



PLANT GUARD

Empowering rural farmers with **offline**
AI-powered plant disease detection.

Our Team



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Backend Developer & Business Lead

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THE PROBLEM

Slow and inaccessible plant disease detection is destroying crops and crushing farmers' livelihoods.



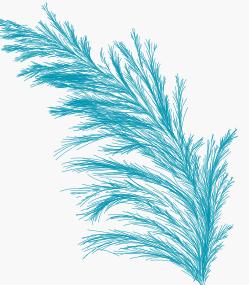
20-40%
crops lost annually globally
due to plant diseases



\$220 billion
lost annually due to
delayed disease detection

Source: FAO, 2021

CHALLENGES FACED BY FARMERS



- Delayed detection**
- Lack of affordable diagnostic tools**

leading to massive yield losses



THE SOLUTION:

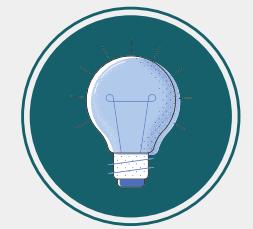
An AI-based device that detects plant diseases in real-time.

Solution: PlantGuard



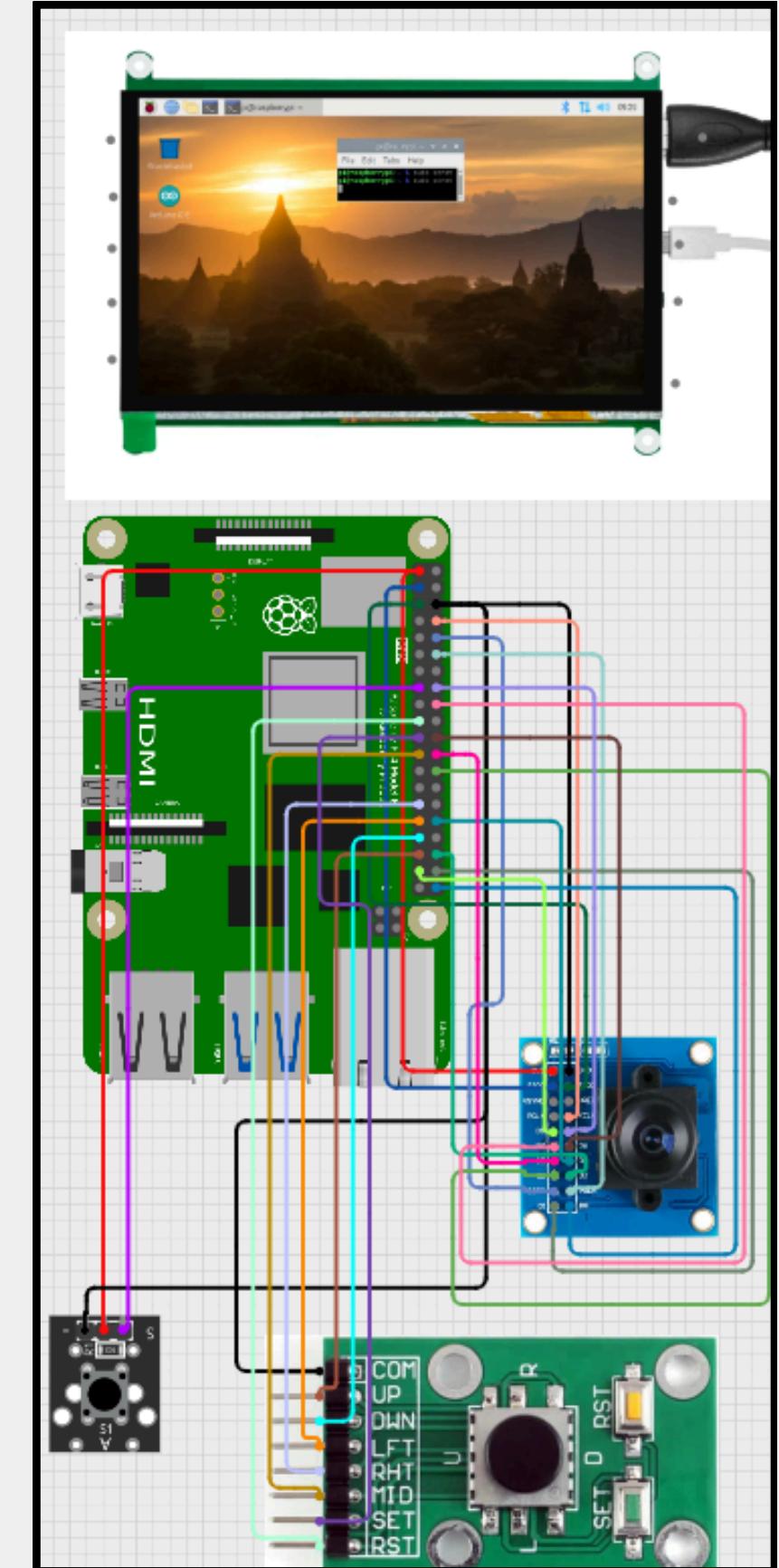
Real-Time Detection

Portable, machine-learning device that identifies plant diseases **on-site**.



Offline Operation

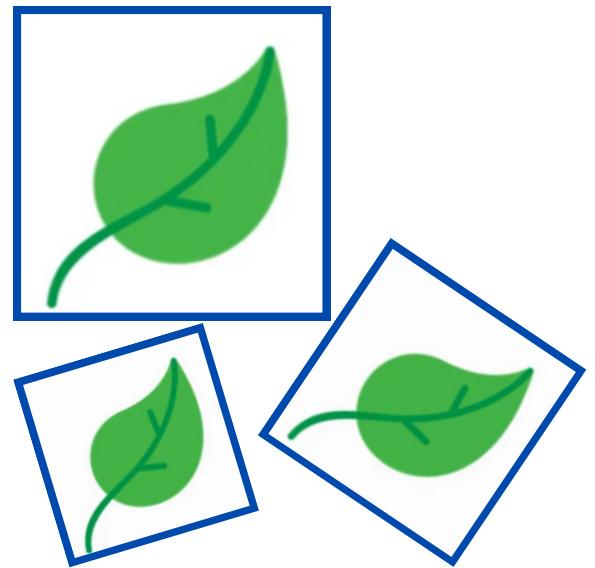
Works **without internet**, ideal for rural areas.



