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# voIS Innovation Marathon 2.0

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# Project Title

## KrishiSaarthi



Team Number : 15

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Kanishka Salgude,  
Information Technology



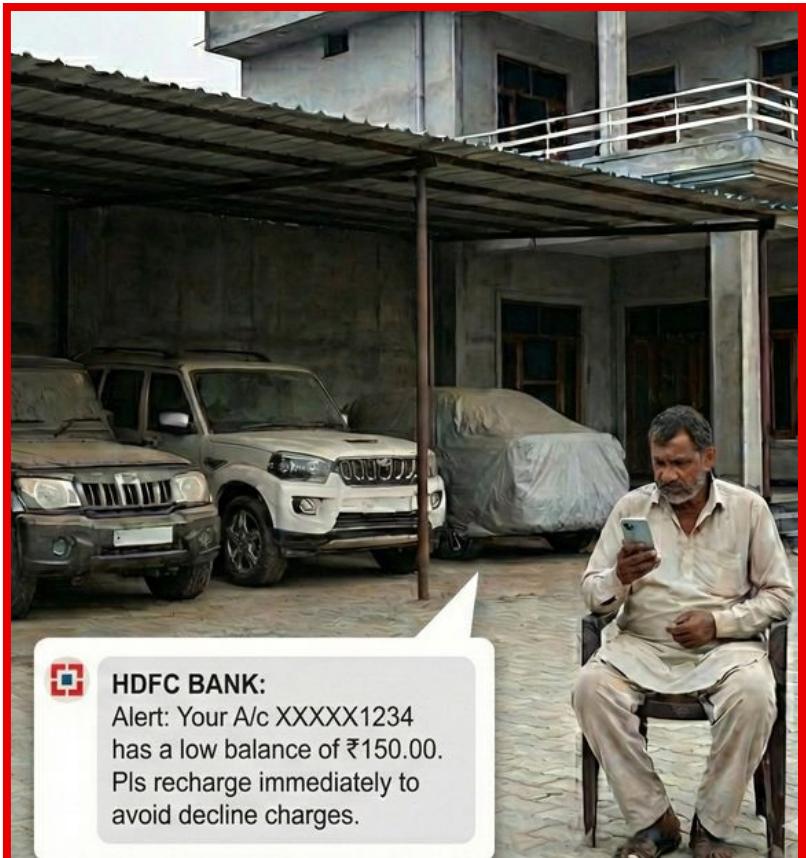
Sanskar Tiwari, Electronics  
and Telecommunication  
Engineering

# Problem Statement

**The Challenge:** Indian farmers aren't just struggling - they're systematically losing money they should be making.

- **Diagnostic Blindness:** Delayed diagnosis = 20% yield lost. ₹50K-₹1.5L gone. 86% small farmers can't afford it.
- **The ₹15,000 Crore Bonfire:** 23M tonnes burned. ₹25K-₹50K/year torched. Waste = wealth. Nobody told them.
- **Capital Annihilation:** The "Jewar Effect" - crores of compensation vanishes. Farmers trade land for cash, then burn it on liabilities. Result: Back to poverty in 3 years.
- **Sustainability Exploitation:** Farmers go green. Corporates profit billions. Farmer gets nothing.

**This isn't inefficiency - it's a ₹15,000 crore market begging for disruption.**



# Need of Project

# Isolated Solutions Don't Fix Systemic Collapse!

**Green Credits**  
Exist on paper only.  
Manual verification  
= 6-18 months.  
Farmers never get  
paid.

**The Missing Link:**  
No platform connects  
the person (Finance),  
the farm  
(Personalization), and  
the planet  
(Waste-to-Value).

**Land-acquired  
farmers :**  
lose 68% of  
compensation in 3  
years. No financial  
literacy. No advisory.

**Crop Apps:**  
Solve disease.  
Ignore debt.  
(60% suicides  
= financial crisis)

## KrishiSaarthi



### The Complete Puzzle: Centered on the Farmer



1. **Farmer-Centric** Treats the person's financial health (debt/income), not just the plant's survival.



2. **Future-Proof** Transforms temporary land compensation into lifelong family security.



3. **Direct Reward** Ensures the human steward gets paid for sustainability, not the middlemen.

# Proposed Solution

## Farm to Finance: One Platform. Zero Gaps.



### 1. AI Crop Diagnostics:

Instant, 96% accurate disease detection and treatment protocols from a single photo.



### 2. Waste-to-Value:

Converts crop residue (husks, stalks) into sellable bio-fuel and industrial materials.



### 3. Business Advisory:

Strategizes compensation money and land to build high-ROI business models with 10-year income roadmaps.

