HAL - Harvest, Analyze & Learn

SOIL TO SUCCESS

OJAS AEROSPACE introduces the HAL App, a revolutionary platform for transforming agriculture.

Technological Integration
Utilizes advanced technologies like drones, IoT, AI, & Farm GPT for agricultural innovation.

Connectivity
HAL links farmers, retailers, brands, & others in the agricultural ecosystem.

HAL Saathi
A network of dedicated professionals facilitating widespread access to the app's benefits.

Services
Crop Health Monitoring, Equipment Rental, Drone Spraying, Enhancing farming efficiency and convenience.

Real-time Info
Provides accurate and real-time information for informed decision-making and optimal results.
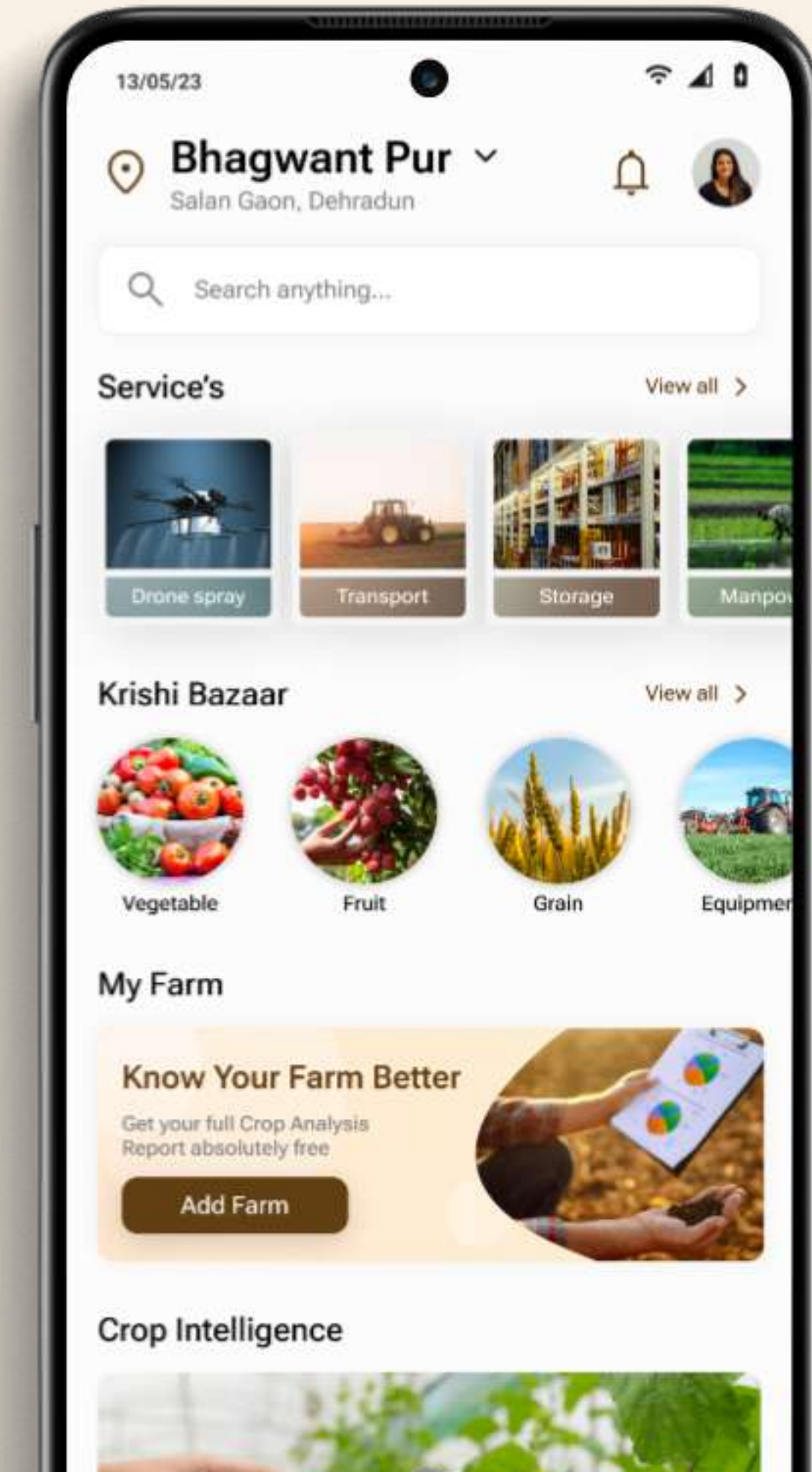
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A story about all the Features

Onboarding Screens provides the user with an introduction to the application and increase the level of trust in it.
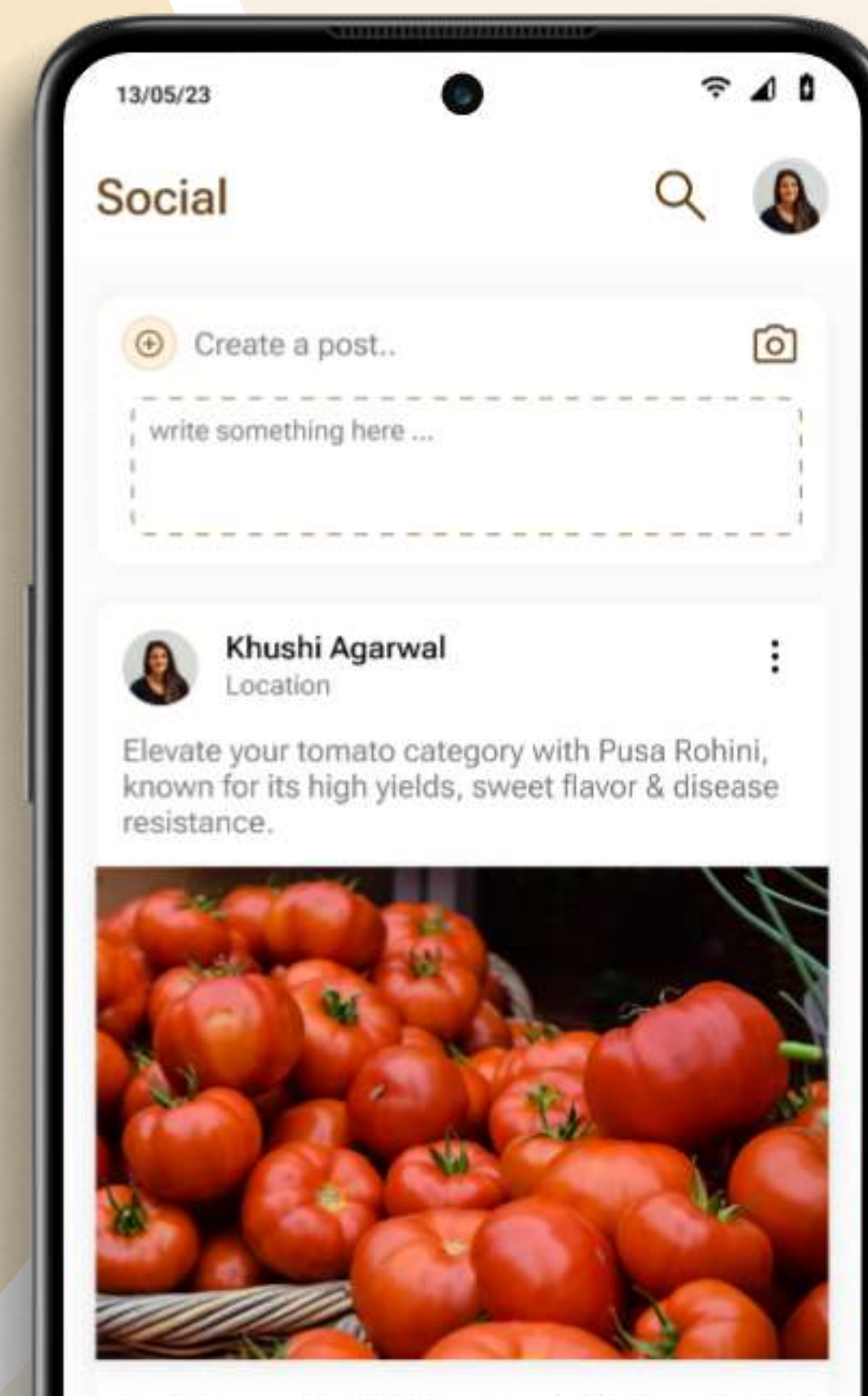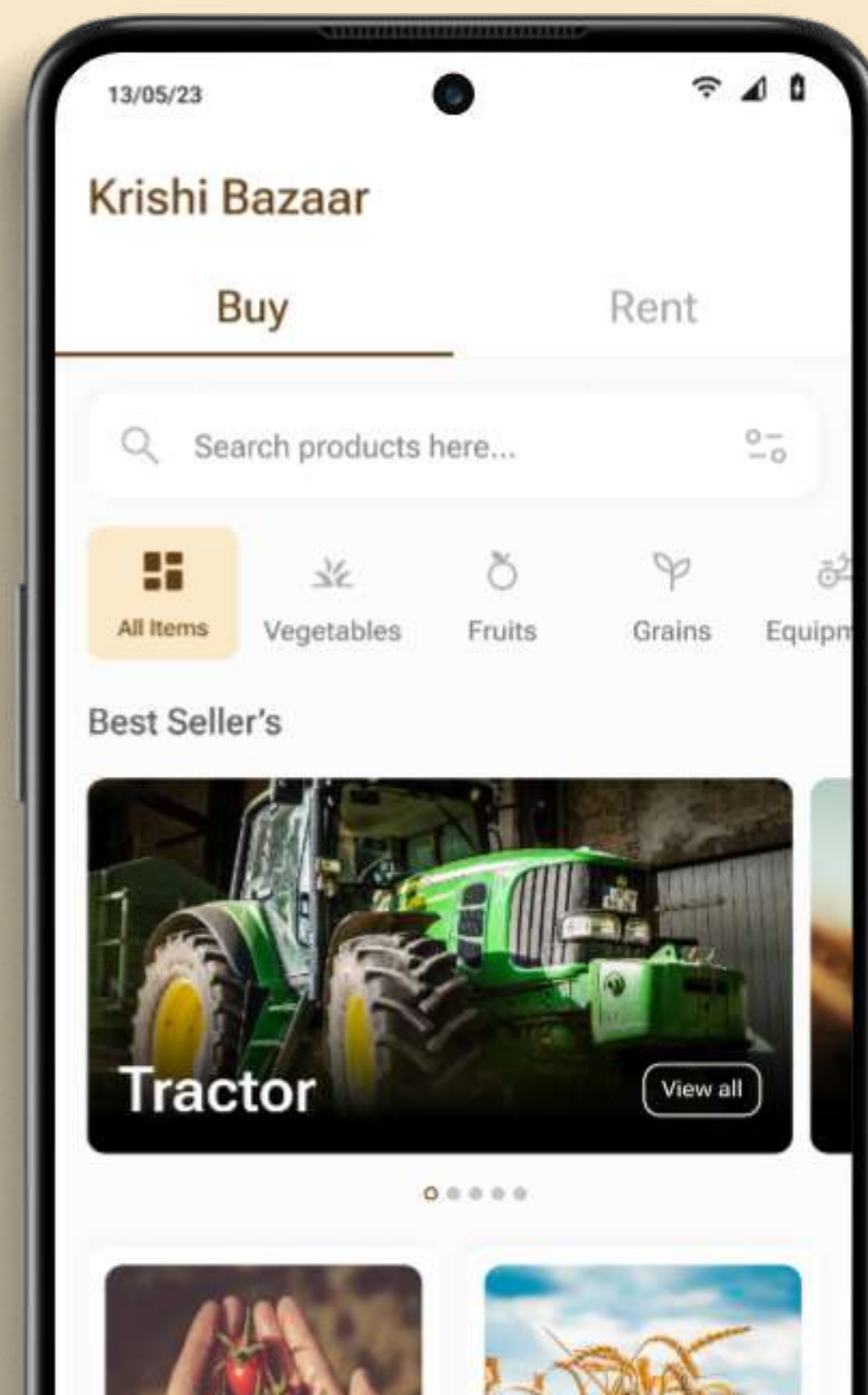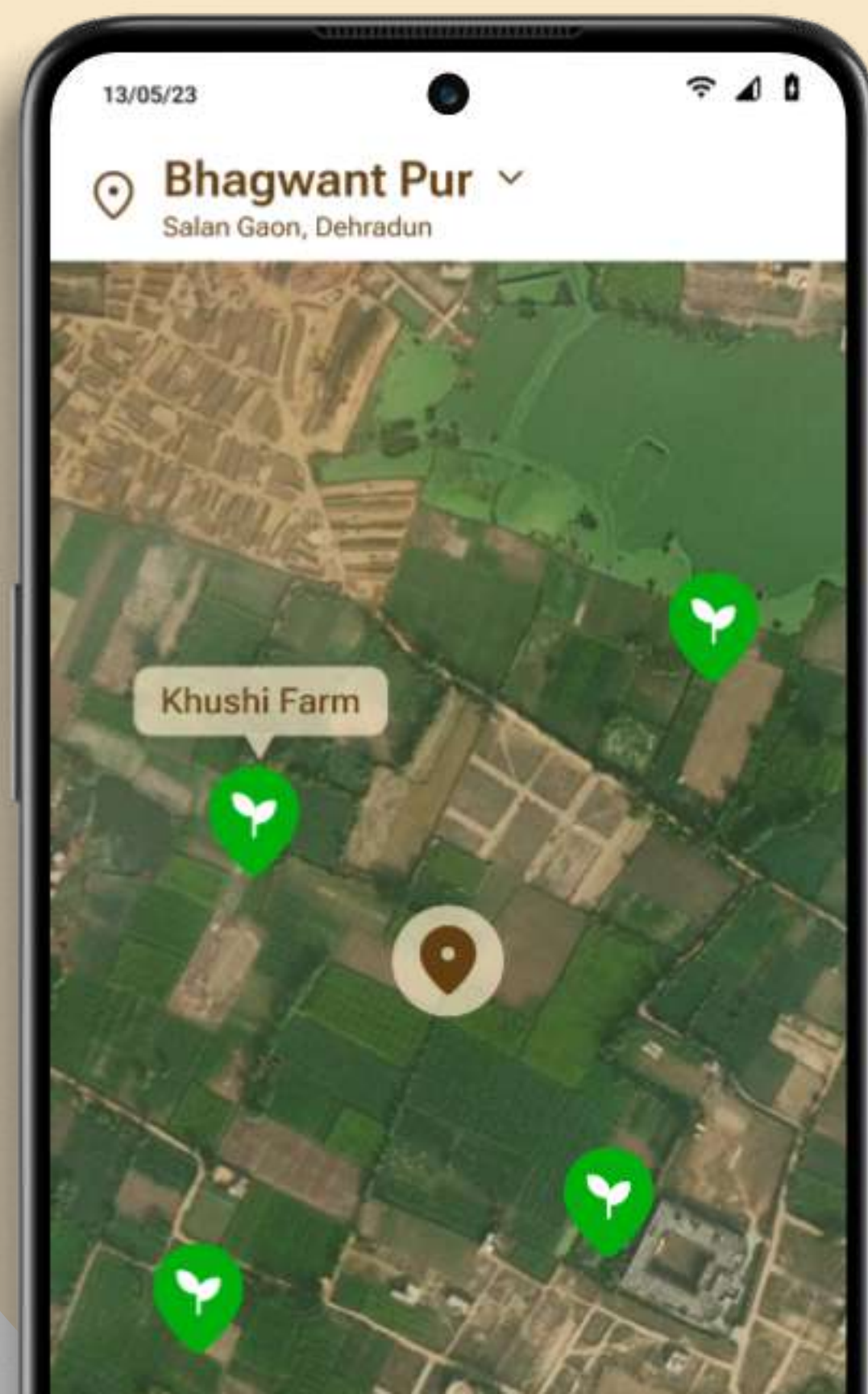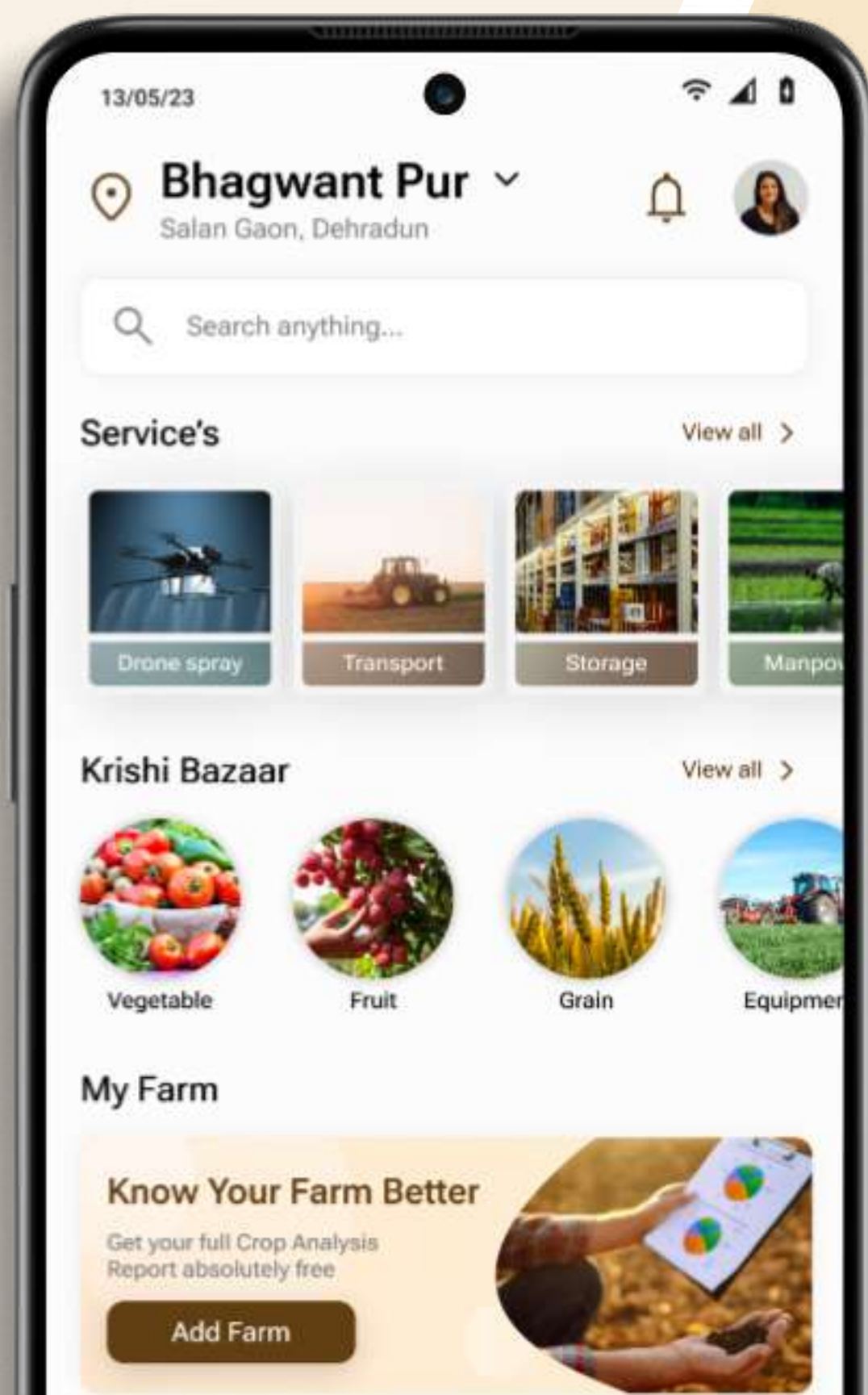
KRISHI BAZAAR