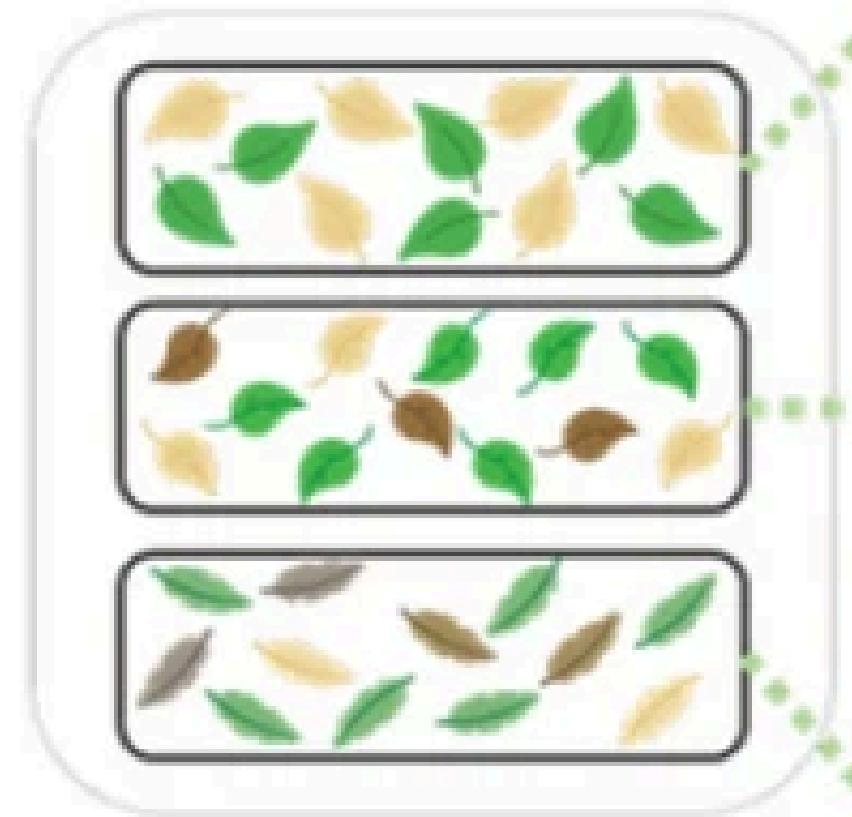
The Prototype



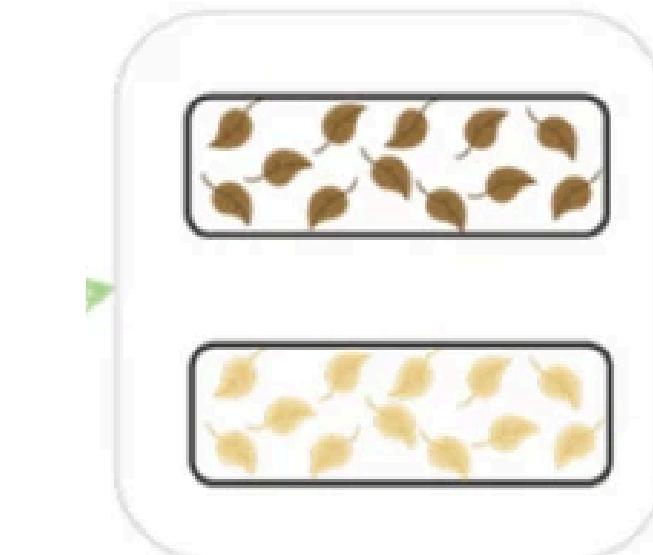
HOW DOES IT WORK?



Model 0
(YOLOv8n)



Model 1
(ResNet50)



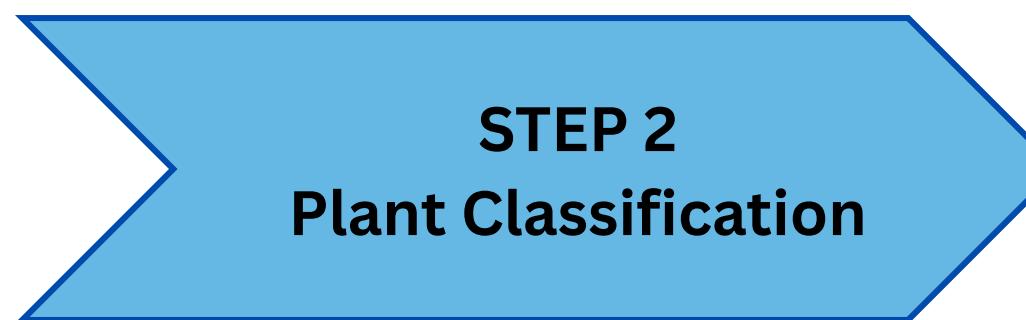
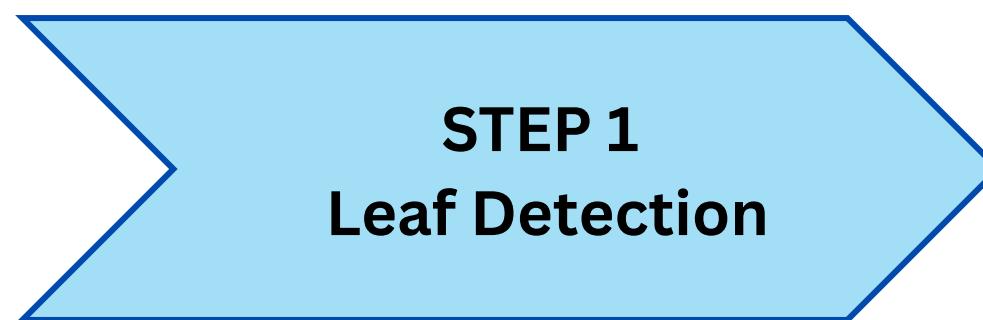
Model 2-1
(ResNet50)



Potato

Tomato

Model 2-2
(ResNet50)





Business Model



PlantGuard Free (Starter Plan)

- Free Plan
- Limited Access
- **Best For:** Small-scale farmers exploring AI insights
- **Includes:** Limited crops

Free



PlantGuard Pro (Subscription Based Software)

- Unlimited Access
- **Best For:** Large-scale farmers and cooperatives.
- **Includes:** Variety of crops

Rs. 99
/user per month



PlantGuard Device (One Time Purchase)

- Offline, AI-powered hardware.
- **Best For:** Small-scale farmers lacking Internet.
- **Includes:** Unlimited crops

Rs. 10200



PlantGuard Enterprise (Businesses and Government)

- Customized hardware & software solutions.
- **Best for:** Suitable for large-scale enterprises and organizations.
- **Includes:** Unlimited crops



Cost Structure

Assumptions:

