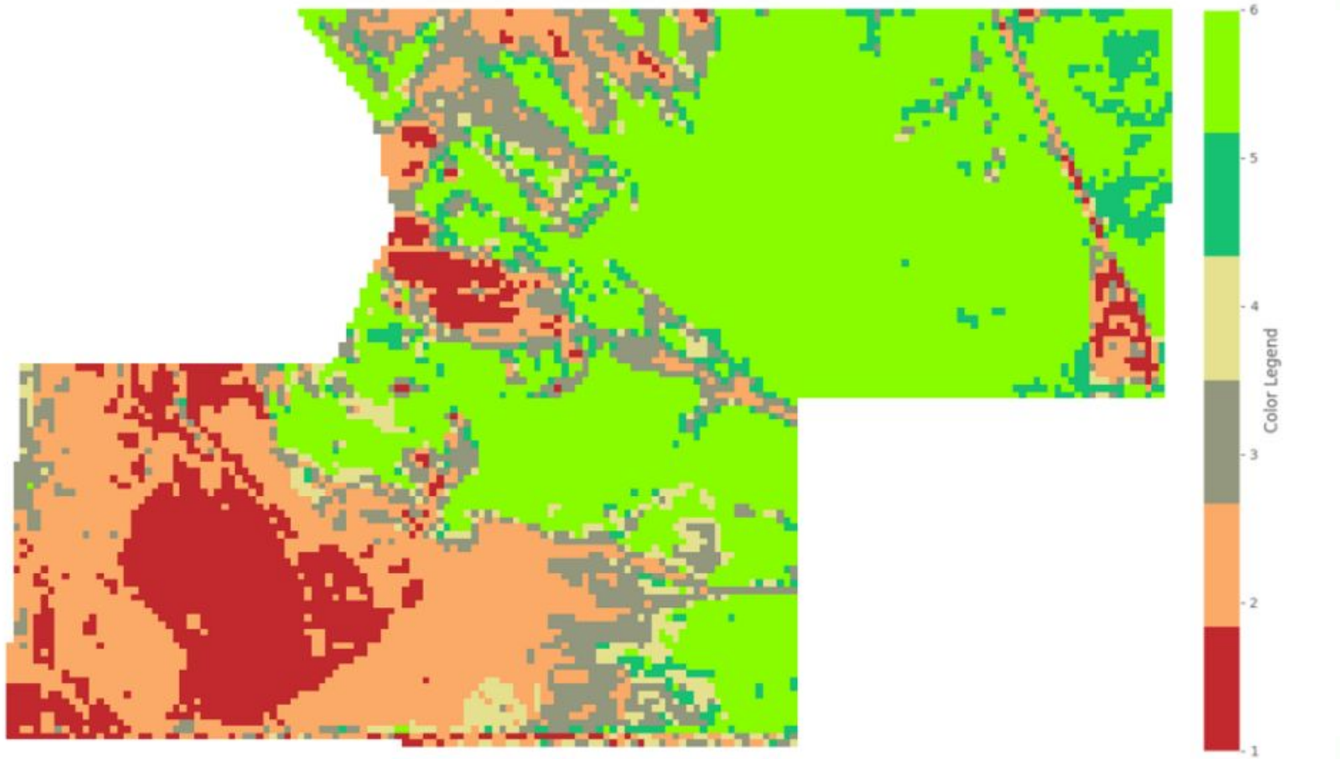
Data points are loaded, **tokenized**, and preprocessed