SERVICES

KRISHI GYAAN

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Krishi Bazaar

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Weaknesses

Threats

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S W O T

Strengths

Opportunities

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Strengths

Integrated Platform

HAL App provides a unified platform that integrates advanced technologies such as drones, IoT, AI, and Farm GPT, offering a comprehensive solution for various agricultural needs.

Diverse Service Offering

The platform offers a wide range of services, addressing multiple challenges in agriculture, including Crop Health Monitoring, Advisory, Equipment Rental, & Crop Financing, providing a one-stop solution for farmers.

Data-Driven Insights

HAL App leverages data analytics to provide farmers and stakeholders with accurate and real-time information, enabling informed decision-making and precision agriculture practices.

HAL Saathi Network

The presence of a dedicated network of HAL Saathi individuals facilitates on-the-ground support and enhances the reach of the platform's services to farmers.

Collaborations & Partnerships

Collaborations with government bodies, financial institutions, and other stakeholders strengthen the platform's credibility and expand its reach.

Weaknesses

Technology Adoption Challenges

Farmers may face challenges in adopting and adapting to advanced technologies. Training and education initiatives may be needed to overcome this hurdle.

Infrastructure Limitations

In regions with limited connectivity or inadequate infrastructure, the seamless integration of IoT and other technologies may face challenges.

Dependency on External Factors

The success of certain services, such as Crop Financing, may depend on external factors such as economic conditions and government policies.

User Education

Farmers and stakeholders may need comprehensive training and education to fully understand and utilize the diverse range of services offered by HAL App.

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Opportunities

Global Expansion

HAL App has the potential to expand its services to other regions and countries, tapping into global markets and addressing the diverse needs of different agricultural landscapes.

Rising Interest in Precision Agriculture

The increasing awareness and adoption of precision agriculture practices create opportunities for HAL App to become a key player in the modernization of farming techniques.

Technological Advancements

Ongoing advancements in technology provide opportunities for HAL App to continually enhance its services and stay at the forefront of agricultural innovation.

Environmental Sustainability Focus

Growing concerns about environmental sustainability present opportunities for HAL App to collaborate with entities focused on eco-friendly agricultural practices.

Threats

Competitive Landscape

Competition from other agtech platforms and traditional agricultural practices may pose a threat to HAL App's market share.

Regulatory Challenges

Changing or complex regulations related to agriculture, technology, and data privacy may pose challenges for the platform's operations.

Weather and Climate Risks

Unpredictable weather patterns and climate-related risks can impact crop health and, consequently, the demand for certain services provided by HAL App.

Cybersecurity Risks

Given the reliance on data and technology, cybersecurity threats could pose risks to the integrity and privacy of the information stored on the platform.

TECHNICAL CAPABILITIES OF HAL APP

Image Analysis

Drone Imagery

- **Sensor Technology:** Drones are equipped with RGB (Red, Green, Blue) cameras, multispectral cameras, and thermal cameras.
- **Data Acquisition:** Captures high-resolution images of fields, providing visual information.
- **Applications:**
  - **Crop Health Monitoring:** RGB cameras assess plant color, size, and overall health.
  - **Pest and Disease Detection:** Multispectral cameras identify stress signs, aiding in pest and disease detection.
  - **Precision Agriculture:** Enables precise resource application by mapping field variations.

Satellite Imagery

- **Sensor Technology:** Satellites use optical, radar, and multispectral sensors.
- **Data Acquisition:** Captures images and data over large areas, offering a macroscopic view.
- **Applications:**
  - **Large-Scale Monitoring:** Ideal for monitoring extensive agricultural regions and identifying trends.
  - **Weather and Climate Monitoring:** Contributes to tracking weather patterns for preparedness.

Mobile Imagery

- **Sensor Technology:** Mobile devices with built-in cameras.
- **Data Acquisition:** Farmers capture ground-level images using smartphones or tablets.
- **Applications:**
  - **On-the-Ground Inspection:** Enables close examination of specific crops or areas.
  - **User-Generated Data:** Farmers contribute images, enriching the overall dataset.

Spectral Analysis

Sensors and Spectrometer

Sensor Technology

Various sensors, including spectrometers.

Data Acquisition

Measures the electromagnetic spectrum, capturing spectral signatures.

Applications

- **Crop Analysis:** Identifies characteristics like nutrient levels, moisture, and biochemical composition.
- **Soil Health Assessment:** Evaluates soil properties such as organic matter, pH, & nutrient content.

Integrated Data and Analysis:

- **Data Fusion:** Integrates data from drones, satellites, mobile devices, and various sensors.
- **Algorithms:** Advanced machine learning algorithms analyze integrated data.
- **Decision Support:** Offers insights for informed decisions in crop management and resource optimization.

- **Continuous Monitoring:** Provides real-time monitoring of crop conditions and environmental factors.
- **Alert Mechanisms:** Generates automated alerts based on predefined thresholds.

Applications:

- **Precision Alerts:** Alerts farmers to potential issues like pest infestations, crop diseases, or adverse weather conditions.

CROP HEALTH MONITORING HAL APP

Problem

Delayed Crop Health Responses

Farmers often face challenges in monitoring the health of their crops in real-time, leading to delayed responses to potential issues such as diseases or pests.

Solution

Instant Insight: HAL App's Drone & AI Monitoring

HAL App provides Crop Health Monitoring services, leveraging technologies like drones and AI for accurate and timely assessments of crop conditions.

EQUIPMENT RENTAL

Problem

Limited Access to Farming Equipment

Limited access to modern and expensive agricultural equipment poses a challenge for small-scale farmers.

Solution

Access Anytime: HAL App's Farm Equipment Rental

HAL App facilitates Equipment Rental services, allowing farmers to access and utilize advanced farming machinery as needed.

PRECISION AGRICULTURE & ADVISORY

Problem

Suboptimal Farming Information

Lack of precise information and advisory services can result in suboptimal farming practices and reduced yields.

Solution

Optimized Practices: HAL App's AI-driven Advisory

HAL App offers Crop Advisory services, utilizing AI and data analytics to provide farmers with tailored advice for improved agricultural practices.

DRONE SPRAYING SERVICES

Problem

Inefficient Crop Spraying

Traditional methods of crop spraying can be time-consuming and less efficient, leading to uneven application of pesticides or fertilizers.

Solution

Efficiency Soars: HAL App's Precision Drone Spraying

HAL App integrates drone technology to offer precise and efficient Drone Spraying Services, enhancing the effectiveness of crop inputs.

AGRI PATHLAB & SOIL TESTING

Problem

Inaccurate Soil Testing

Lack of accurate soil testing and analysis can result in improper fertilization and nutrient management.