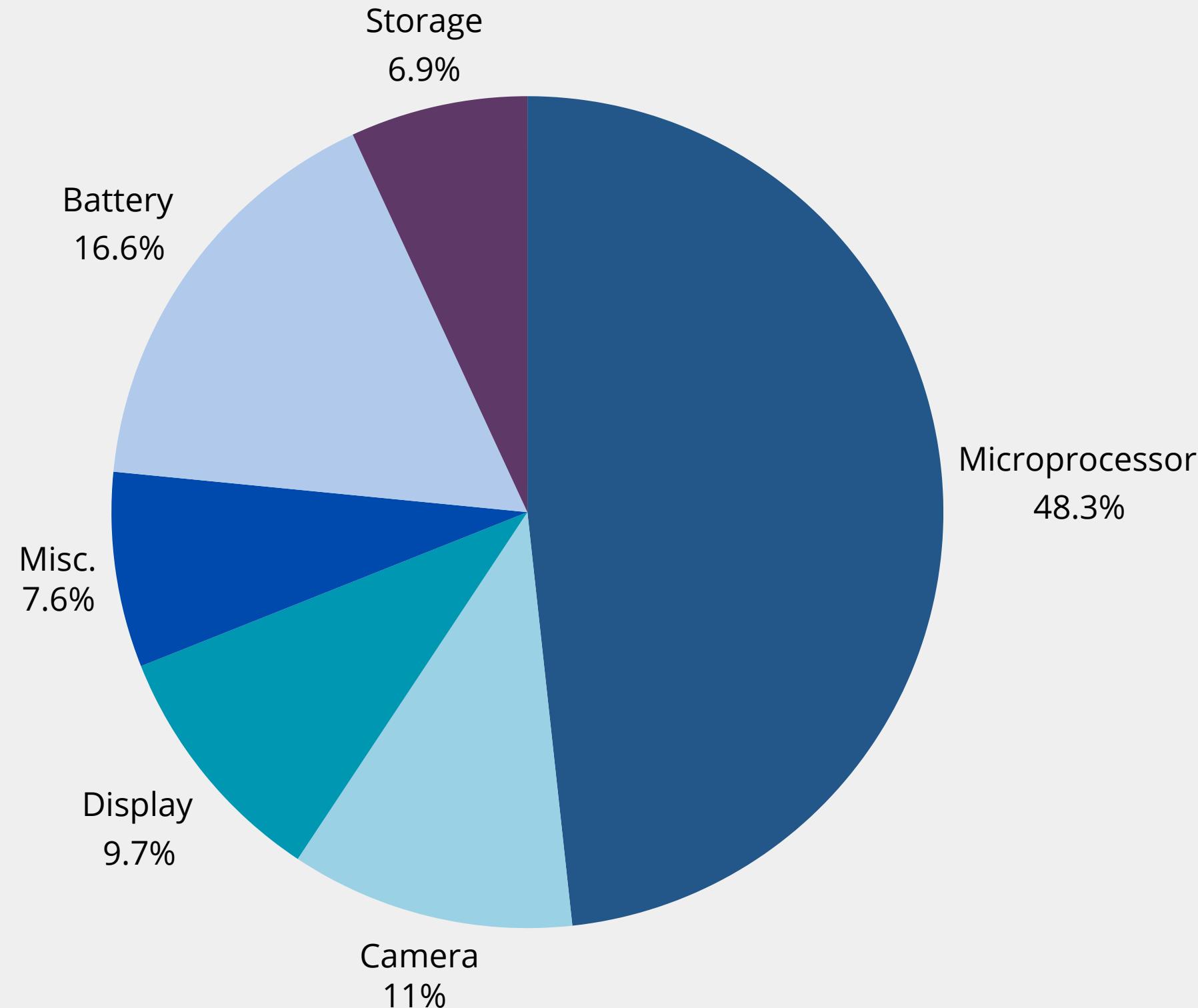
- Based on Banana Pi M4 as the microprocessor.
- Bulk manufacturing and alternative sourcing can reduce costs over time.

Cost Breakdown:

- Hardware Cost: 7,250 INR (microprocessor, camera, battery, display, casing, components).
- Total Estimated Cost Per Unit: 8,500 INR.
- Other Costs: R&D, prototyping, marketing, distribution, and operations.