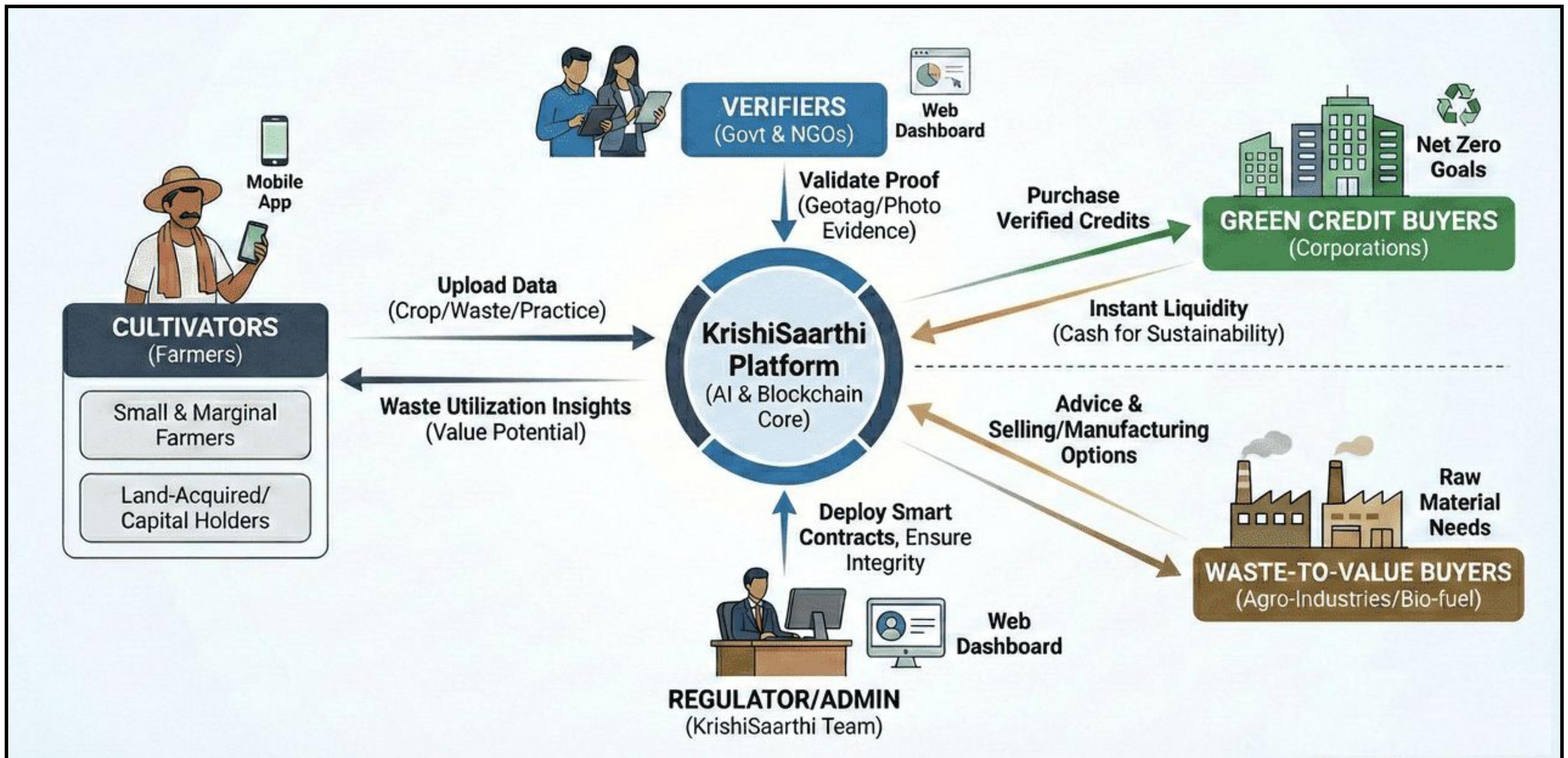


### 4. Green Credit Marketplace:

Validates sustainable practices via blockchain for transparent credit monetization with corporate buyers.

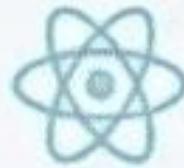
We don't ask "What do you grow?" We answer "How should you invest, protect, and profit?"

# Solution Overview



# Technology used

## Frontend (Client Edge)



React + Vite  
(PWA for speed/offline)



Context API  
(State management)



i18n  
(Multi-language support)

## AI & Machine Learning (The Brain)



TensorFlow  
(On-device disease detection)



LangChain + LLM  
(Advisory workflow)



Ollama  
(Local waste-to-value model)

## Blockchain (Trust Layer)



Sepolia Testnet  
(Ethereum testing environment)



Solidity  
(Green Credit smart contracts)



Ethers.js  
(Wallet integration)

## Backend & Infrastructure



Flask / FastAPI  
(API & AI integration)