Solution

Informed Decisions: HAL App's Soil Testing

HAL App includes Agri Pathlab & Soil Testing services to provide farmers with crucial insights into soil health, enabling informed decisions about fertilization.
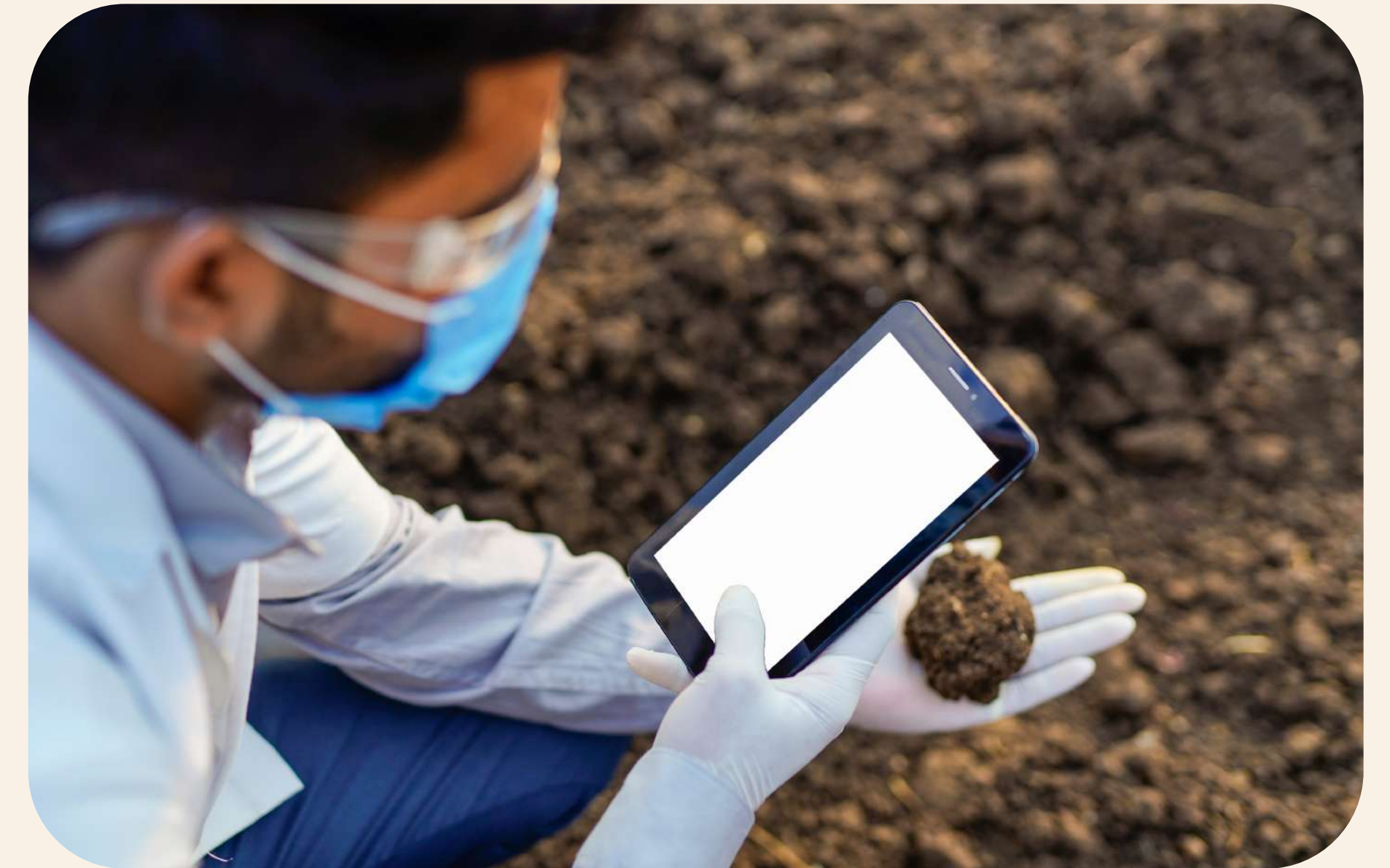
CROP FINANCING & INSURANCE

Problem

Financial Hurdles for Farmers

Limited access to financial services and insurance products can hinder farmers' ability to manage risks and invest in their crops.

Solution

Secure Agriculture: HAL App's Financial Support

HAL App facilitates Crop Financing and Insurance services, connecting farmers with financial institutions and insurance providers to support their agricultural endeavors.

IRRIGATION AUTOMATION

Problem

Inefficient Crop Irrigation

Inefficient irrigation practices can lead to water wastage and suboptimal crop growth.

Solution

Smart Watering: HAL App's Irrigation Automation

HAL App integrates Irrigation Automation, leveraging IoT and AI to optimize irrigation schedules and improve water use efficiency.

TRANSPORTATION & STORAGE

Problem

Limited Ace Post-harvest Losses Due to Storage to Farming Equipment

Inadequate transportation and storage facilities can lead to post-harvest losses and market inefficiencies.

Solution

Efficient Flow: HAL App's Transportation Solutions

HAL App addresses this by providing services related to Transportation and Storage, ensuring a streamlined supply chain.

MANPOWER SERVICES

Problem

Skilled Labor Shortage in Farming

Availability and management of skilled labor for farming activities can be a challenge.

Solution

Connect with Skills: HAL App's Manpower Support

HAL App offers Manpower Services, connecting farmers with skilled professionals as needed for various agricultural tasks.

AGRI INPUT SALES, CROP MARKETING & EXPORT

Problem

Farmers Struggle with Product Marketing

Farmers may struggle with marketing their produce and accessing markets for export.

Solution

Global Markets: HAL App Boosts Crop Sales & Export

HAL App facilitates Agri Input Sales, Crop Marketing & Export services, helping farmers connect with markets & buyers for their agricultural products.

BUSINESS OVERVIEW

Drone Mapping
Drone Mapping, or aerial mapping, involves drones with cameras or sensors capturing images and data of a farm. This helps analyze crop diseases, soil conditions, and key factors like fertilizer needs and crop timelines.

Drone Spraying
Spraying in farms, whether done by hand or with machinery, can face challenges like uneven coverage, safety risks, labor intensity, and limited coverage area. Drone spraying tackles all these issues simultaneously at a reasonable cost.

Agri Business Facilities
We have other multiple facilities listed in our Hal App for ex. Crop Insurance, Logistics, Cold Storage, Labour Requirements, Soil Testing Labs, so that a farmer can get each and every solution at one place without running here and there.

Cost Saving
Precision Agriculture offers a major benefit with low expenses and high income. Services like drone spraying and renting agri equipment reduce farming costs, while having buyers on the same platform creates more competition, leading to better prices for crops.

Rent Equipment/ Extra Income
HAL is a digital platform that makes it easy for farmers to rent agricultural equipment. It offers a convenient solution for accessing the needed machinery without the upfront costs and long-term commitments of buying expensive equipment.

Crop Marketing
The HAL app addresses this by connecting farmers with buyers and offering tools for effective crop marketing. Farmers can create profiles, register farms, and share details about the crops they grow and their location on the app.

PROBLEMS FACED BY FARMERS & IT'S SOLUTIONS IN HAL APP

IMPACT ON CROPS AND LIVESTOCK

Farmers with advanced insights into fluctuating weather conditions, extreme events, enabling them to safeguard their crops and livestock. By offering timely info, Empowers farmers to plan logistics & facilitates connections with retailers for prompt sales.

MARKET ACCESS

Farmers face challenges selling their produce at fair prices due to middlemen and transportation/ storage issues. The Hal app connects farmers directly with buyers, ensuring fair prices for their crops.

HEALTH & SAFETY RISKS

Using manual sprayers without proper protection and training exposes farmworkers to chemicals, risking health issues such as skin and respiratory problems.

LATEST TECHNOLOGIES & EQUIPMENT

Staying updated on the latest agricultural technologies is challenging for small-scale farmers with limited resources. The Hal App helps farmers stay informed about the latest tools and equipment used in farming.

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WHAT IS HAL SAATHI?

Hal Saathi represents all the partners working with HAL to create more employment opportunities in the country.

Agri Shop Owner

HAL App provides a digital platform to every Agri shop owner to list their products with the prices and images.

Soil Testing Labs

With the help of collected data in HAL App Soil Testing Labs can reach out to more potential customers & increase business rapidly.
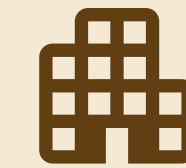
Insurance Companies

Many insurance companies can partner with HAL and list their services so that farmers can easily avail insurance to their crops.

Logistics Partner

With the help of HAL Sathi farmers will easily be able to get transportation & storage facilities at better cost after comparison with others.

Drone Companies

Any drone manufacturing company can partner with us & deploy their drone in Agri Business. Drone companies can have direct business with us.

Renting Equipments

Any Farmer or any shop owner can list their product for renting it and can generate extra income.

COMPETITORS ANALYSIS

Plantix 10M+

Mobile crop advisory app for farmers, extension workers and gardeners.

Drawback: Unable to recognize disease in some plants, Plant picture should be clear to detect disease.

Agri Central 10M+

Helps farmers take critical decisions in their farming business. Crop plan, Crop Care Market View.

Drawbacks: Old data in Market price, Data isn't available for all crops, Technical Issues in Sign Up, Login.

Krishify 10M+

A social network app for Indian farmers to help them connect with all the relevant agricultural stakeholders.

Drawbacks: Mainly in Informatic Videos related to Agriculture, Agri News, Crop Diseases, Fertilisers

CUSTOMER SEGMENTATION & ECOSYSYTEM

FARMERS

Pain Points

- Limited access to advanced technologies.
- Uncertainty in crop health monitoring.
- Challenges in obtaining financial support & insurance.
- Lack of precision in agricultural practices.

How Hal App Addresses

- HAL App integrates advanced technologies like drones and AI for precise crop health monitoring.
- Facilitates Crop Financing and Insurance services, connecting farmers with financial institutions.
- Offers Advisory services based on data-driven insights, improving precision in farming practices.
- Provides a one-stop platform for various services, addressing multiple pain points.

RETAILERS

Pain Points

1. It's hard for retailers to connect with many different farmers, causing problems in reaching and helping their target customers efficiently.
2. Retailers face challenges because they don't have up-to-date information on what farmers need and current agricultural trends, making it tough to offer the right products.

How Hal App Addresses

1. Retailers find it tough to connect with lots of farmers, making it hard to help their customers well.
2. Retailers struggle because they lack the latest info on farmers' needs and trends, making it difficult to offer the right products.

BRAND & COMPANY

Pain Points

1. It's tough for agricultural brands to reach and be known in different farming communities, which makes it hard for them to grow in the market.
2. Brands might not have enough info about what farmers like, making it tricky to create products and marketing plans that suit different agricultural areas or needs.

How Hal App Addresses

1. HAL App links brands with farmers, helping them reach a wide range of farmers and be present in different farming communities.
2. The HAL App uses data to give brands insights into what farmers like and need, helping them create products and marketing plans that match the specific needs of different regions and groups of people.

LOGISTICS PROVIDERS

Pain Points

- Inefficient supply chain management.
- Post-harvest losses due to inadequate transportation and storage.

How Hal App Addresses

- Optimizes transportation and storage services, reducing post-harvest losses.
- Facilitates efficient supply chain management through real-time data and analytics.

SELF-EMPLOYED PROFESSIONALS

Pain Points

- Limited opportunities to offer specialized services to farmers.
- Challenges in reaching a broader clientele.

How Hal App Addresses

- HAL App provides a platform for professionals to offer specialized services to farmers.
- Facilitates broader reach and connectivity with farmers through the HAL Saathi network.

GOVERNMENT & INSTITUTIONS

Pain Points

- Difficulty in reaching and supporting individual farmers.
- Limited real-time data for policy-making.

How Hal App Addresses

- Collaborates with government bodies, facilitating access to real-time data for policy-making.
- Connects government initiatives directly with individual farmers through the platform.

BANKING & FINANCIAL INSTITUTIONS

Pain Points

- Difficulty in reaching and assessing the creditworthiness of individual farmers.
- Limited data for risk assessment.

How Hal App Addresses

- Facilitates Crop Financing services, connecting financial institutions directly with farmers.
- Provides real-time data for improved risk assessment and decision-making.

SERVICE PROVIDERS (HAL SAATHI)

Pain Points

- Limited opportunities to reach and support farmers.
- Challenges in providing on-the-ground assistance.

How Hal App Addresses

- HAL App establishes the HAL Saathi network, offering opportunities for service providers to reach and support farmers directly.
- Enhances on-the-ground support through the HAL Saathi network.

BUSINESS MODEL

Unified Platform

HAL App serves as a centralized platform that brings together farmers, retailers, brands, logistics providers, self-employed individuals, professionals, government bodies, institutions, and banking entities.

HAL Saathi Network

HAL App relies on a network of dedicated professionals known as HAL Saathi. These individuals serve as facilitators, connecting farmers with the various services and solutions offered by the platform.

Service Offerings

HAL App offers a wide range of services, including Crop Health Monitoring, Crop Advisory, Equipment Rental, Drone Spraying Services, Agri Pathlab & Soil Testing, Crop Financing and Insurance, Irrigation Automation, Transportation and Storage, Manpower Services, Agri Input Sales, and Crop Marketing & Export.

Revenue Streams

HAL App generates revenue through a variety of channels, including service fees for specific offerings (e.g., Equipment Rental, Drone Spraying Services), transaction fees for financial services (e.g., Crop Financing), and commissions for facilitating Agri Input Sales and Crop Marketing & Export.

Advanced Technologies

Leveraging advanced technologies such as drones, IoT, AI, and Farm GPT, HAL App provides accurate and real-time information, enabling farmers and stakeholders to make informed decisions.

Subscription Models

HAL App may introduce subscription models for farmers, retailers, and other stakeholders, providing access to a certain set of services or premium features. Subscription fees can contribute to recurring revenue.

Customer Education and Support

Providing customer education and support services ensures that users, especially farmers, can fully leverage the capabilities of HAL App. This enhances user satisfaction and engagement, contributing to the long-term success of the platform.

Scalability & Global Expansion

HAL App's business model is designed to be scalable, allowing for potential expansion into different regions and markets. Global partnerships and collaborations may be explored to adapt the platform to diverse agricultural landscapes.

Government & Institutional Collaborations

HAL App's business model is designed to be scalable, allowing for potential expansion into different regions and markets. Global partnerships and collaborations may be explored to adapt the platform to diverse agricultural landscapes.