Selling Price:

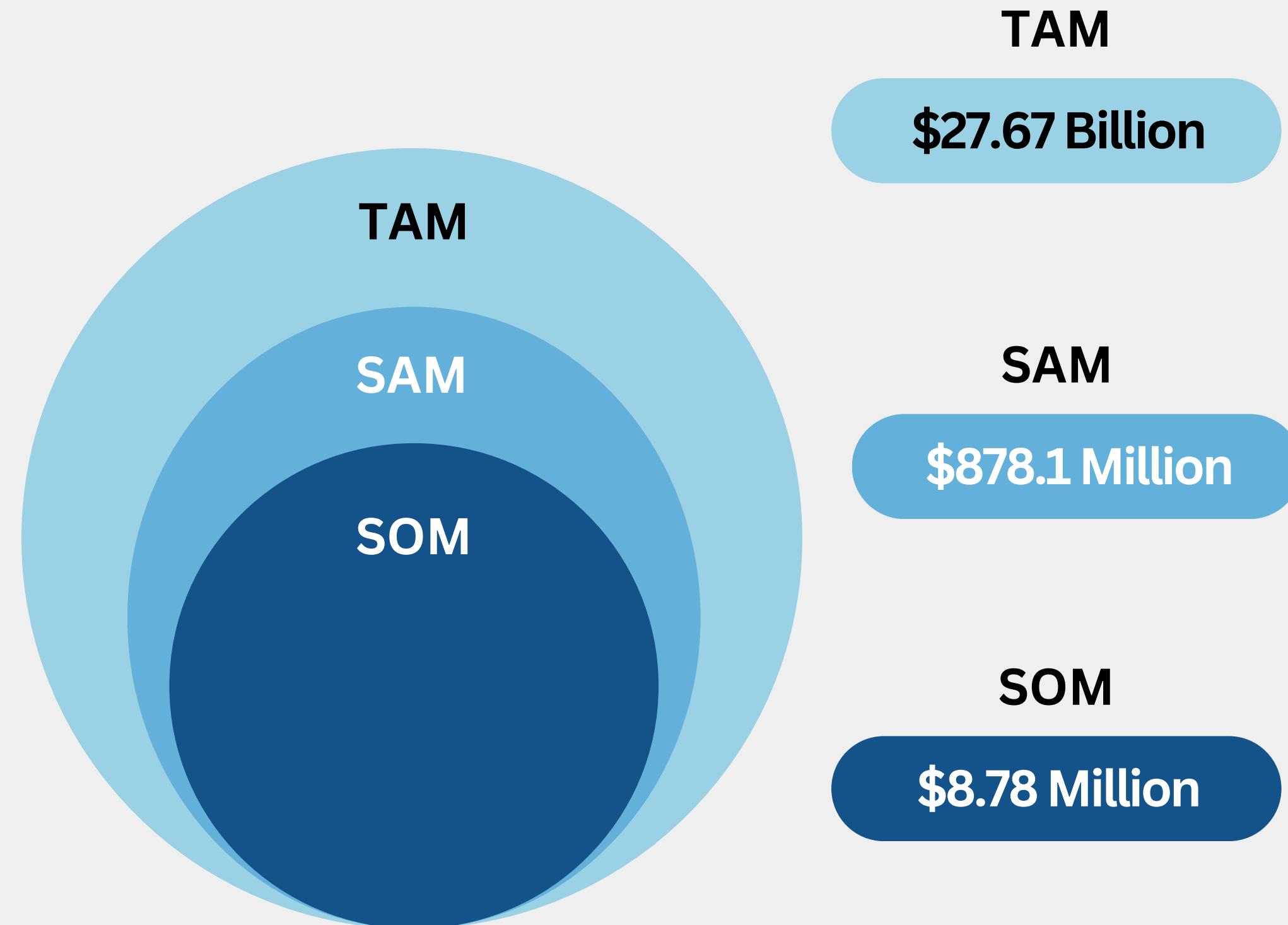
- Expected Selling Price: 10,200-11,000 INR.



Unit Economics



Market Size





GO-TO-MARKET



Direct Approach:

- Selling Directly to Farmers, Large Farms & Agribusinesses
- Participating in trade exhibitions and events
- Government & Institutional Partnerships

Indirect Approach:

- Partnering with Agri-Tech Startups & Cooperatives.
- Retail Distribution Through Agro-Dealers
- Integration with Agri-Financing & Insurance Firms

Sales Processes



- Agri-tech events, govt. partnerships.
- Digital marketing, local dealers.

- Demos, field trials, farmer awareness programs.

- Tailored proposals.
- Custom AI models for crops.



- Customer service, updates, farmer engagement.

- Product delivery, onboarding, training.

- Contracts, bulk sales.
- Direct purchases, financing options.