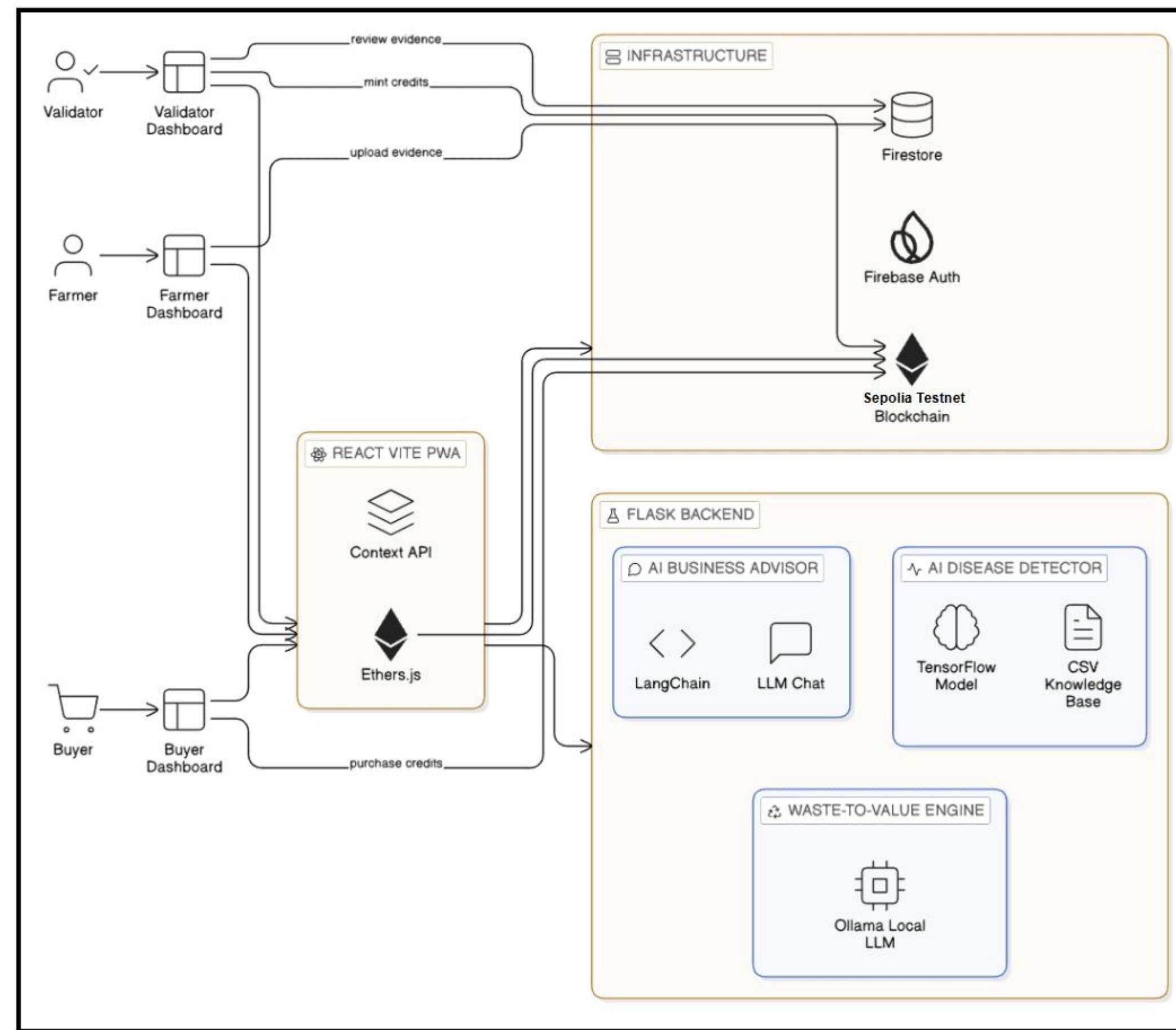


Firebase Firestore  
(Real-time NoSQL DB)

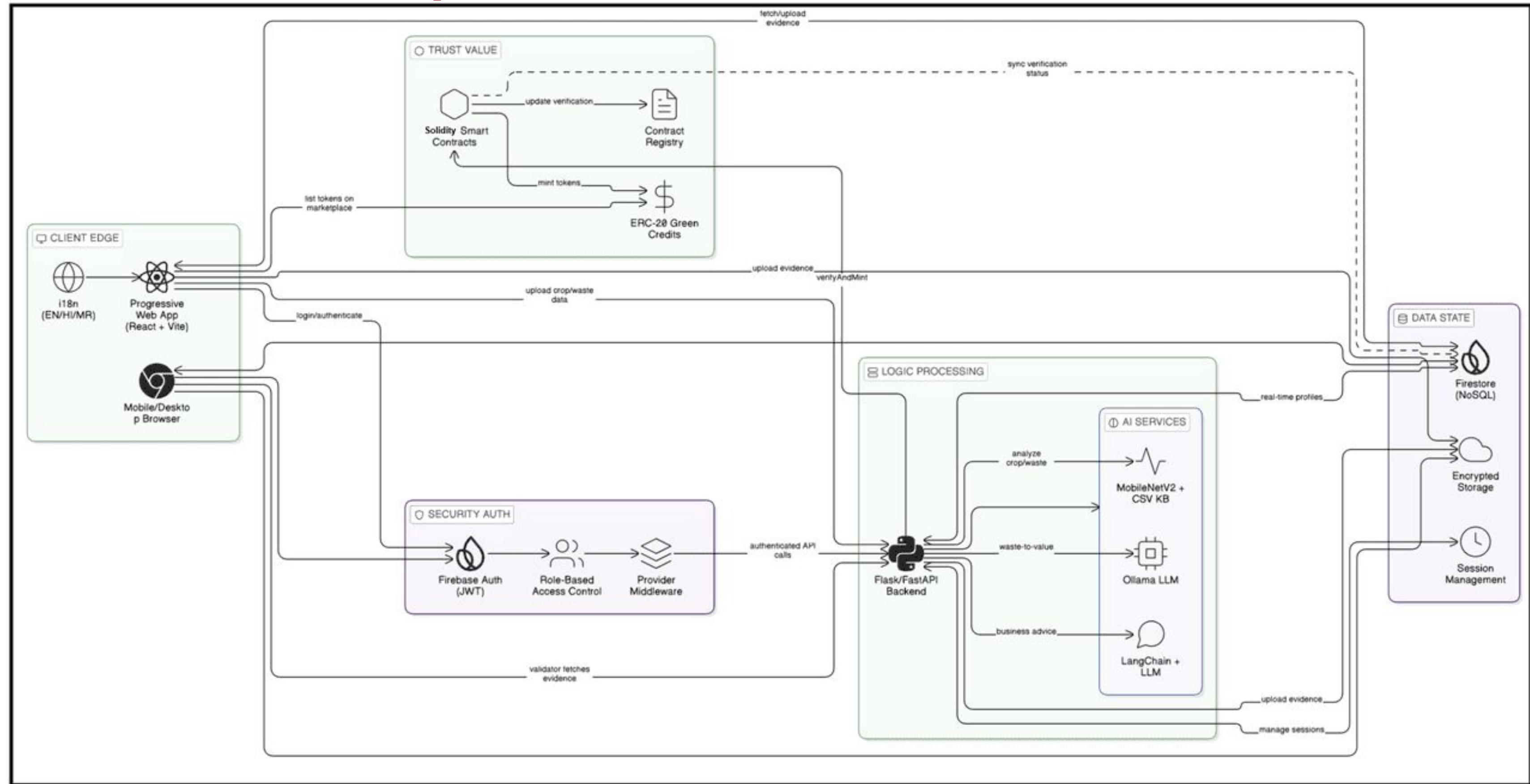


Firebase Auth  
(Secure authentication)