Partnerships and Collaborations

HAL App can form strategic partnerships with agricultural equipment manufacturers, financial institutions, insurance providers, and other relevant entities. These collaborations can enhance the range and quality of services offered.
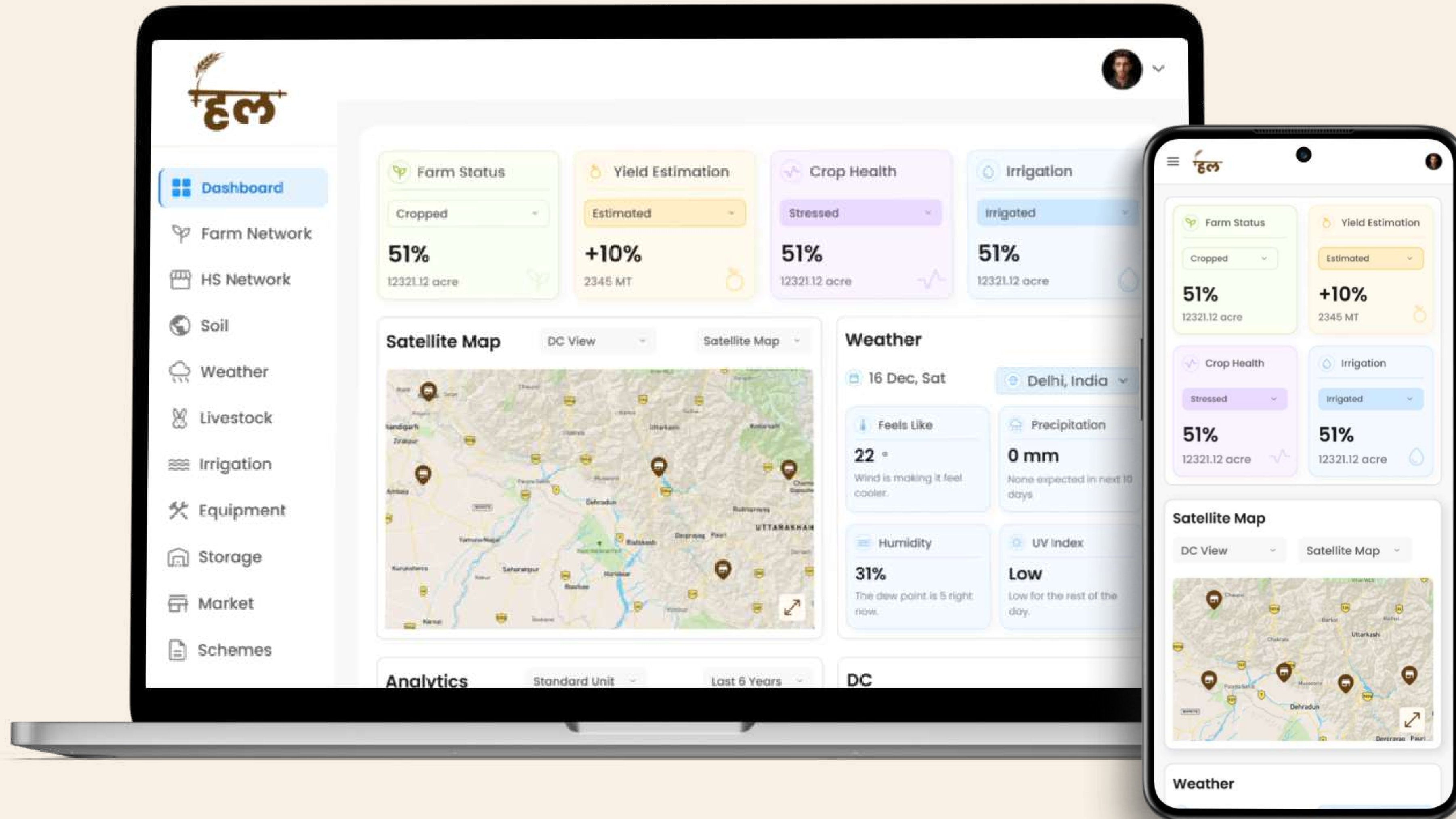
Data Monetization

Aggregated and anonymized data collected through the platform can be analyzed to extract valuable insights. HAL App may explore opportunities for data monetization by providing industry reports, market trends, and other analytics to stakeholders or third-party organizations.

ICT DASHBOARD

REPORT ANALYSIS

Plant Population Analysis

Data Collection
Drones equipped with high-resolution cameras capture images of the agricultural fields.

AI Processing
AI algorithms process these images to identify and count individual plants, providing accurate plant population data.

Report Generation
The Hal App Platform generates a detailed report on the distribution and density of plants in the field.

Plants Counted
486,254

Average Plant Density
22,882.5 / Acre

Planned Seeding Density
30,000.0 / Acre

Result Map

Location Map

Pest Damage Analysis

Data Collection
Drones capture images with advanced sensors to identify signs of pest damage on crops.

AI Processing
AI algorithms analyze images to detect and quantify pest damage, providing insights into the severity of infestation.

Report Generation
AI algorithms analyze images to detect and quantify pest damage, providing insights into the severity of infestation.

Fine	Potential Pest Disease	Pest Disease
37.1%	45.23%	17.67%
1.05	1.28	0.5

Result Map

Location Map
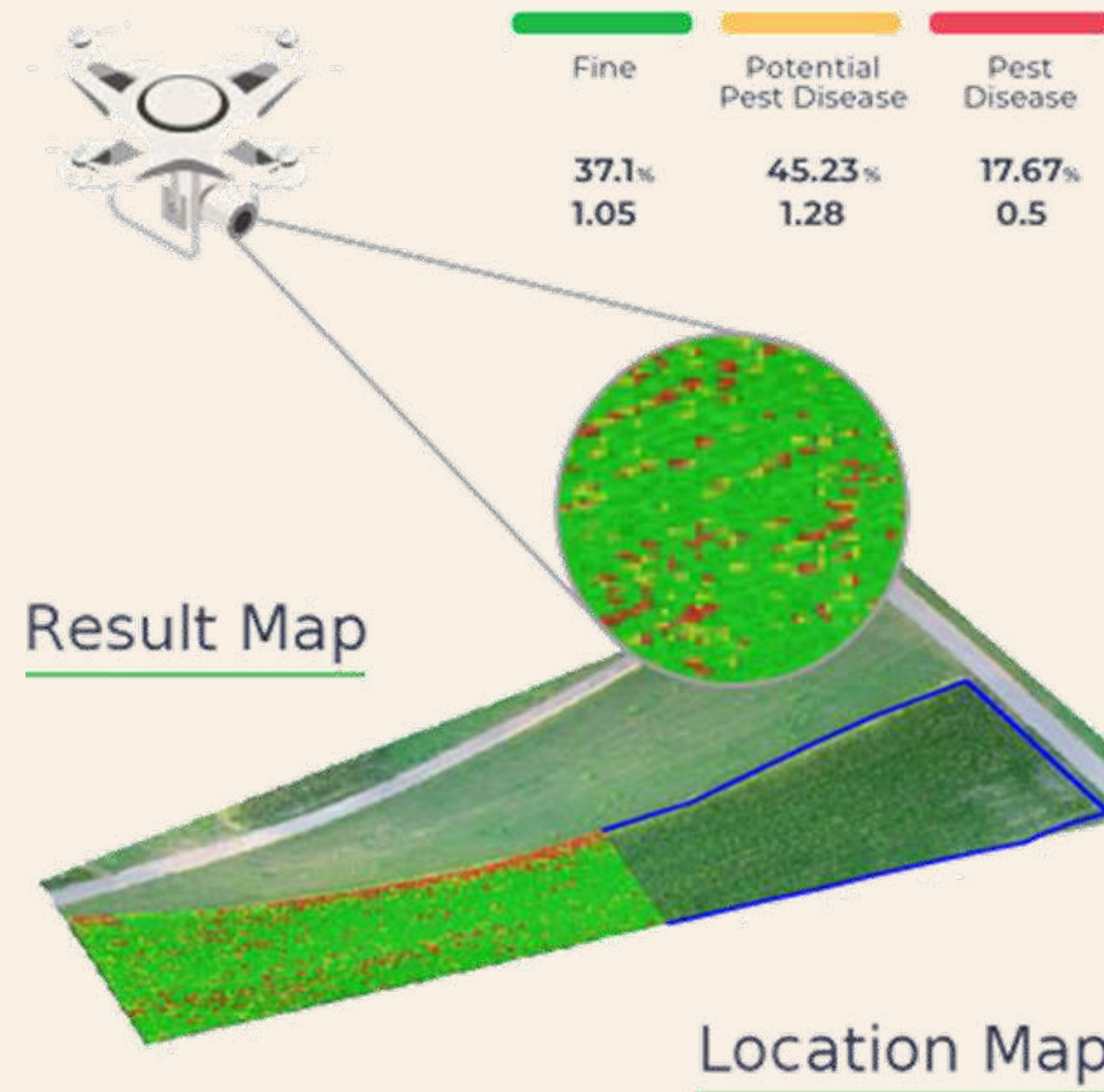
Data Collection

: Drones equipped with multispectral or hyperspectral sensors collect data on crop health indicators.

AI Processing

AI algorithms analyze the data to identify patterns associated with various diseases, enabling early detection.

Report Generation

The platform generates a report on the types of diseases present, their severity, and recommendations for treatment

Disease Detection Analysis
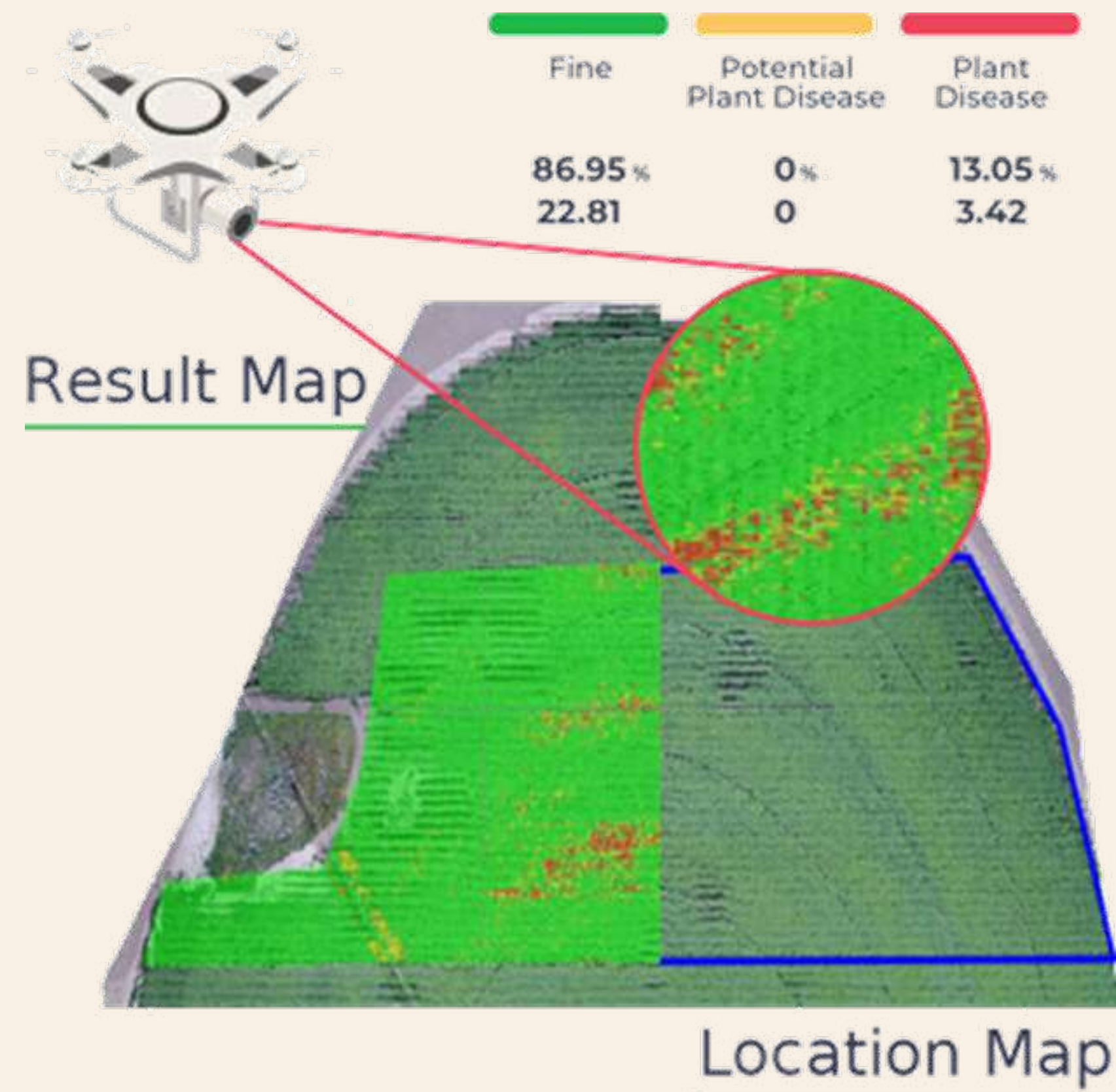
Data Collection
Drones capture data on various stress indicators such as temperature, humidity, and nutrient levels.

AI Processing
AI algorithms analyze the data to assess the stress levels of plants, indicating potential issues in the field.

Report Generation
The platform generates a report outlining the stress factors affecting the plants and suggests mitigation measures.

