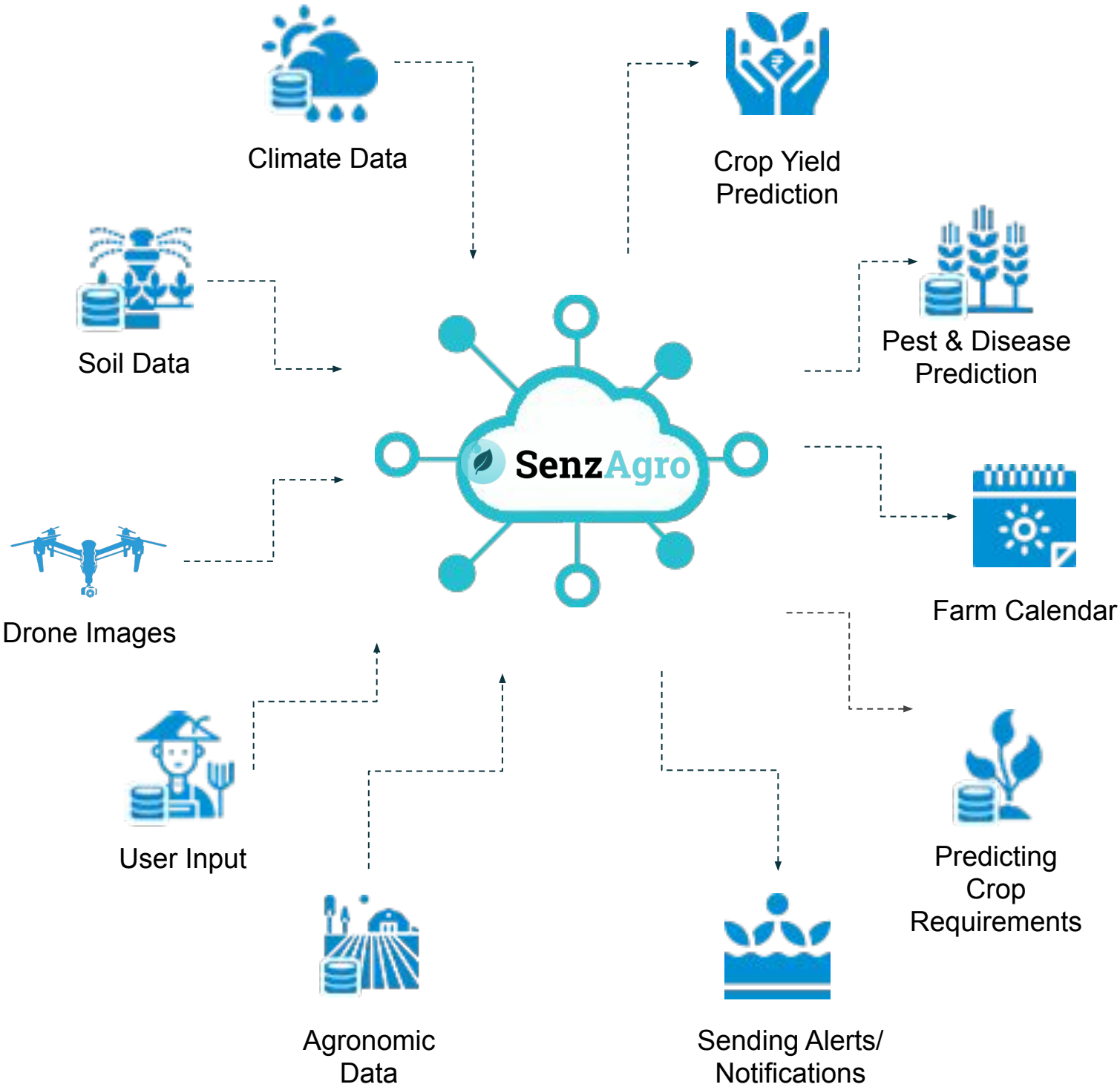
SenzAgro

The technology to feed the world

SenzAgro Smart Farm Manager is an unique, data driven, agronomic-insight based platform to used to address the various needs of Sri Lankan agriculture.