Getting **specialized models** for each agent category

Q-LoRA

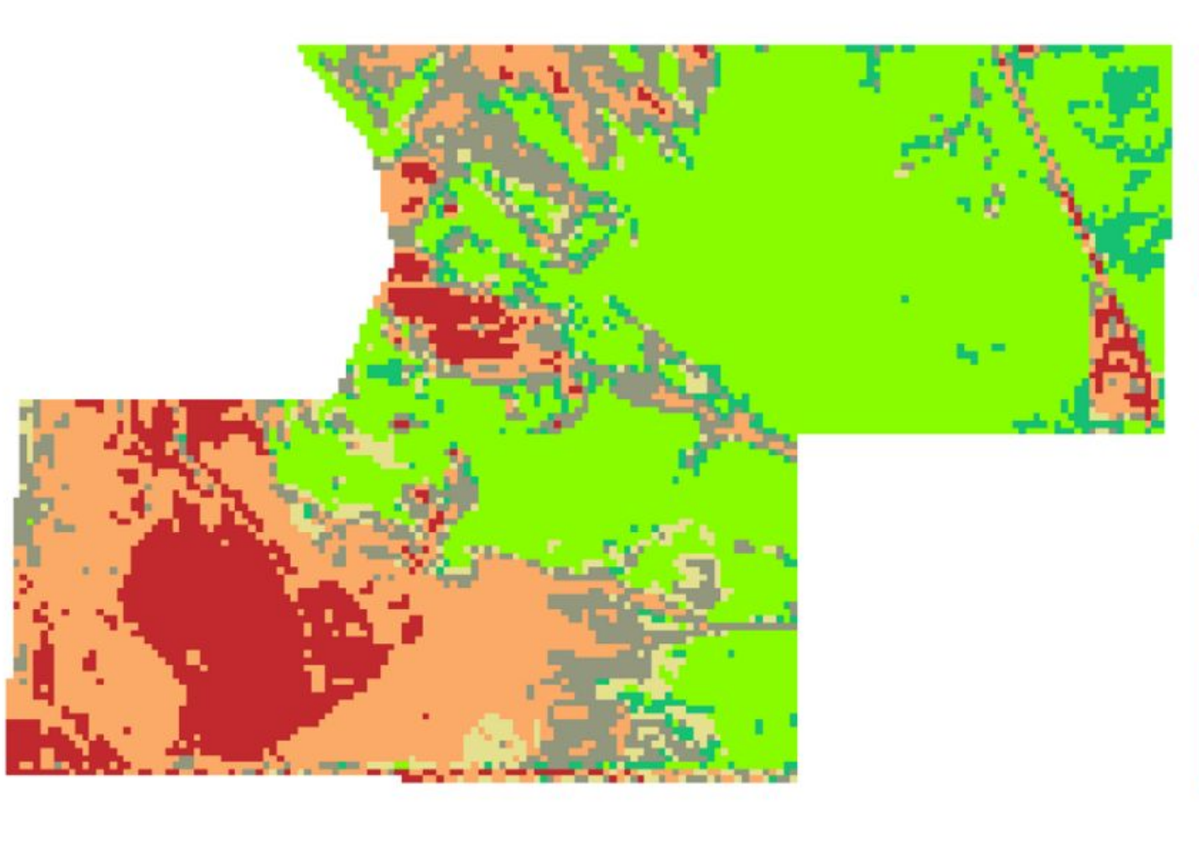
Separate models for each AI agent are **quantized** and **fine-tuned** using QLoRA