Plant Stress Analysis

Fine	Potential Plant Stress	Plant Stress
63.95%	19.77%	16.28%
0.55	0.17	0.14

Result Map

Location Map

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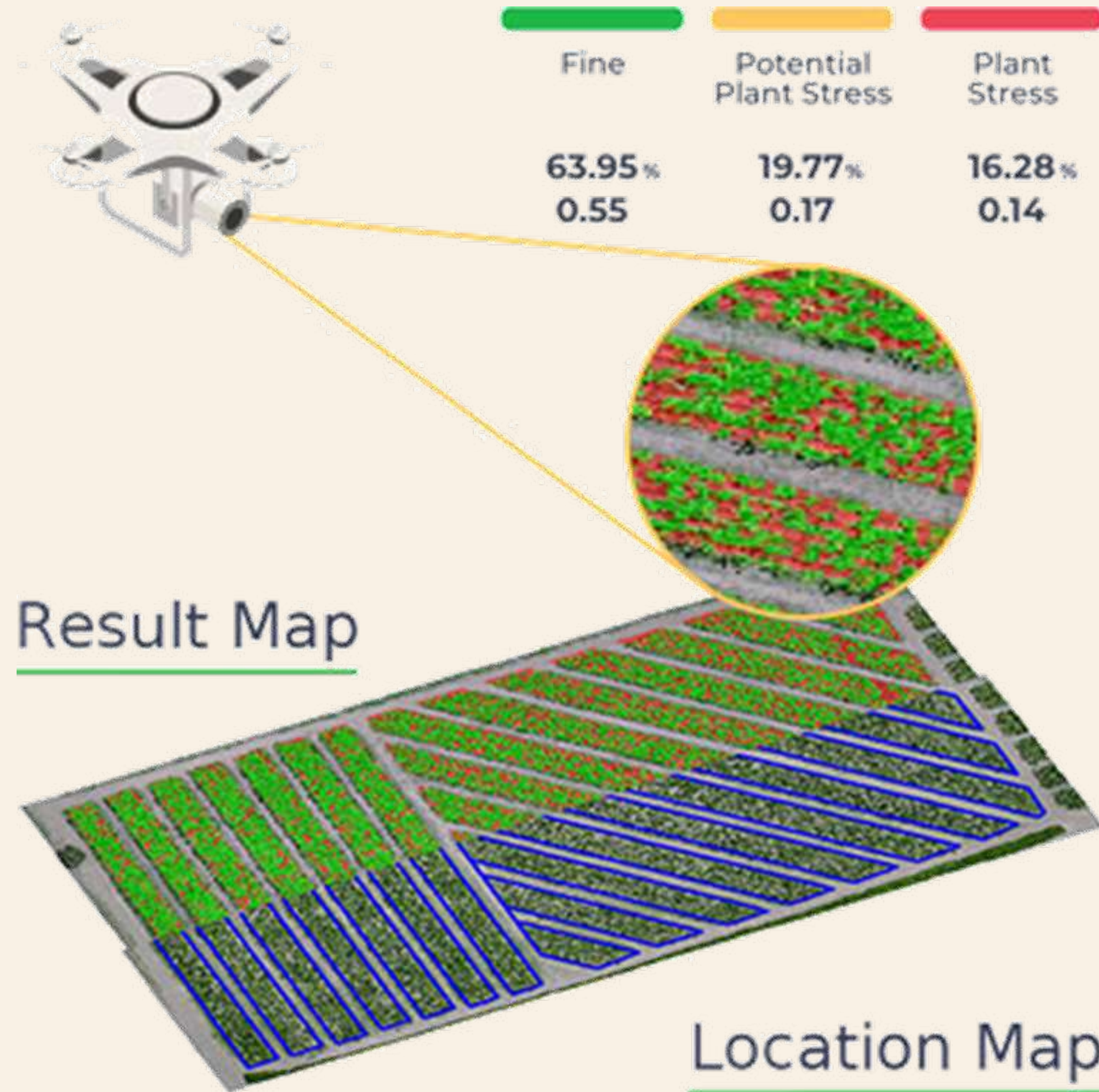
Data Collection

Drones capture images to identify weed growth within the crop fields.

AI Processing

AI algorithms differentiate between crops and weeds, providing information on the extent of weed infestation.

Report Generation

The platform generates a report detailing the areas affected by weeds, allowing for targeted control measures.

Weed Control Analysis

Fine	Low Weed Pressure	High Weed Pressure
86.04%	0%	13.96%
10.08	0	1.63

Result Map

Location Map
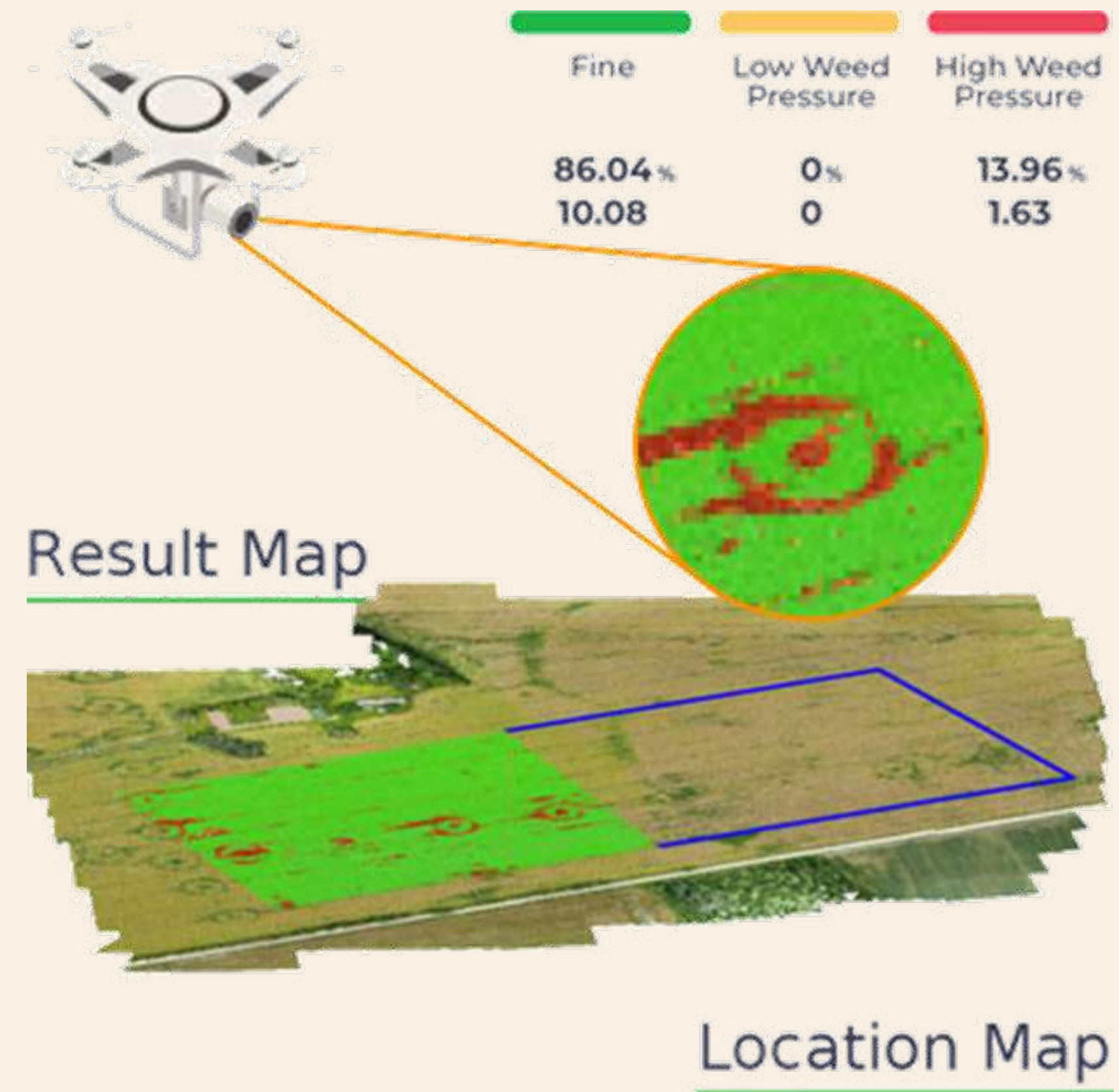
Data Collection

Drones capture images to monitor the flowering stages of crops.

AI Processing

AI algorithms analyze the images to determine the flowering status of the crops.

Report Generation

The platform generates a report on the flowering patterns, aiding in crop management decisions.

Flowering Analysis
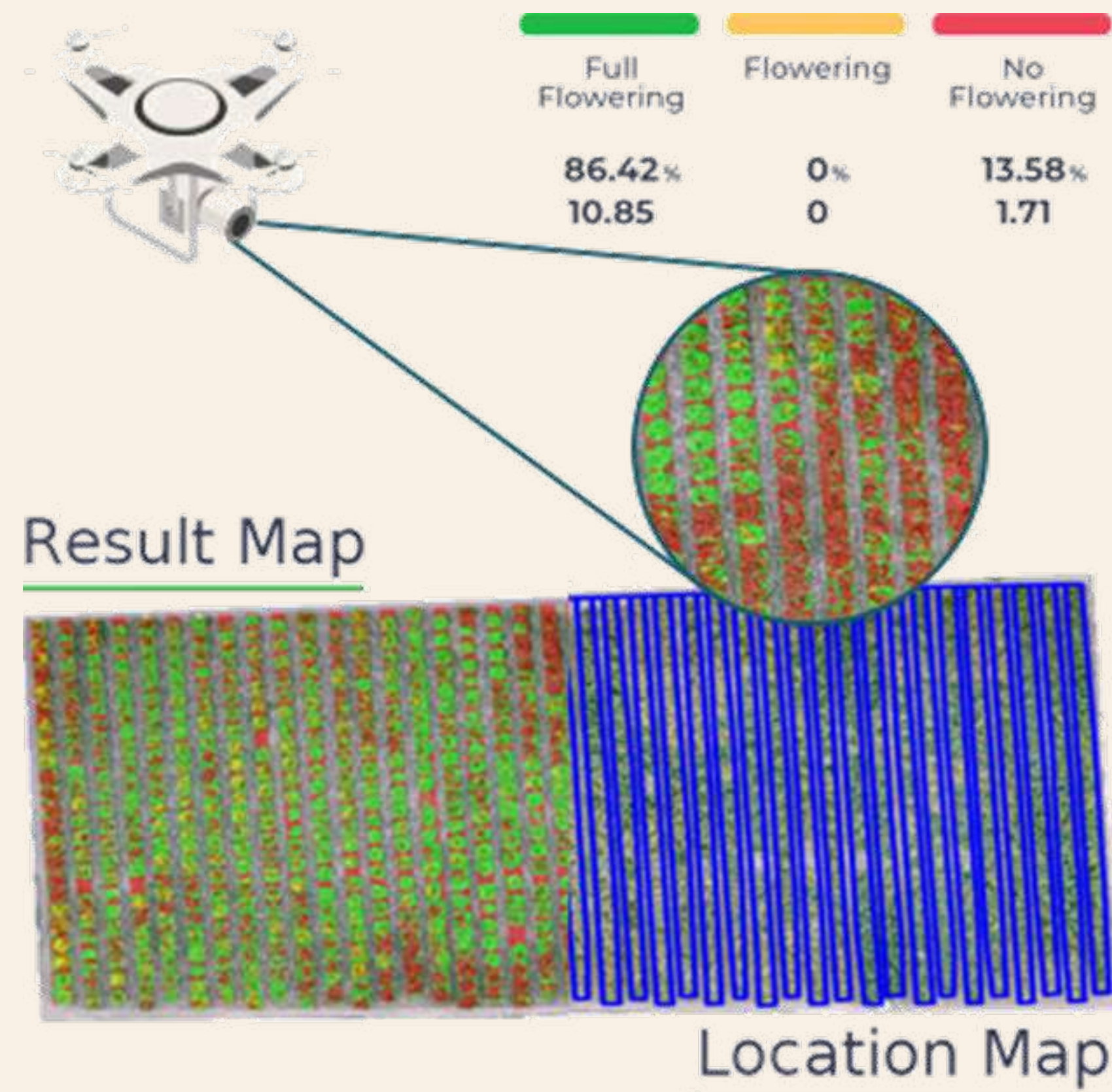
Data Collection

Drones capture high-resolution aerial images to provide a comprehensive overview of the entire agricultural landscape.

AI Processing

AI algorithms analyze the images to extract valuable insights on overall field health and conditions.

Report Generation

The platform generates a holistic report, giving farmers a bird's-eye view of their entire farm for strategic decision-making.

Eagle Eye Report
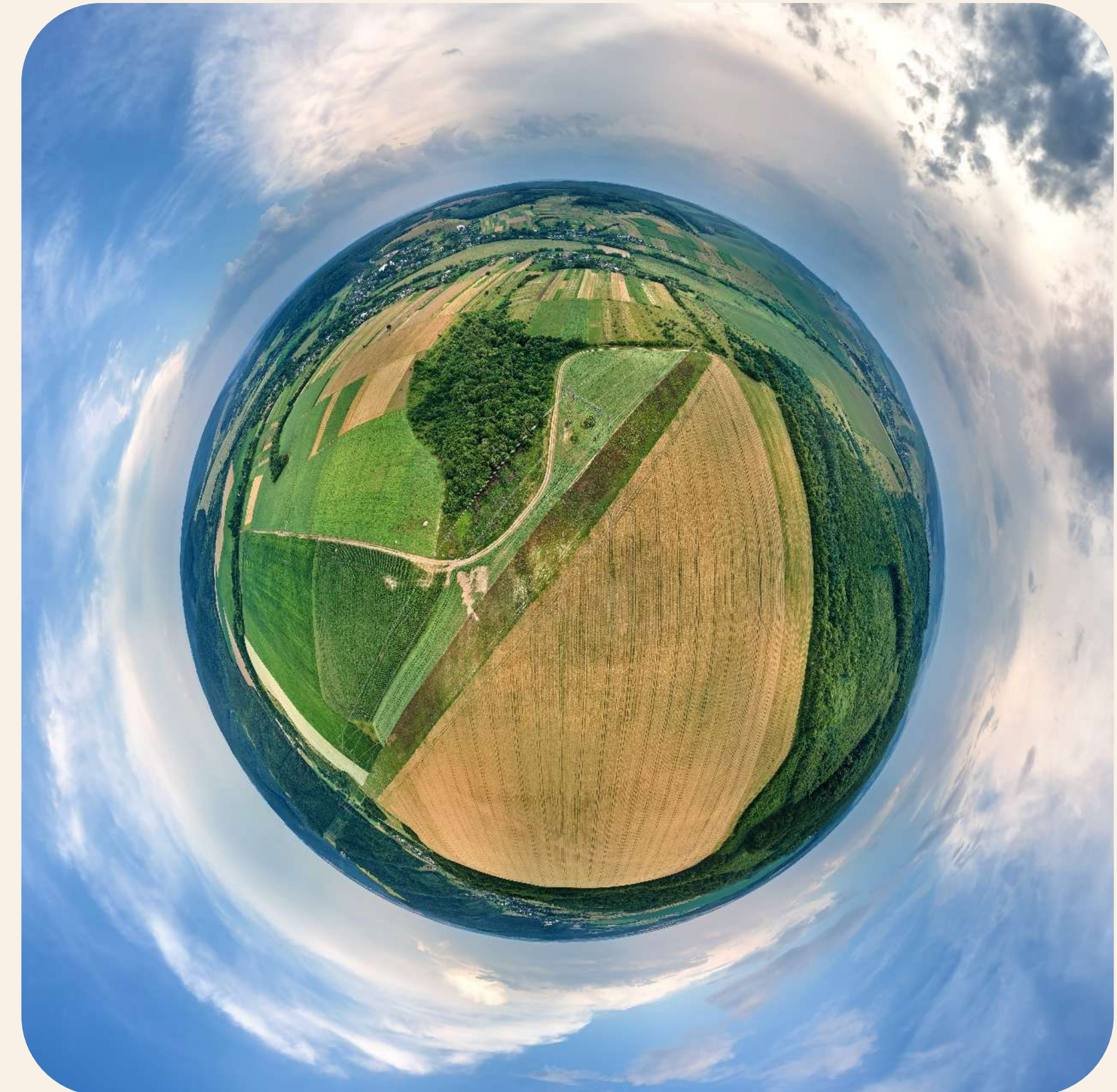
Data Collection
Drones equipped with sensors measure nitrogen levels in the soil and crops.