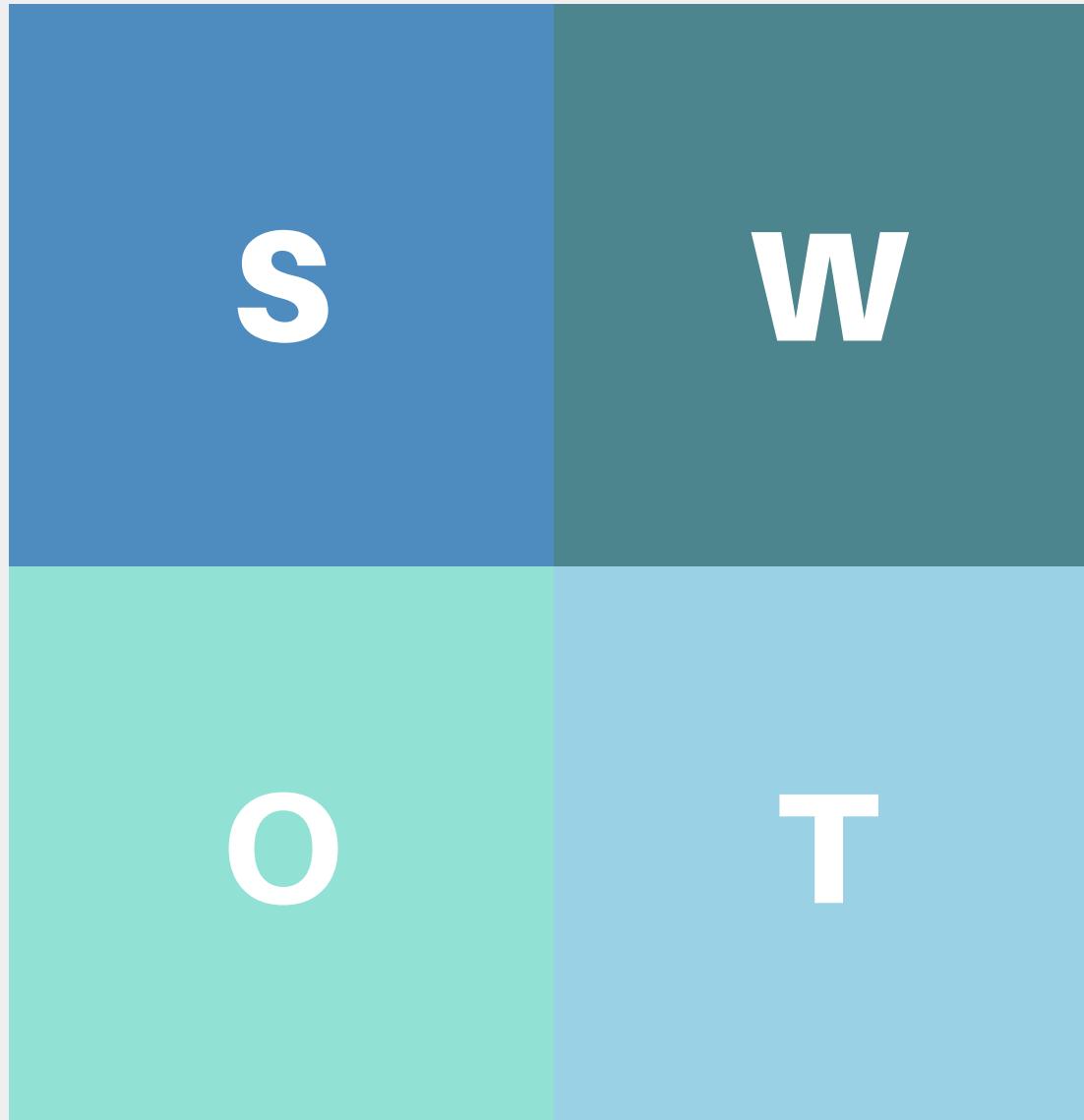
Strengths

- Offline AI Processing
- One-Time Purchase
- Cost-Effective
- Portability

Opportunities

- Growth of Agri-Tech Partnerships & Collaborations
- Integration with Smart Farming Systems

SWOT Analysis



Weaknesses

- High Initial Investment
- Technical & Hardware Failures
- Farmer Training and Awareness Needed

Threats

- Existing App-Based Solutions
- Resistance to AI Adoption



Testimonial



Shubham Drolia

CEO - Green Aura