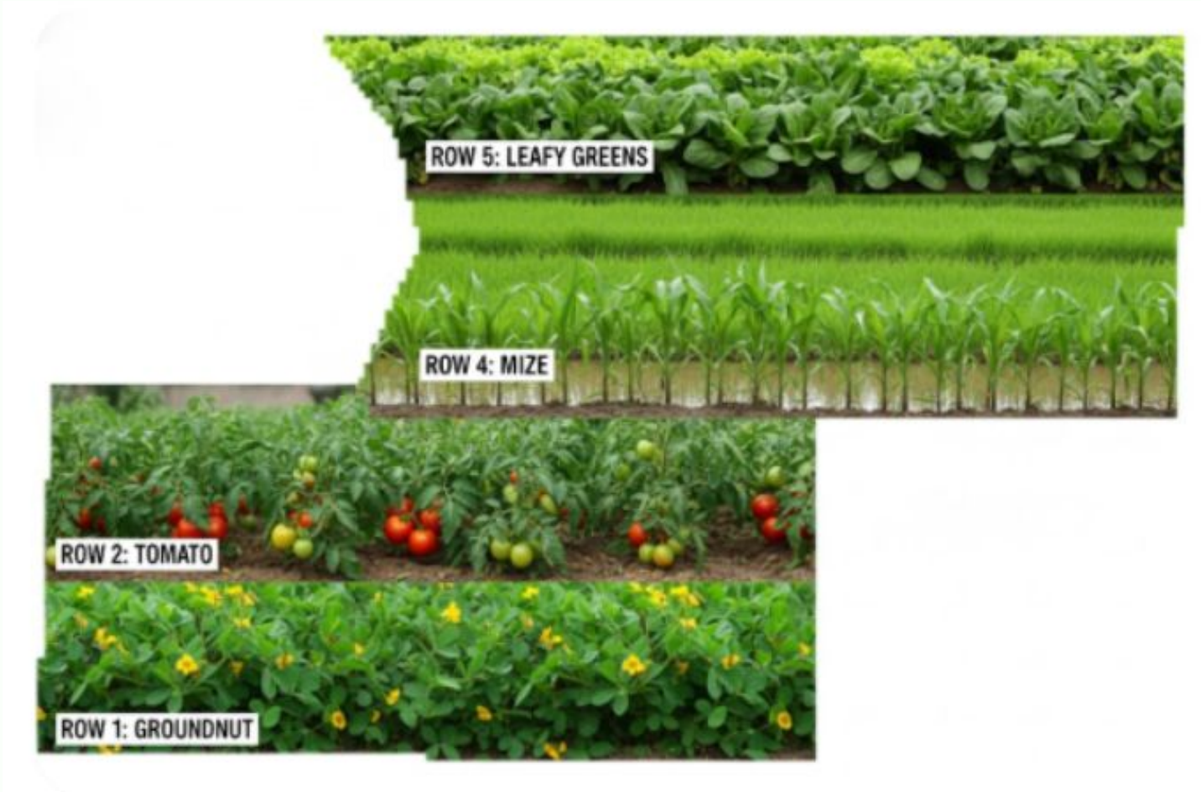
Sample Land analysis map



Class	Pixel Count	Area (*square meters*)	Area (*acres*)
1	1452	1,306,800	322.92
2	2583	2,324,700	574.45
3	1492	1,342,800	331.81
4	494	444,600	109.86
5	660	594,000	146.78
6	5683	5,114,700	1263.87

Crop recommendation for mixed crop





Business Model Canvas

Customer Segments

Primary (70%): Educated people with inherited land (15-100 acres), income ₹8-25 lakhs annually

Secondary (30%): Non-agricultural landowners, Progressive farmers, corporate ventures, consultancies

Geography: Andhra Pradesh & Telangana

Value Propositions

Transform underutilized land into profitable assets using AI-powered satellite analysis

- 5-10 years satellite data analysis
- 6-class growth classification
- 30-50% yield improvement
- ₹25,000-50,000 additional income per acre

Channels

Digital: SaaS platform, digital marketing, tech forums

Direct: University partnerships, field demos, government programs

Partnerships: Equipment dealers, input suppliers, insurance companies

Customer Relationships

SaaS: Self-service platform, automated recommendations, support

Premium: Dedicated consultant, monthly visits, 24/7 monitoring

Revenue Streams

SaaS: ₹1,000-2,000/year subscriptions

Premium: ₹2,000-5,000/acre analysis, ₹50,000-2L IoT setup

Commission: 5-10% on inputs, equipment partnerships

Key Resources

- AI/ML satellite analysis using clustering algorithms
- 5-10 years historical data from Landsat
- Agricultural consultants & student network
- IoT monitoring equipment, soil testing kits

Key Activities

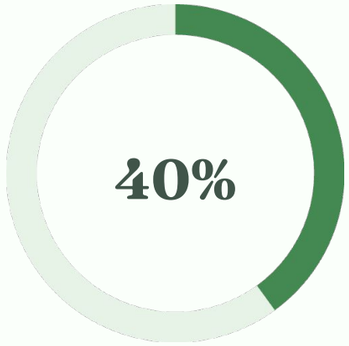
- Satellite imagery processing & NDVI analysis
- Field analysis & crop recommendations
- IoT installation & monitoring
- Customer acquisition & training

Key Partners

- ESA (Sentinel-2) & ISRO satellite data
- Agricultural universities in AP & Telangana
- Input suppliers & equipment manufacturers
- Government agricultural departments

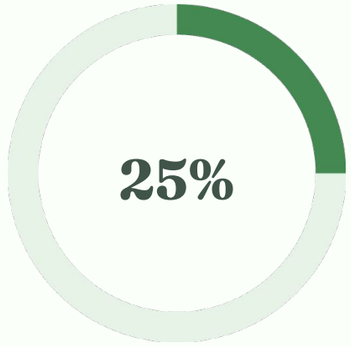
Target Market

Andhra Pradesh & Telangana



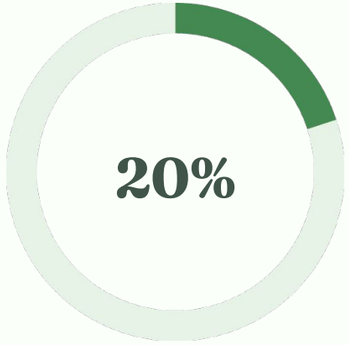
Educated people

Software engineers, doctors with 10-100 acres inherited land



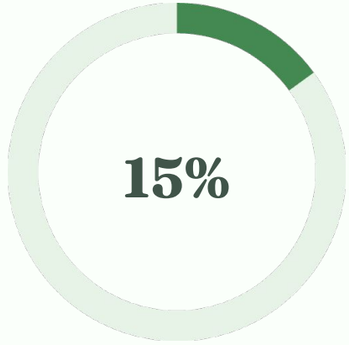
NRI Landowners

Non-resident Indians seeking remote land management



Progressive Farmers

Tech-savvy early adopters with 25+ acres



Investment Firms

Corporate entities requiring enterprise solutions

Market Size
160 lakh hectares combined agricultural area

Addressable Market
40 lakh hectares (medium to large landholders)