AI Processing
AI algorithms interpret the nitrogen data to assess the nutrient status of the plants.

Report Generation
The platform generates a report on nitrogen levels, aiding in precise fertilizer management.

Nitrogen Status Analysis

Excellent vegetation	Good vegetation	Poor vegetation	No vegetation
0.59 %	51.55 %	39.76 %	4.46 %
4.24	7.13	5.5	0.62
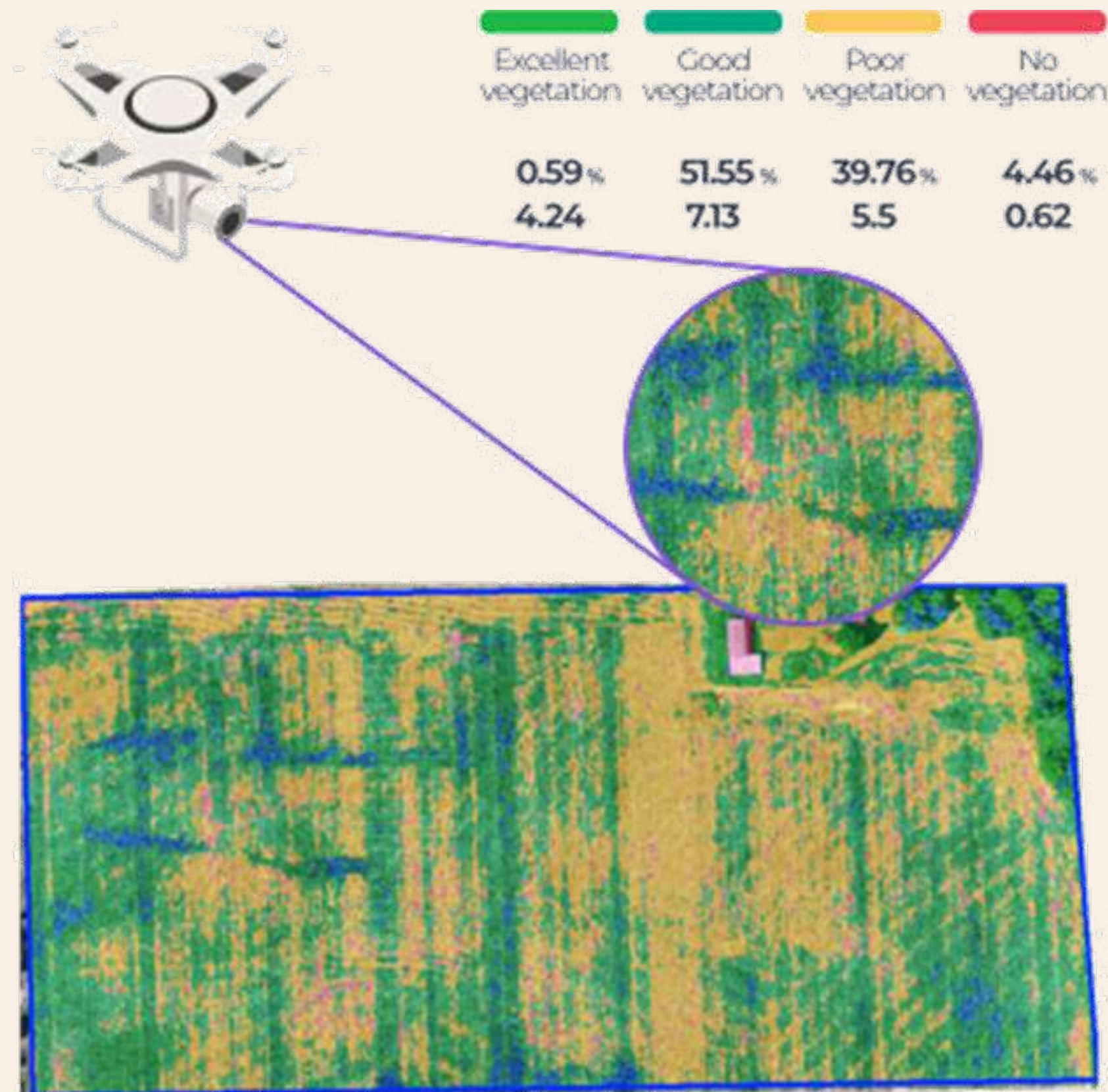
Data Collection

Drones equipped with sensors detect waterlogged areas in the fields.

AI Processing

AI algorithms analyze the data to identify the extent and severity of waterlogging.

Report Generation

The platform generates a report on waterlogged areas, assisting in drainage and irrigation planning.

Water logging Analysis

No Waterlogging	Wet Zone	Waterlogging Zone
67.9 %	24.16 %	7.86 %
27.21	9.67	3.15
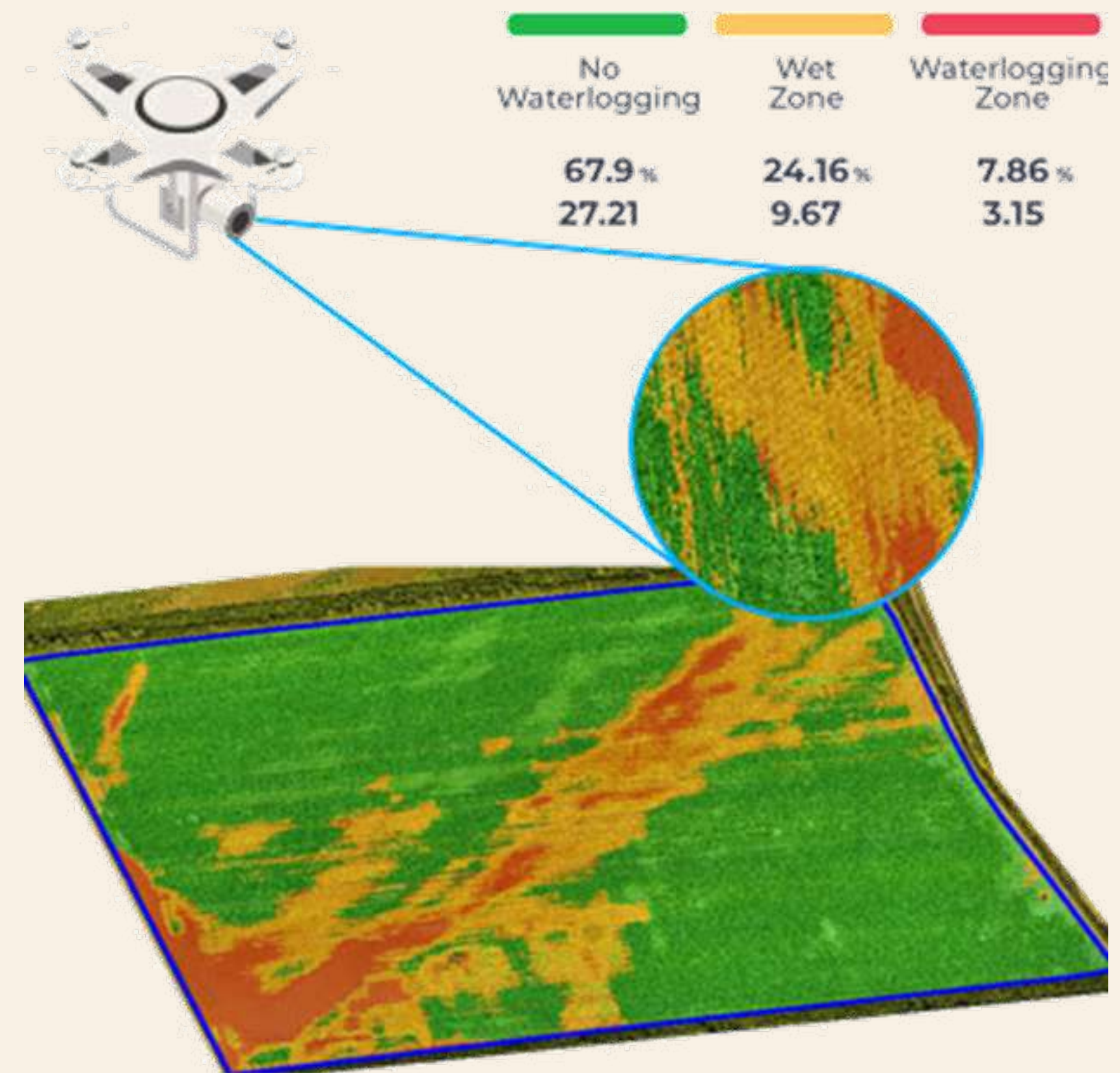
Data Collection

Drones monitor soil moisture levels and crop conditions to identify signs of drought stress.

AI Processing

AI algorithms analyze the data to assess the likelihood and severity of drought conditions.

Report Generation

The platform generates a report on drought conditions, facilitating proactive measures.

Drought Analysis

Fine	Potential Water Drought	Water Drought
86.04%	0%	13.96%
10.08	0	1.63
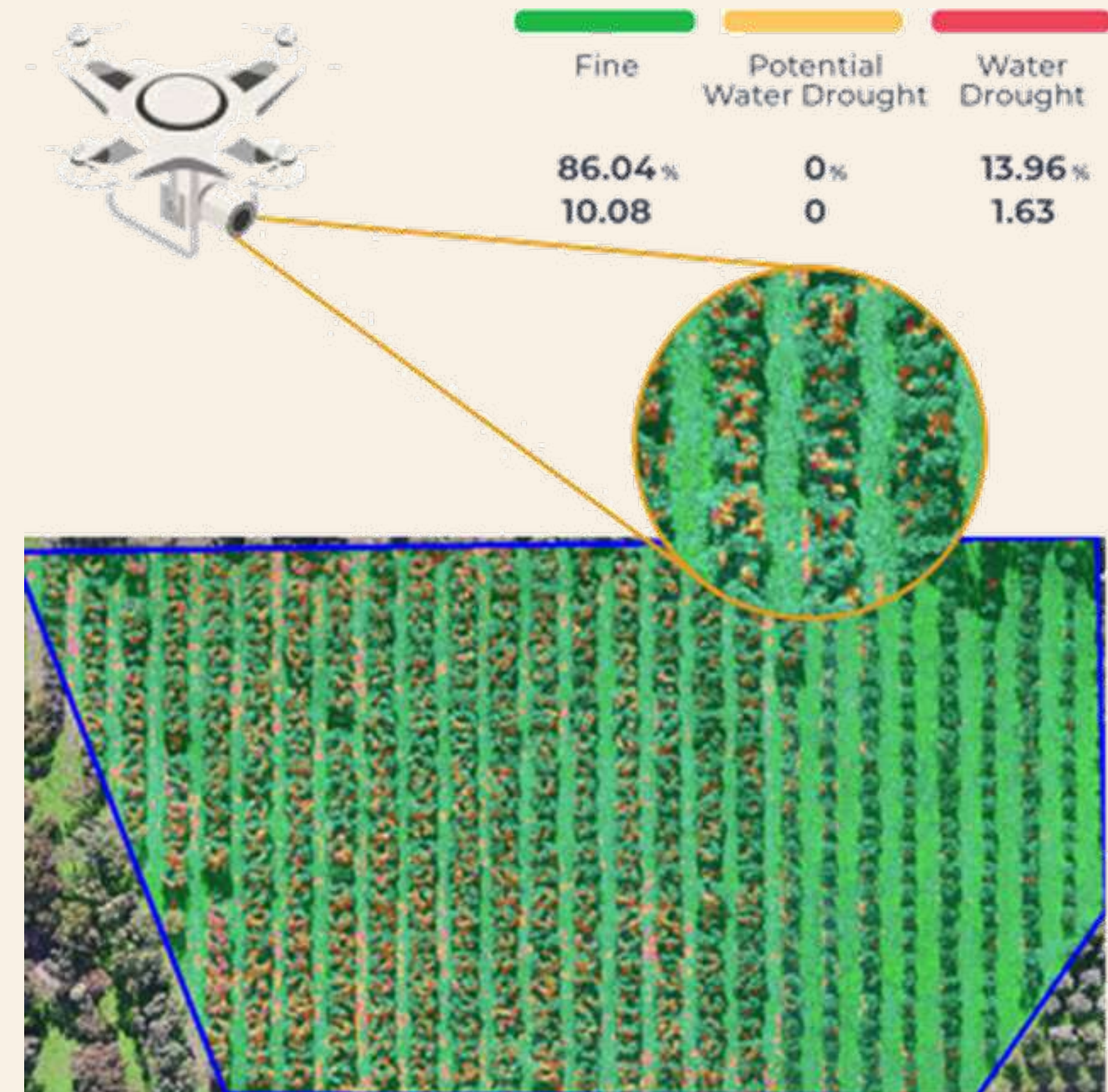
Data Collection
Drones capture images to assess the canopy structure and density of crops.