SenzAgro Crop Intelligence Platform

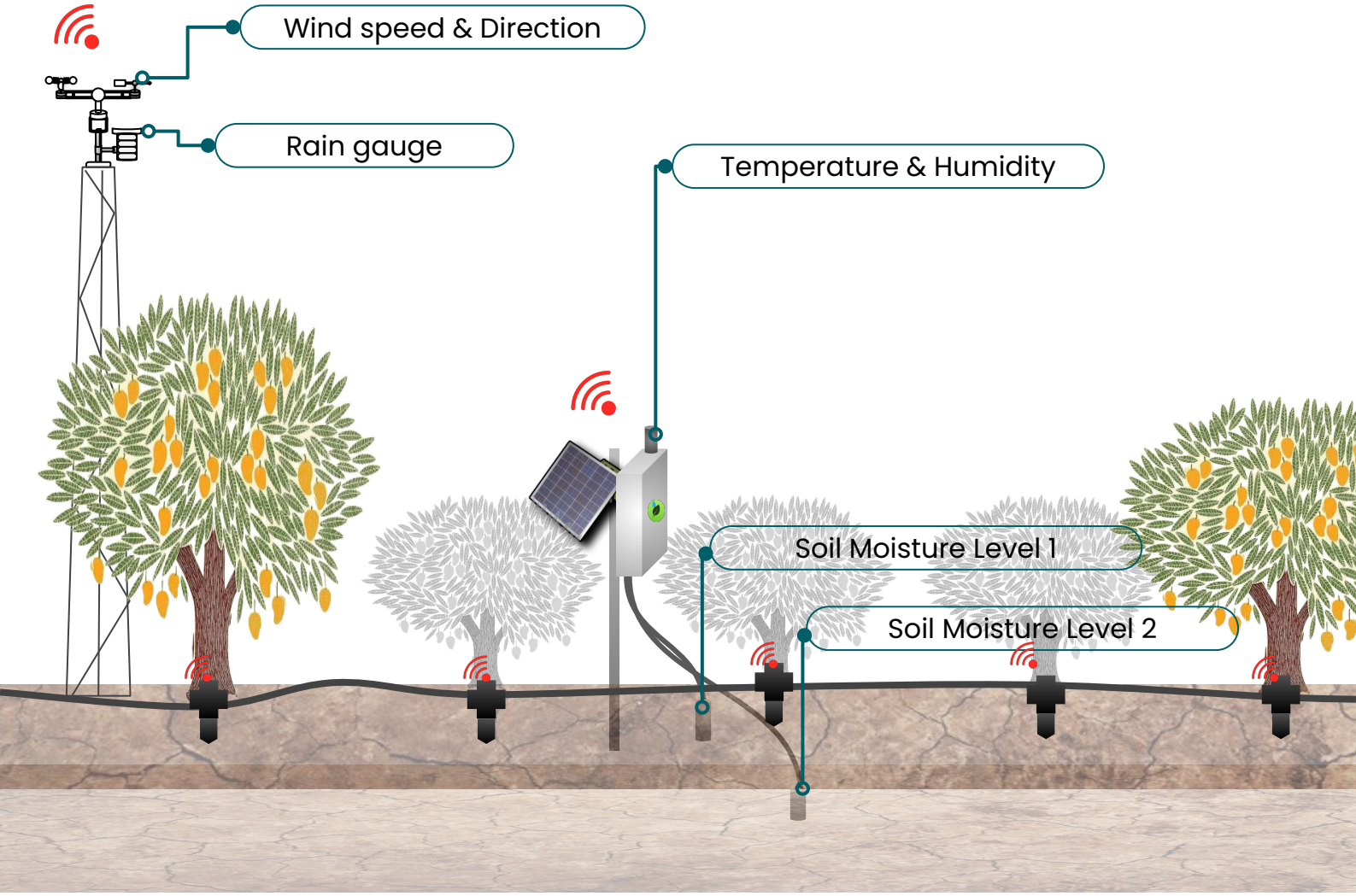
Our platform crunches data obtained from sensors, integrated with multiple layers, to provide farmers with the best insight on specified crop requirements on when, where, how much to irrigate and fertilize the crops, and predict crop yields on harvest.



Value Proposition

1. **Improving the agricultural produce quality and crop yield** via SenzAgro's smart precision irrigation system and crop-specific intelligence.
2. Data driven approach enables **reduction in crop water usage and plant stress level** (caused by water and environment), which leads to increased productivity.
3. Continuous monitoring for understanding the need of the macro, micro nutrients and smart pest management as an optimized process to **minimize and mitigate pest proliferation**.
4. **Eliminating manual errors** in irrigation cycles through continuous monitoring via smart farm manager app.
5. Understanding the productivity of field over the time using data driven approaches, therefore improving future productivity.
6. The data driven approach assists **crop planning, and yield prediction** from each harvest as a result of the crop plan.
7. Facilitating management to monitor the **business economic performance** of farms in terms of stock, cash flow, yield per farm and plot level.
8. Centralised monitoring of the farms with **enhanced transparency** within end-to-end movement of stocks and cash flows starting from farms.
9. Allows user to **effectively manage** their day to day operations, workers and resources of farms remotely.
10. Monitoring of various data points per harvest with **predictive data analytics** to minimize associated risks.