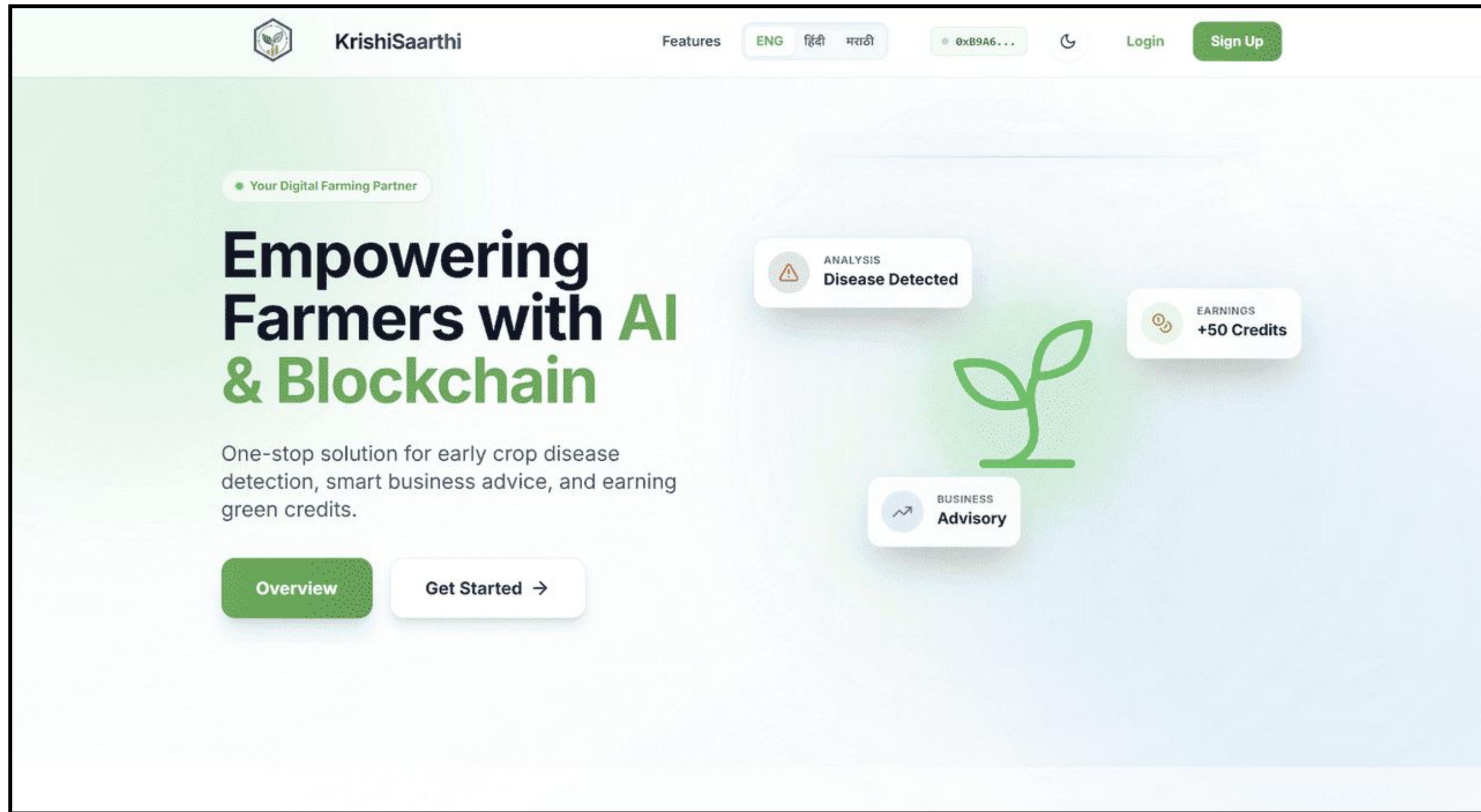
# Technical flow diagram -



# Architecture Blueprint



# Screen shots of your project -



# Screen shots of your project -

The image displays three screenshots of the KrishiSaarthi platform, a digital tool for farmers to assess their resources and find suitable business ventures.

**Screenshot 1: Tell us about your resources**

This screen shows a form for farmers to input their resources and interests. Key fields include:

- Budget (₹): ₹25000
- Land (Acre): 4
- Water Source: Borewell
- Experience (Years): 10
- Interests (selected): Dairy Farming, Poultry, Greenhouse Farming, Goat Farming, Shop Handling, Factory Business, Honey, Mushroom Cultivation
- Market & Strategy (selected): Village only, Small town within 10 km
- Are you willing to sell directly to customers (80%): Maybe, with guidance
- If income fluctuates month to month, how comfortable are you?: Somewhat okay
- How long can you wait to recover your investment?: 2-3 years
- What is your attitude toward losses in the first year?: I understand initial losses are possible
- If given two options, what would you choose?: Safe income, lower profit

**Screenshot 2: Recommended Businesses**

This screen displays three recommended business options based on the input:

- DAIRY FARMING (6-8 COW UNIT)**: 90% Match. This business matches the farmer's existing skills and experience in dairy farming. Investment: ₹10L - ₹13L, Profit: ₹20k - ₹40k. Requirements: Land, Capital. Buttons: Ask Chatbot, Know More.
- GOAT MILK FARMING (20-25 MILCH GOATS UNIT)**: 85% Match. This business leverages the farmer's existing experience in goat farming and expands their product offerings. Investment: ₹6.5L - ₹9.5L, Profit: ₹30k - ₹60k. Requirements: Land, Capital. Buttons: Ask Chatbot, Know More.
- COW DUNG ORGANIC MANURE & BIO-INPUTS**: 80% Match. This business utilizes the farmer's existing asset of cow dung and aligns with their skillset in dairy farming. Investment: ₹1.2L - ₹2.5L, Profit: ₹15k - ₹35k. Requirements: Land, Capital. Buttons: Ask Chatbot, Know More.