AI Processing
AI algorithms analyze the canopy data to evaluate crop health and growth.

Report Generation
The platform generates a report on canopy characteristics, aiding in crop management strategies.

Canopy Analysis

Canopy   No Canopy

52.33%   47.67%
40.66   37.03

Evapotranspiration & Moisture Analysis
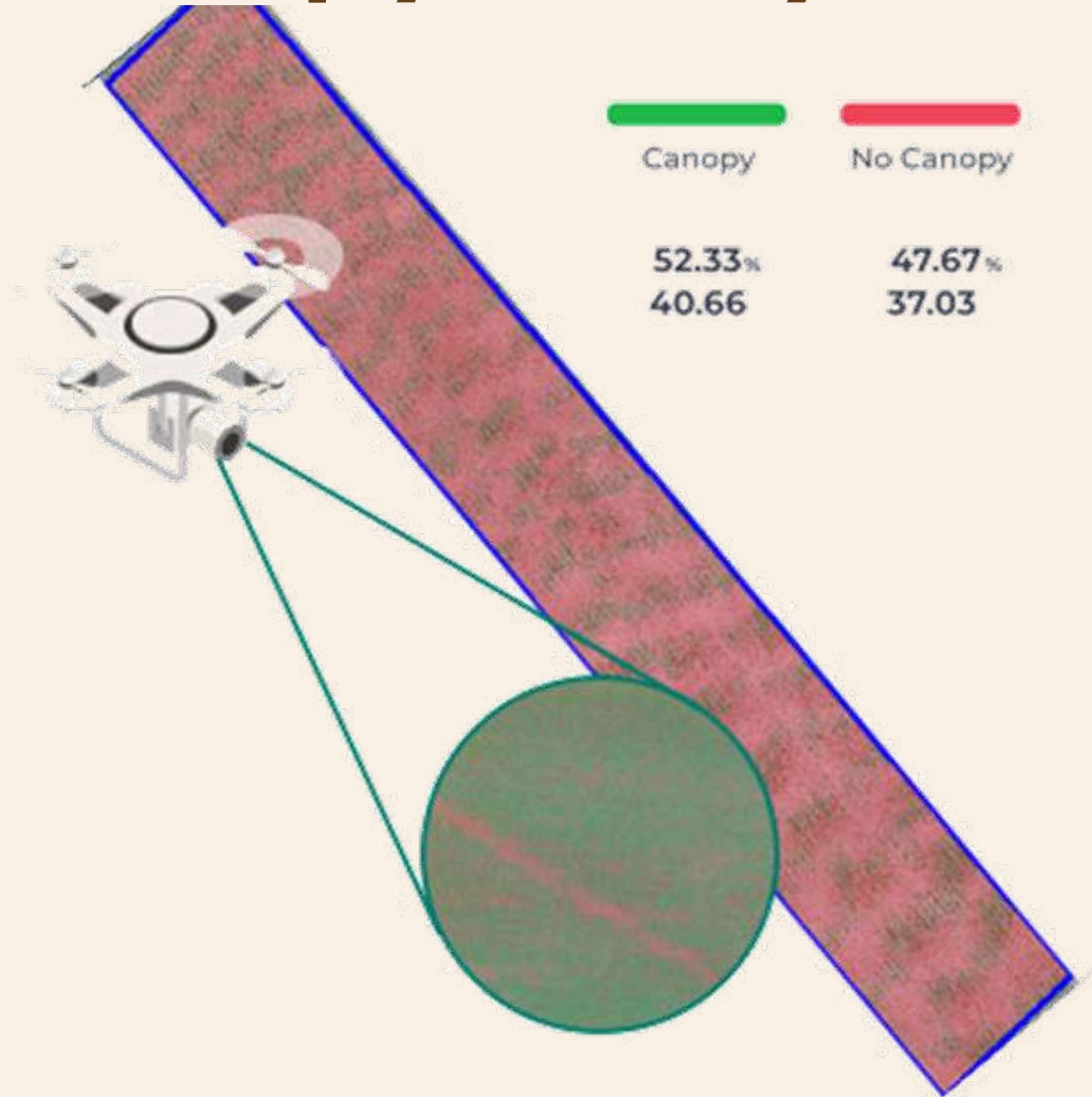
Data Collection
Drones equipped with sensors measure evaporation rates and soil moisture content.

AI Processing
AI algorithms interpret the data to assess water usage efficiency and soil moisture levels.

Report Generation
The platform generates a report on evaporation and moisture, guiding irrigation practices.
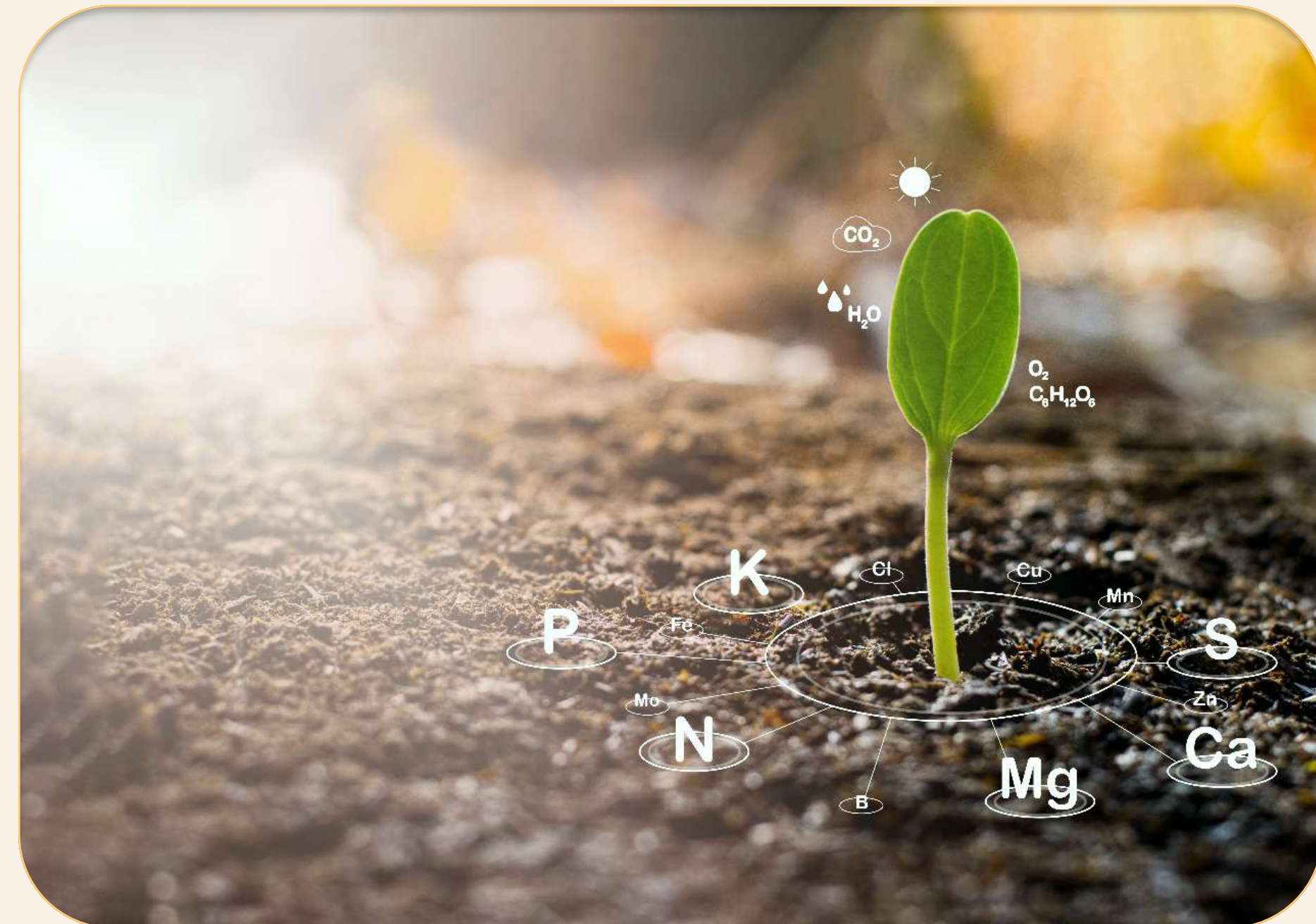
FARM NETWORK

Digitization of Farms

- **Data Collection Technologies**
  - Utilizes drones and satellites for high-resolution imaging and data collection.
  - Integrates mobile devices with IoT-enabled sensors for real-time monitoring of various farm parameters.

Real-Time Crop Information

- **Continuous Monitoring**
  - Provides real-time updates on crop health, growth stages, and environmental conditions.
  - Enables farmers to make informed decisions based on live data.

Visibility to Potential Buyers

- **Marketplace Integration**
  - Connects farmers directly with potential buyers of agricultural produce.
  - Enhances transparency in the supply chain and facilitates efficient trade.

Government Compensation

- **Data for Policy-Making**
  - Provides government agencies with accurate and real-time data for policy formulation.
  - Enables quick and effective compensation for crop loss assessment through digital records.

Agronomist & Expert Recommendations

- **Advisory Services**
  - Engages agronomists and agricultural experts to analyze farm data.
  - Offers personalized recommendations for optimal crop management practices.

Quality Agrochemicals and Fertilizers

- **Supply Chain Optimization**
  - Enhances the supply chain for agrochemicals and fertilizers by aligning production with real-time demand.
  - Facilitates the production of quality inputs based on farm-specific requirements.

Automation & Digital Twin

- **Automation and Digital Twin**
  - Creates a digital twin of each farm, capturing its physical and operational characteristics.
  - Enables automation of farm processes and tasks.

Virtual Farming from Anywhere

- **Remote Accessibility**
  - Allows individuals to virtually manage and monitor farms from anywhere in the world.
  - Promotes remote farming, facilitating greater flexibility and accessibility.

Two-Way Network for Stakeholders

- **Hal Saathi Ecosystem**
  - Involves various stakeholders such as retailers, logistics providers, agronomists, government agencies, crop marketing companies, and financial institutions.
  - Provides multiple perspectives on farm-related activities and services.

Crop Loss Assessment

- **Insurance and Risk Management**
  - Enables accurate and quick assessment of crop losses.
  - Facilitates efficient insurance and risk management processes for farmers.

Crop Marketing Services

- **Market Access**
  - Connects farmers directly with crop marketing companies.
  - Streamlines the marketing process, reducing intermediaries and ensuring fair prices.

Social Media-Like Farm Networks

- **Digital Farm Community**
  - Each digital farm becomes accessible to a network of stakeholders, similar to social media networks.
  - Promotes collaboration, information sharing, and support within the agricultural community.

BENEFITS
FARM NETWORK
CONCEPT

Empowering Farmers
Provides farmers with tools and information to make data-driven decisions, enhancing productivity and sustainability.

Data-Driven Innovation
Creates opportunities for data-driven innovation in agriculture, leading to continuous improvement and optimization.

Market Access and Fair Pricing
Direct connectivity with buyers ensures fair pricing and improved market access for farmers.

Environmental Sustainability
Promotes sustainable farming practices by providing insights into environmental impact and resource usage.

Government Policy Support
Government agencies can leverage real-time data for policy-making, compensation, and efficient resource allocation.

Community Collaboration
Fosters a sense of community among farmers and stakeholders, encouraging collaboration and knowledge exchange.

Efficient Supply Chain
Enhances the efficiency of the agricultural supply chain by aligning production with demand and optimizing logistics.

Global Accessibility
Allows individuals worldwide to engage in virtual farming, promoting accessibility and inclusivity.

Precision Agriculture
Enables precision agriculture practices by tailoring inputs and practices to specific farm conditions.

Risk Mitigation and Insurance
Facilitates better risk management and insurance processes by providing accurate and timely data for assessment.

BENEFITS OF FARM NETWORK BY HAL APP

FARMERS

Benefits

- **Data-Driven Decision-Making**

Access to real-time data on crop health, weather conditions, and market trends empowers farmers to make informed decisions.

- **Market Access**

Direct connectivity with potential buyers ensures fair pricing and broader market access.

- **Advisory Services**

Agronomic recommendations and expert advice improve crop management practices.

Why Subscribe

Enhanced productivity, increased income, and improved risk management make the subscription invaluable to farmers.

GOVERNMENT AGENCIES

Benefits

- **Policy Formulation**

Real-time farm data aids in policy formulation for sustainable agriculture and resource allocation.

- **Quick Compensation**

Accurate crop loss assessments enable swift compensation in case of natural disasters.

- **Data-Driven Governance**

Informed decision-making based on comprehensive farm information.

Why Subscribe

Efficient governance, better resource utilization, and improved support to the agricultural sector.

POLICE LINE-DO NOT CROSS

AGRIBUSINESSES

Benefits

- **Supply Chain Optimization**

Improved visibility into farm data helps optimize the supply chain for agrochemicals and fertilizers.

- **Market Intelligence**

Direct access to farmers for marketing and distribution.

- **Risk Mitigation**

Data-driven insights support better risk assessment and management.

Why Subscribe

Enhanced operational efficiency, increased market reach, and reduced supply chain risks.