Precision Irrigation



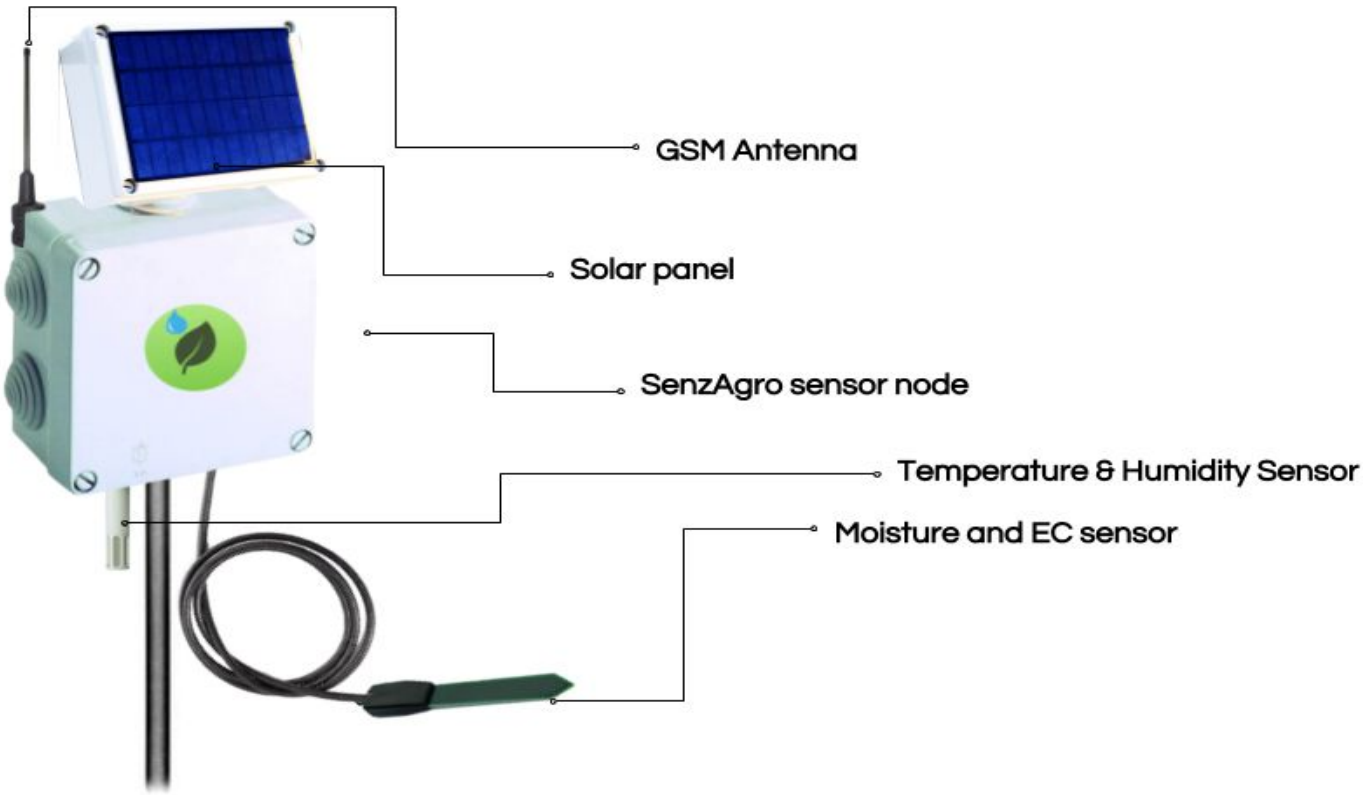
Integrated **Drip or Sprinkler irrigation** system; one of Senzagro's farm manager app features, provides irrigation instructions to automate the irrigation cycles on time without any human interactions. Internet connected interfaces will enable the capability of control and monitor the plantation remotely by the farmer, supervisors, and members of the senior management of farm/plantation. Figuratively, it can be said that SenzAgro lets you upload your entire farm to cloud, hence increasing its transparency.

DigiPlant is a sensor node developed by Senzagro to experience similar microclimate parameters; such as **Soil moisture, Fertility, Ambient temperature, light intensity and Humidity**, that are being experienced by the plant itself. DigiPlant; powered by solar energy, transmits the received parameters to SenzAgro's cloud platform in real time. Additionally, the weather station will provide more information about the rain pattern and wind patterns.

SenzAgro will facilitate in providing **automated precision irrigation** to farms through **crop specific intelligence** gained from our platform.

SenzAgro DigiPlant Sensor Node

SenzAgro DigiPlant measures and livestreams climate and soil parameters such as temperature, humidity, electric conductance and soil moisture levels to the cloud. This allows the farmers to effectively control the crop and prevent losses caused by adverse environmental parameters.