**Screenshot 3: DAIRY FARMING (6-8 COW UNIT) - Detailed Business Plan**

This screen provides a detailed view of the Dairy Farming business plan:

- KrishiSaarthi** (Farmer: Sanskar Tiwari)
- DAIRY FARMING (6-8 COW UNIT)**
- BASIC IDEA**
  - Rearing milch cows to produce milk daily
  - Selling to cooperatives or bulk buyers
  - Secondary income from manure and calves
- SOURCE**: Local Milkman
- SOURCE LOCATION**: Uruli Devachi, Hadapsar, Pune
- LAND REQUIREMENT**: 4,000 - 6,000 sq.ft (Shed + open area + feed storage)
- INVESTMENT BREAKDOWN (REALISTIC)**
  - Total: ₹10 lakh - ₹13 lakh
  - Purchase of 6-8 crossbred cows
  - Cattle shed construction
  - Equipment and initial feed

# Screen shots of your project -

The screenshot displays the Krishisaarthi platform's dashboard. At the top, there is a navigation bar with the logo, language options (ENG, हिन्दी, ਮਰਾਠੀ), a session ID (0x89A6...), and a user profile (Sanskar Tiwari). The main header is "Dashboard" with a welcome message "Welcome, Sanskar Tiwari". On the left, a sidebar lists "Dashboard" (selected), "Disease Detector", "Business Advisor", "Green Credits", and "Waste to Value". A "Need Help?" section indicates support is available 24/7, with a "Contact Support" button. The central area features four main cards: "Disease Detector" (Identify plant diseases instantly, Learn More →), "Business Advisor" (Get personalized investment guidance, Learn More →), "Green Credits" (Earn credits for sustainable activities, Learn More →), and "Waste to Value" (Transform farm waste into value, Explore Options →). Below these is a section titled "Your Impact" showing metrics: FARM LAND (0 Ac, +12%), CREDITS EARNED (0, +12%), PENDING (1), and CROPS SCANNED (9).

KrishiSaarthi

ENG हिन्दी ਮਰਾਠੀ 0x89A6... Sanskar Tiwari

**Dashboard**

Welcome, Sanskar Tiwari

**Dashboard**

Disease Detector

Business Advisor

Green Credits

Waste to Value

Need Help?  
Our support team is available 24/7.

Contact Support

**Disease Detector**

Identify plant diseases instantly

[Learn More →](#)

**Business Advisor**

Get personalized investment guidance

[Learn More →](#)

**Green Credits**

Earn credits for sustainable activities

[Learn More →](#)

**Waste to Value**

Transform farm waste into value

[Explore Options →](#)