Potential Customers
5 lakh landowners in target segments

USP’s of the Solution

The only AgriTech platform that turns busy professionals into profitable landowners without them becoming farmers.

AI-Powered Historical Intelligence

10 years of satellite data analyzed in minutes.
95%+ accuracy in profitable zone identification using proprietary NDVI-based classification.

Hyper-Local Expertise

Custom AI models trained on AP & Telangana crop patterns, soil types, and climate data.

End-to-End Solution

Only platform offering SaaS + full-service consulting.
Complete journey from analysis to automation–no multiple vendors needed.

Student Partnership Ecosystem

Agricultural students as field consultants create 40% cost reduction while generating 1000+ jobs.

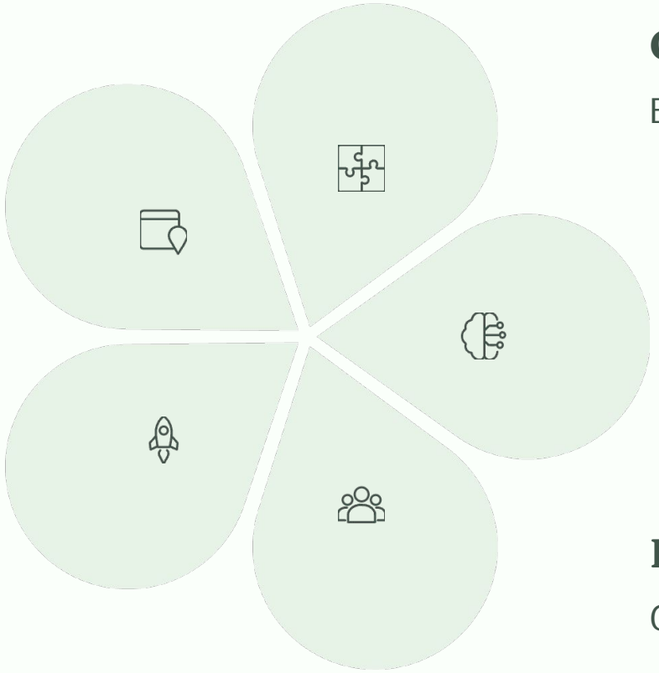
Competitive Advantage

Hyper-Local Focus

Deep understanding of AP & Telangana agricultural patterns

Scalable Model

Platform approach with personalized services



Comprehensive Solution

End-to-end service from analysis to implementation

Human + AI Approach

Technology backed by agricultural expertise

Employment Generation

Creating jobs for agricultural graduates

Competitive Edge: Unlike CropIn (enterprise focus), SatSure (insurance focus), or Fasal (IoT-only), AgroIndia combines regional expertise with affordable individual solutions.

Sustainable Development Goals

SDG 15 :Life on Land

Rehabilitating 50,000 acres of degraded land.

SDG 2 : Zero Hunger

Converting fallow land to produce 1.5M tons additional food annually.

SDG 13 : Climate Action

Building climate resilience for 75,000+ farmers.

SDG 8 : Decent Work

Creating 500+ direct jobs and 2,000+ indirect jobs.

SDG 12 : Responsible Consumption

Reducing water use by 30% and chemicals by 25%.

SDG 9 : Innovation & Infrastructure

Pioneering AI/satellite technology in Indian agriculture.

Go-to-Market Strategy

1

Phase 1: Market Entry

Months 1-6

- 100 early adopters pilot program
- University partnerships
- Digital marketing targeting NRIs and tech professionals

2

Phase 2: Regional Expansion

Months 7-18

- Offices in 5 major agricultural districts
- Hire 25 agricultural graduates
- Refine AI algorithms with regional data

3

Phase 3: Scale-Up

Months 19-36

- Full AP & Telangana coverage
- Launch IoT and automation services
- Partnerships with suppliers and financial institutions

Thank You