RESEARCHERS & ACADEMIA

Benefits

- **Data for Research**

Access to real-world farm data for research and innovation.

- **Knowledge Exchange**

Collaborative opportunities with farmers and other stakeholders.

Why Subscribe

Valuable data resources for research, fostering innovation and academic collaboration.
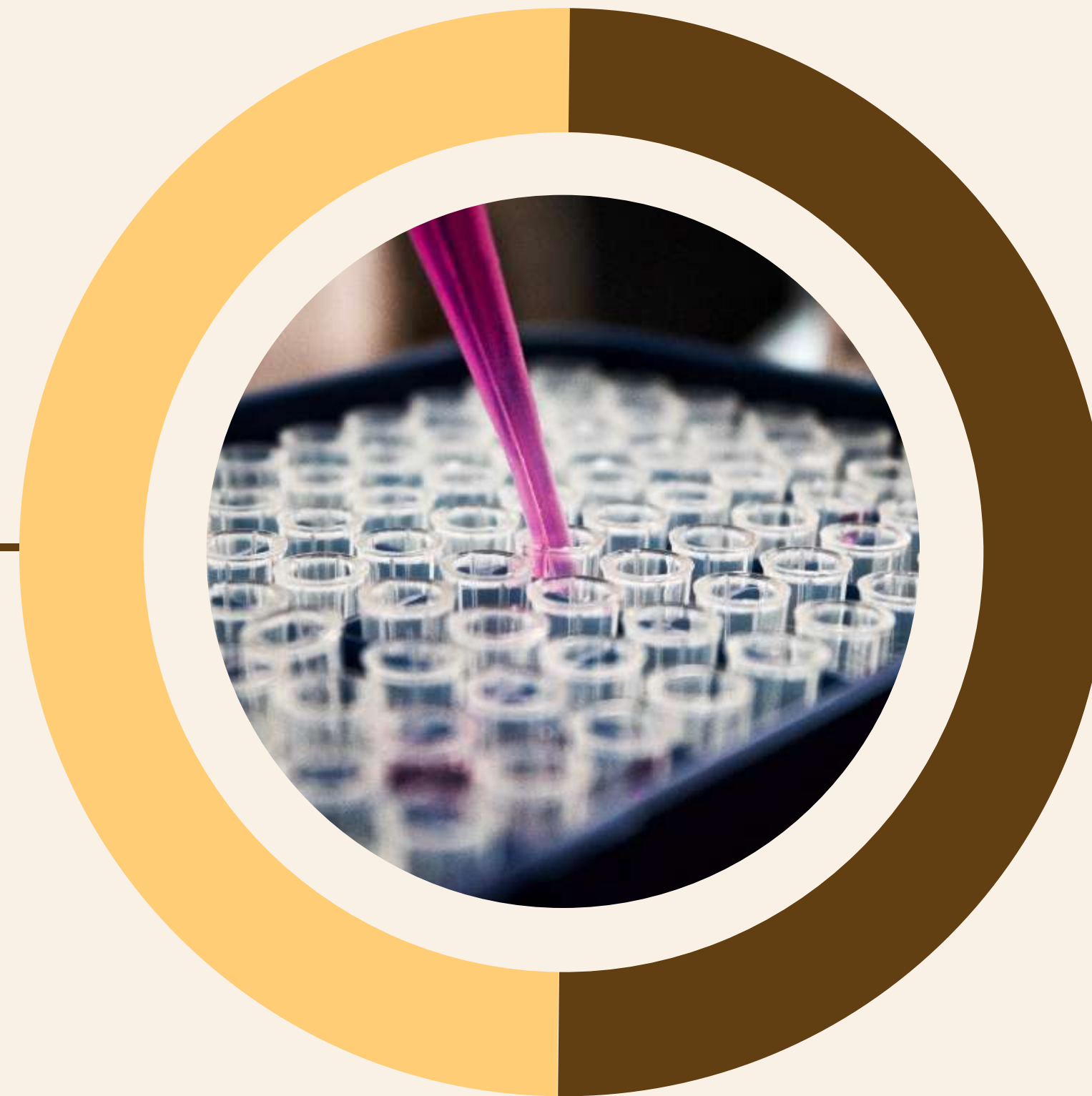
FINANCIAL INSTITUTION

Benefits

- **Creditworthiness Assessment**

  Accurate farm data supports better assessment of farmers' creditworthiness.

- **Risk Mitigation**

  Improved risk management with real-time information.
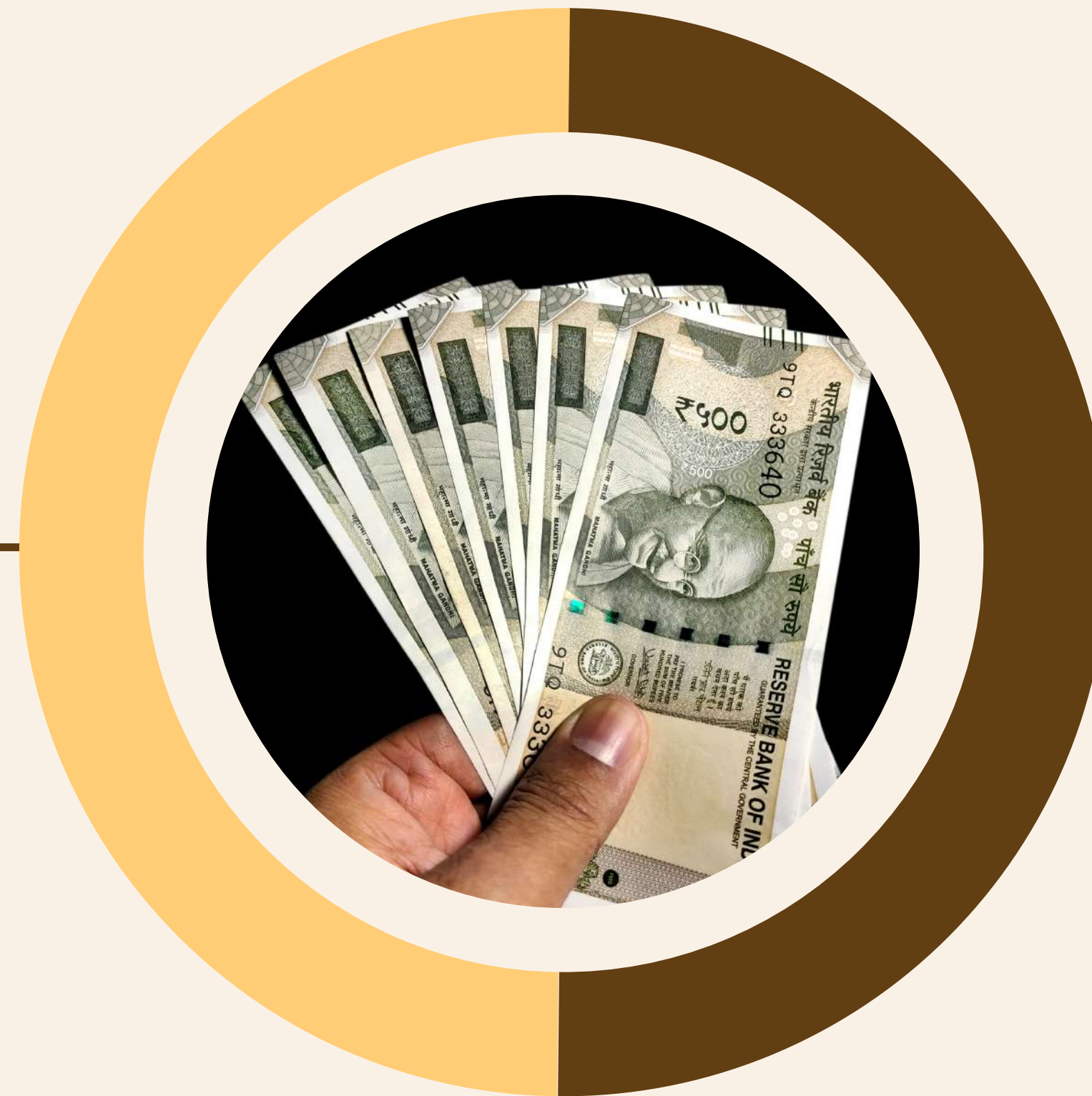
Why Subscribe

Enhanced accuracy in assessing loan risks, leading to better financial decision-making.

TECHNOLOGY PROVIDERS

Benefits

• Platform Integration

Integration of innovative technologies into the Farm Network.

• Market Access

Direct access to a large network of farmers for technology adoption.

Why Subscribe

Opportunities for technology showcase and increased market penetration.

ENVIRONMENTAL AGENCIES

Benefits

- **Sustainability Monitoring**

Real-time data for monitoring and promoting sustainable farming practices.

- **Impact Assessment**

Insights into the environmental impact of agricultural activities.

Why Subscribe

Support for sustainable agriculture practices and informed environmental policy-making.

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CONSUMERS

Benefits

- **Quality Assurance**

Visibility into the origin and production practices of agricultural products.

- **Support for Sustainable Practices**

Encouragement of sustainable farming practices.

Why Subscribe

Assurance of product quality and contribution to sustainable agriculture.

UNIQUE FEATURES

DIGITAL FARM COMMUNITY

Feature

Farmers, experts, and stakeholders form a collaborative community within the platform.

Benefits

Knowledge sharing, mutual support, and collaborative problem-solving.

TWO WAY NETWORK

Feature

Stakeholders have multiple perspectives on farm-related activities and services.

Benefits

Efficient communication, collaboration, and access to a diverse range of services.

REAL TIME ADVISORY SERVICES

Feature

Agronomists and experts provide real-time advisory services based on live farm data.

Benefits

Timely and personalized recommendations for optimal crop management.

MARKETPLACE INTEGRATION

Feature

Direct connectivity between farmers and potential buyers through an integrated marketplace.

Benefits

Fair pricing, broader market access, and reduced reliance on intermediaries.

REMOTE ACCESSIBILITY

Feature

Enables virtual farming from anywhere in the world.

Benefits

Increased accessibility, flexibility, and opportunities for remote engagement.

WHY SUBSCRIBE

Comprehensive Farm Management
Holistic and data-driven farm management, leading to increased productivity and efficiency.

Enhanced Governance and Financial Decision-Making
Informed policy-making, better resource allocation, and improved financial decision-making.

Market Access and Fair Pricing
Direct access to markets, ensuring fair pricing and efficient trade.

Innovation and Collaboration Opportunities
Access to real-world farm data for research, innovation, and collaborative opportunities.

Risk Mitigation and Quick Compensation
Accurate data for risk assessment and swift compensation in case of crop loss.

Sustainability and Environmental Impact
Support for sustainable agriculture practices and informed environmental policy-making.

Efficient Supply Chain and Market Intelligence
Optimization of supply chain, increased market reach, and better-informed marketing strategies.

Consumer Assurance and Quality Products
Assurance of product quality, support for sustainable practices, and direct connection with farmers.

मिट्टी से, उन्नति तक

SOURCE TRACING BY HAL APP

Drone Technology

- **Data Collection:** Drones equipped with sensors and cameras fly over agricultural fields, capturing high-resolution images and collecting data on various parameters.
- **Field Monitoring:** Drones provide a bird's-eye view of the entire farm, allowing for the monitoring of crop health, growth patterns, and potential issues.

IoT (Internet of Things)

- **Data Collection:** Drones equipped with sensors and cameras fly over agricultural fields, capturing high-resolution images and collecting data on various parameters.
- **Field Monitoring:** Drones provide a bird's-eye view of the entire farm, allowing for the monitoring of crop health, growth patterns, and potential issues.

Precision Farming

- **Variable Rate Technology (VRT):** Precision farming techniques, including VRT, enable the application of inputs (such as fertilizers, pesticides, and water) at variable rates based on the specific needs of different areas within the field.
- **GPS Guidance:** Precision farming systems use GPS technology for accurate mapping and execution of field operations, ensuring precise application of inputs

मिट्टी से, उन्नति तक

HOW SOURCE TRACING WORKS

Seed and Input Tracing

- Drones capture images and data related to seed planting, fertilization, and other input applications.
- IoT devices monitor the usage of seeds, fertilizers, and other inputs, providing data on the quantities applied in different field zones.
- Precision farming technologies enable the traceability of specific inputs to particular areas within the field.

Water Source Tracing

- Drones monitor irrigation activities and water distribution patterns.
- IoT sensors track soil moisture levels and water usage, helping trace the source and distribution of water across the farm.
- Precision irrigation systems precisely apply water based on the specific needs of different field sections.

Pest and Disease Tracing

- Drones equipped with imaging technology and AI analyze crop health and identify signs of pest infestations or diseases.
- IoT devices monitor environmental conditions that contribute to the spread of pests and diseases.
- Source tracing helps identify the origin and progression of pest or disease outbreaks within the farm.

Harvest and Yield Tracing

- Drones can capture data on crop maturity and readiness for harvest.
- IoT devices monitor yield parameters, such as weight and quality, during the harvesting process.
- Precision farming techniques enable the mapping of yield variations across different parts of the field.

Data Integration and Analytics

- The Hal App integrates data from drones, IoT devices, and precision farming tools into a centralized platform.
- Analytics tools process and analyze the collected data, providing insights into the relationships and interactions between different elements within the farming ecosystem.

Traceability Reports & Recommendations

- The Hal App generates traceability reports that outline the movement and impact of various farming inputs and activities.
- Based on the analysis, the app provides actionable recommendations for optimizing resource use, improving efficiency, and minimizing environmental impact.

OUR CLIENT AND ASSOCIATES

IFFCO · ICAR · DayBest · Patanjali · SkyDrone · DA 24x7 · Flying Wedge · Droneacharya · PDRL · Alpine

Govt of Bihar · Drone Destination · LPU · BAU · Endure Air · Iotech · Shobhit University · Syngenta · UPL

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THANK YOU