**Your Impact**

FARM LAND 0 Ac +12%

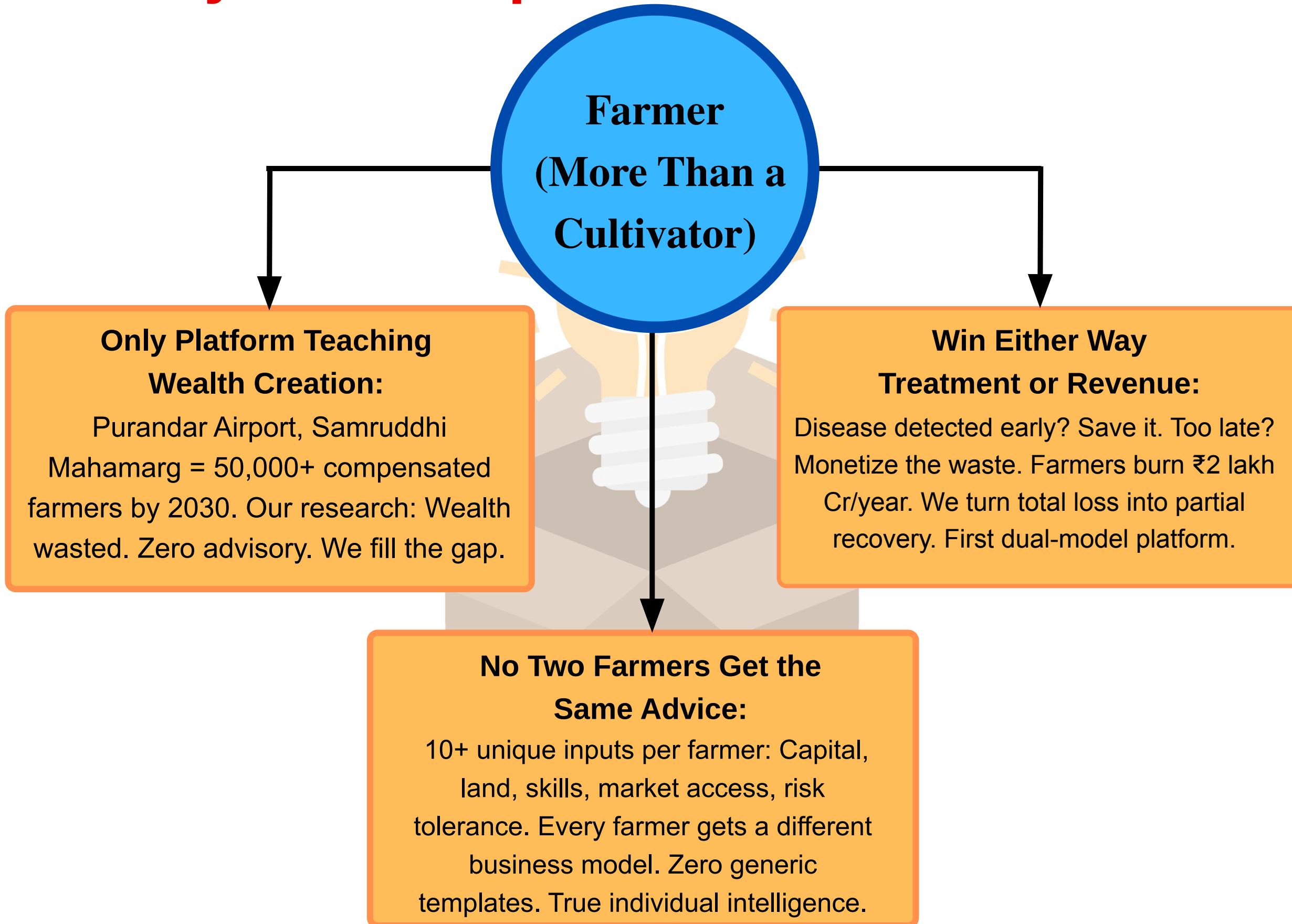
CREDITS EARNED 0 +12%

PENDING 1

CROPS SCANNED 9

# Novelty and Uniqueness

A Unique Platform that understands the human behind the Farm



## Blue Ocean Strategy

Not competing. Creating a new niche: "Farmer Wealth Management + Sustainability Marketplace"

### Sources:

Bharatmala Pariyojana ([morth.nic.in](http://morth.nic.in)),  
Samruddhi Mahamarg ([msrdc.org](http://msrdc.org)),  
Purandar Airport ([aai.aero](http://aai.aero)). Field research:  
Sharad Jagtap (Purandar), Kiran Salgude (Lasalgaon).  
IFPRI Study 2019 on crop burning economic loss. PlantVillage Dataset (Mohanty et al., 2016).  
Adjacent Players analysis: AgroStar, DeHaat, BharatAgri (crop-generic advisory platforms).

# GitHub Link

<https://github.com/SanTiwari07/KrishiSaarthi>



KrishiSaarthi Public

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main 1 Branch 0 Tags

Go to file Add file Code

sruj08 Added project Report.pdf 9d64929 · 1 minute ago 31 Commits

1\_VOIS added new features , fix UI bugs 2 days ago

Backend changes yesterday

Frontend changes yesterday

Logo added backend and new UI 2 months ago

Photos fixed languages and photos 2 months ago

blockchain added marketplace solidity contract last month

public added backend and new UI 2 months ago

.firebaserc added backend and new UI 2 months ago

.gitignore changes yesterday

DEPLOYMENT.md updated readme and fixed language error 2 months ago

DETAIL.md updated detail 2 months ago

README.md updated readme 2 days ago

VOIS\_KRISHISAARTHI\_TEAM15\_PROBLEMSTAT... Added Problem statement pdf 2 minutes ago

VOIS\_PROJECTREPORT\_2025\_TEAM15.pdf Added project Report pdf 1 minute ago

firebase.json added backend and new UI 2 months ago

firestore.indexes.json added backend and new UI 2 months ago

firestore.rules added new features , fix UI bugs 2 days ago

package-lock.json added backend and new UI 2 months ago

package.json added backend and new UI 2 months ago

write\_app.py.bak changes yesterday

About

KrishiSaarthi combines cutting-edge AI for disease detection and business advisory with a blockchain-based Green Credit Marketplace to empower farmers.

krishaarthi-59c47.web.app/

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Contributors 3

sruj08 Srujan Satav

SanTiwari07 Sanskar Tiwari

kanishkasalgude Kanishka Salgude

Deployments

Languages

TypeScript 83.7% Python 13.4%

Solidity 1.9% Other 1.0%

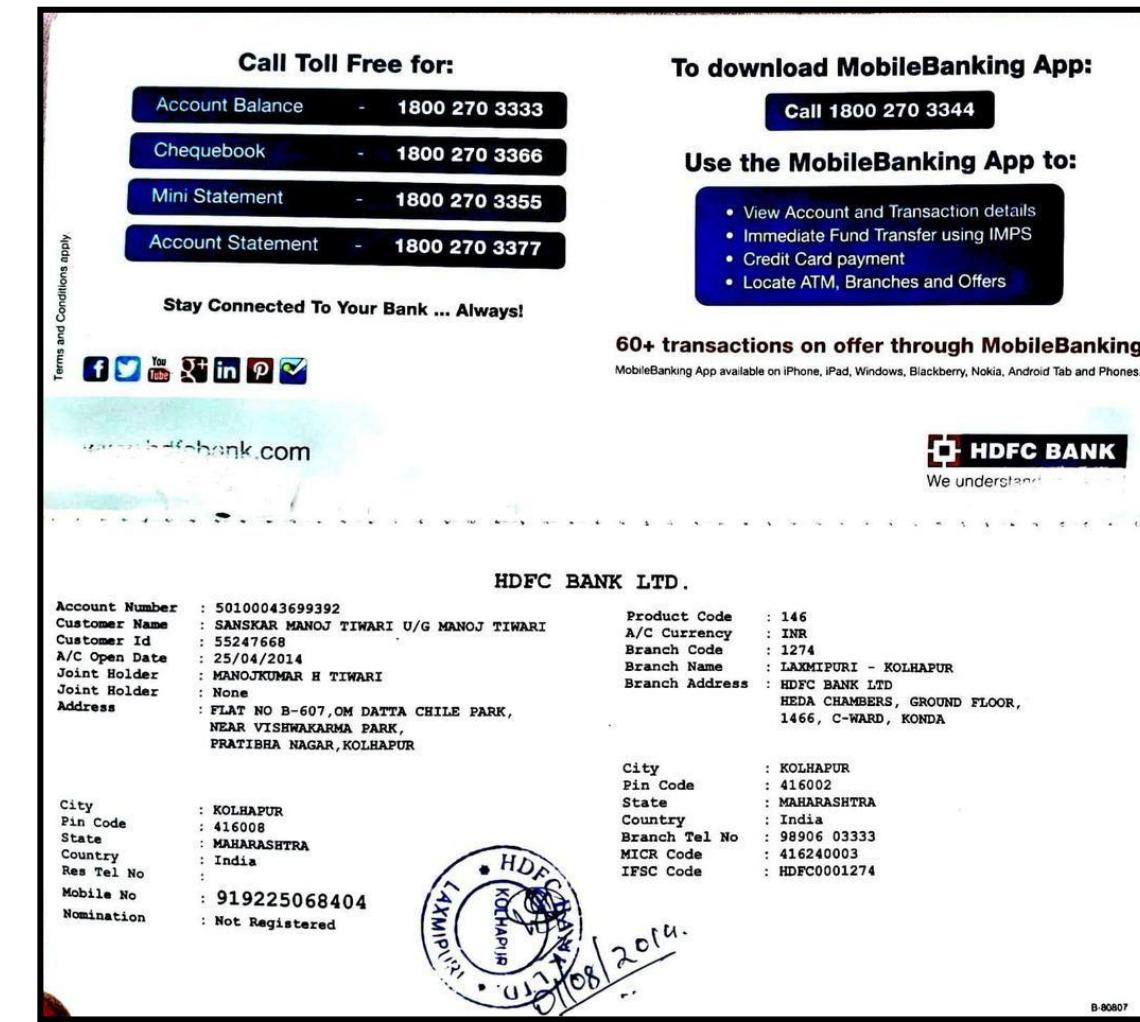
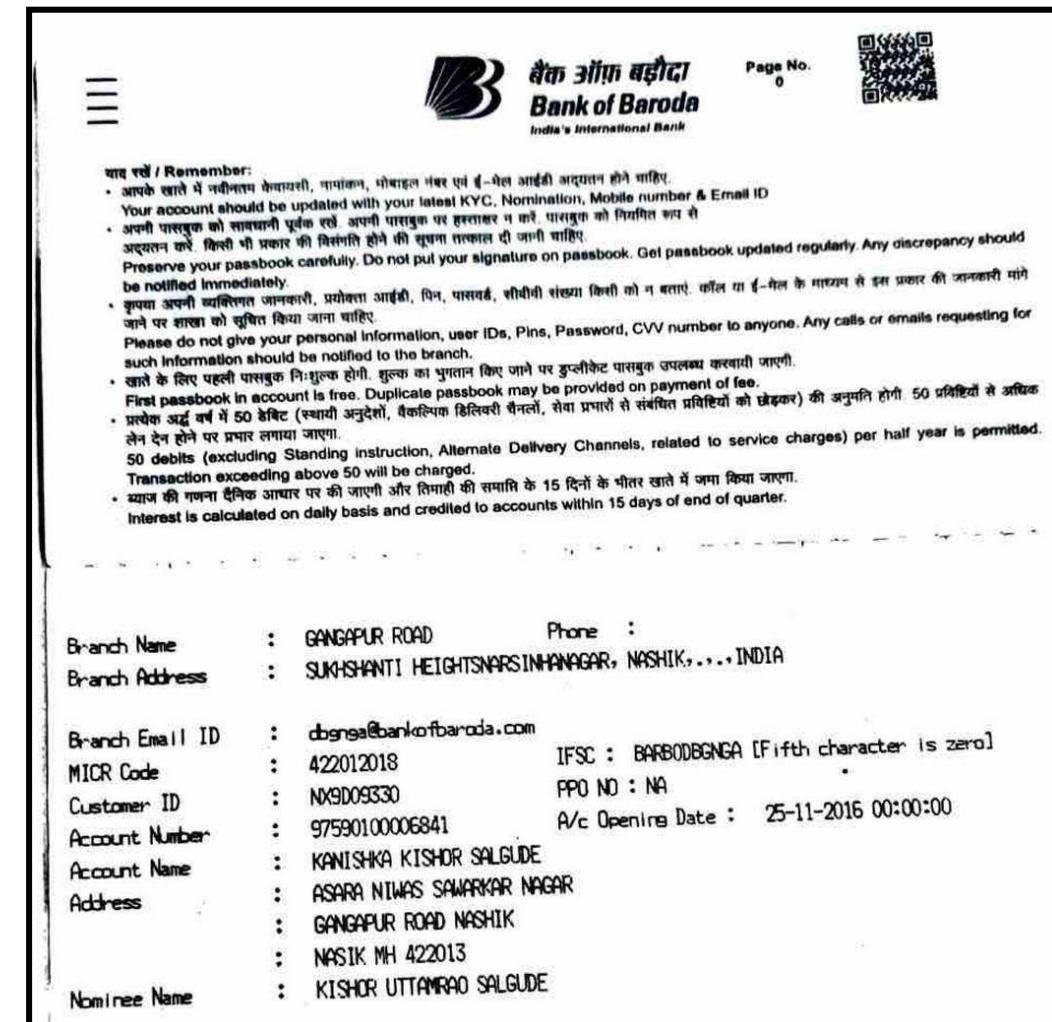
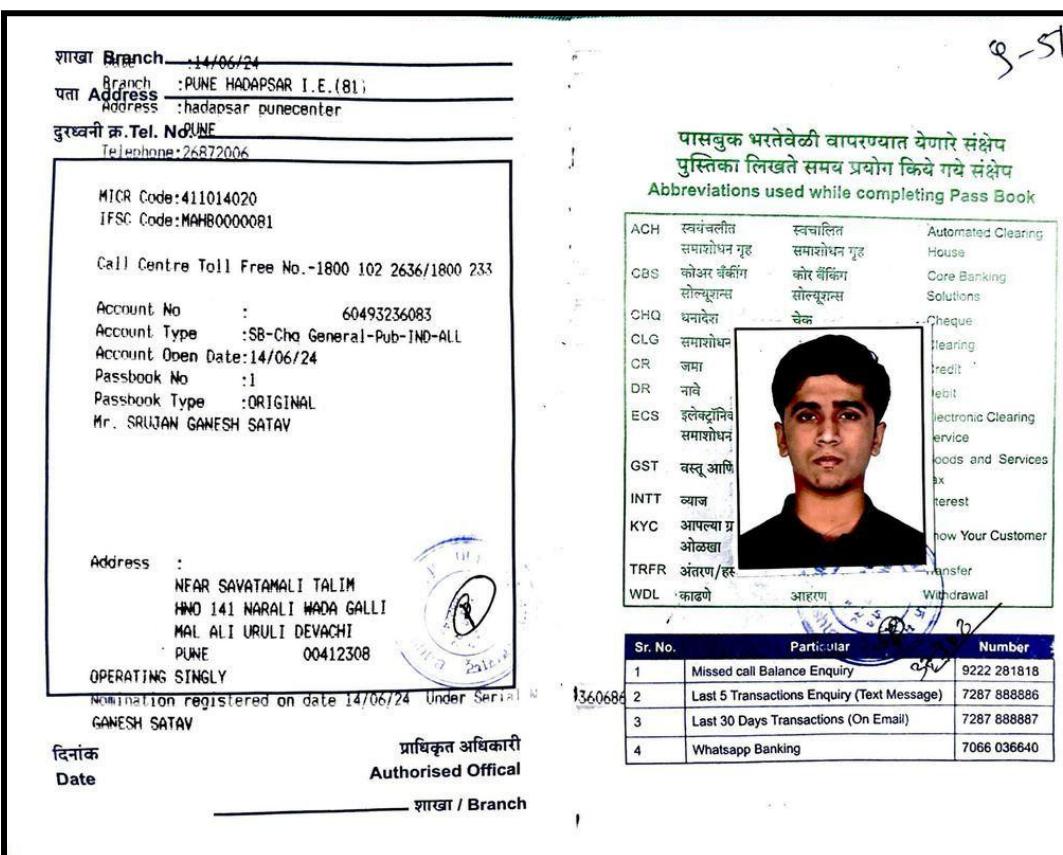
README

# Future Scope

Future Milestone	Challenge it Solves	Strategic Impact
✓ Account Abstraction (ERC-4337)	MetaMask complexity and private key management create high technical barriers for farmers.	Passwordless blockchain access via OTP/Aadhaar biometric. Crypto benefits without crypto friction.
✓ Corporate Floor Pricing	Green credit market price volatility causes income uncertainty for participating farmers.	Pre-committed corporate buy-back guarantees ensure stable, predictable monthly income.
✓ Validator Network Expansion	Manual verification doesn't scale as user base grows from hundreds to thousands nationwide.	Partner with agricultural universities, NGOs, and KVKs to create distributed verification infrastructure.
✓ Government Registry Integration	Operating independently without official regulatory recognition limits market legitimacy.	Synchronize with upcoming government carbon credit registries for maximum compliance and trust.
✓ Pan-India AI Coverage	Current disease detection limited to specific crops and Maharashtra region only.	Expand AI models to 50+ major Indian crops across all 28 states with region-specific intelligence.
✓ Agri-Business Training Partnerships	Business advisory alone insufficient—farmers lack execution skills for new ventures.	Partner with agri-businesses for subsidized skill training programs (₹2,000/farmer enrollment model).
✓ High-Value Crop Marketplace	Farmers hesitate to adopt modern farming for exotic crops due to market uncertainty fears.	Direct partnerships with hospitals and premium hotels ensuring guaranteed orders for specialty produce (strawberries, exotic vegetables).

# Bank Details

Full Name (as per bank records):	Bank Name	Branch Name	Account Number	Account Type (Savings / Current)	IFSC Code
SRUJAN GANESH SATAV	BANK OF MAHARASHTRA	PUNE HADAPSAR I.E.(81)	60493236083	SAVINGS	MAHB0000081
KANISHKA KISHOR SALGUD	BANK OF BARODA	GANGAPUR ROAD	97590100006841	SAVINGS	BARB0DBGNGA
SANSKAR MANOJ TIWARI	HDFC BANK LTD.	LAXMIPURI-KOLHAPUR	50100043699392	SAVINGS	HDFC0001274



TEAM MEMBER 1 : SRUJAN GANESH SATAV

TEAM MEMBER 2:KANISHKA KISHOR SALGUD

TEAM MEMBER 3:SANSKAR MANOJ TIWARI



JAI JAWAAN,JAI KISAAN  
**Thank You**

जय जवान , जय  
किसान