Components of DigiPlant Sensor Node

Components	Functions
EC and Soil moisture sensor	Measures soil moisture levels and the electric conductance of the soil
Temperature & Humidity Sensor	Measures ambient temperatures and humidity
Luminus Sensor	Measures the light intensity of the environment
GSM Antenna	Enables cloud connectivity to stream data
Solar Panel	Provides power to the device

SenzAgro Technology Architecture

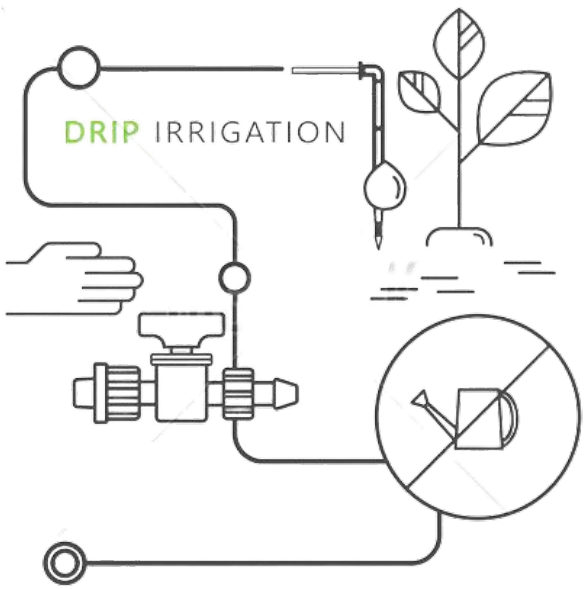
Real-Time Analysis of Soil conditions, Environmental and Weather status

Crop specific analytics for water and fertilization needs based on Crop growth factors

Efficiently provide exactly what the plant needs at a snapshot moment.

Smart Irrigation System

- Automated irrigation system for the plants based on real time microclimate parameter information obtained via DigiPlant and the weather station. By sensing soil moisture, the irrigation system is automated to provide sufficient amounts of water at the required time.
- Remote irrigation scheduling allows remote access and control of the irrigation motors and valves.
- The irrigation cycles are scheduled as per the flowering and fruiting stages of the crop. Each stage of tree growth requires different amounts of water to ensure the quality of crop produce.



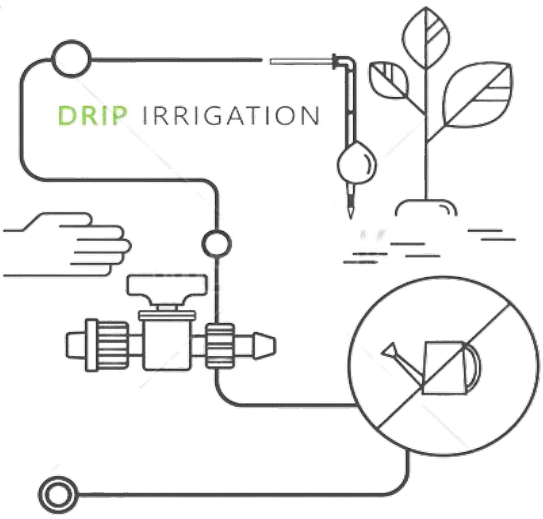
Irrigation Automation

SenzAgro allow four modes of Irrigation

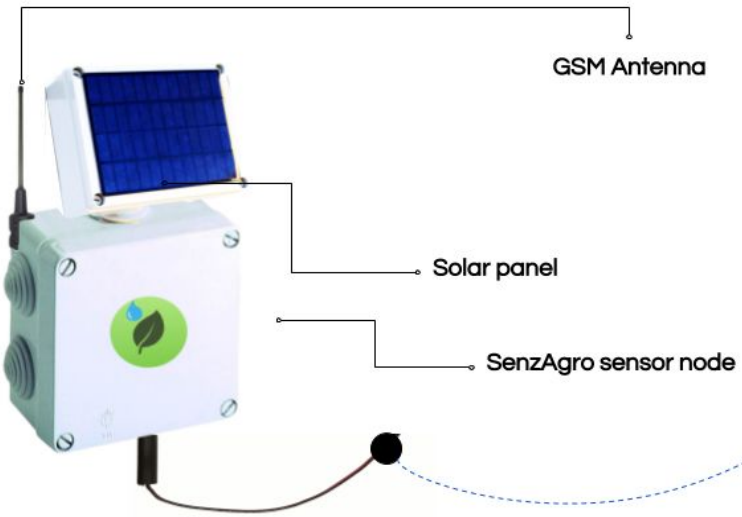
1. Manual - Complete manual irrigation control over internet (via mobile App)
2. Daily - Plan for a daily water routine; which can be change everyday.
3. Schedule - Usual weekly water scheduling.
4. Automation - Based on the real time sensor analytics, irrigation will be automatically assigned for the vegetation's best condition and its age.

SenzAgro DigiPulse

SenzAgro DigiPulse allows the farmer to control and automate irrigation cycles remotely. There are **3 irrigation modes** available via SenzAgro platform:

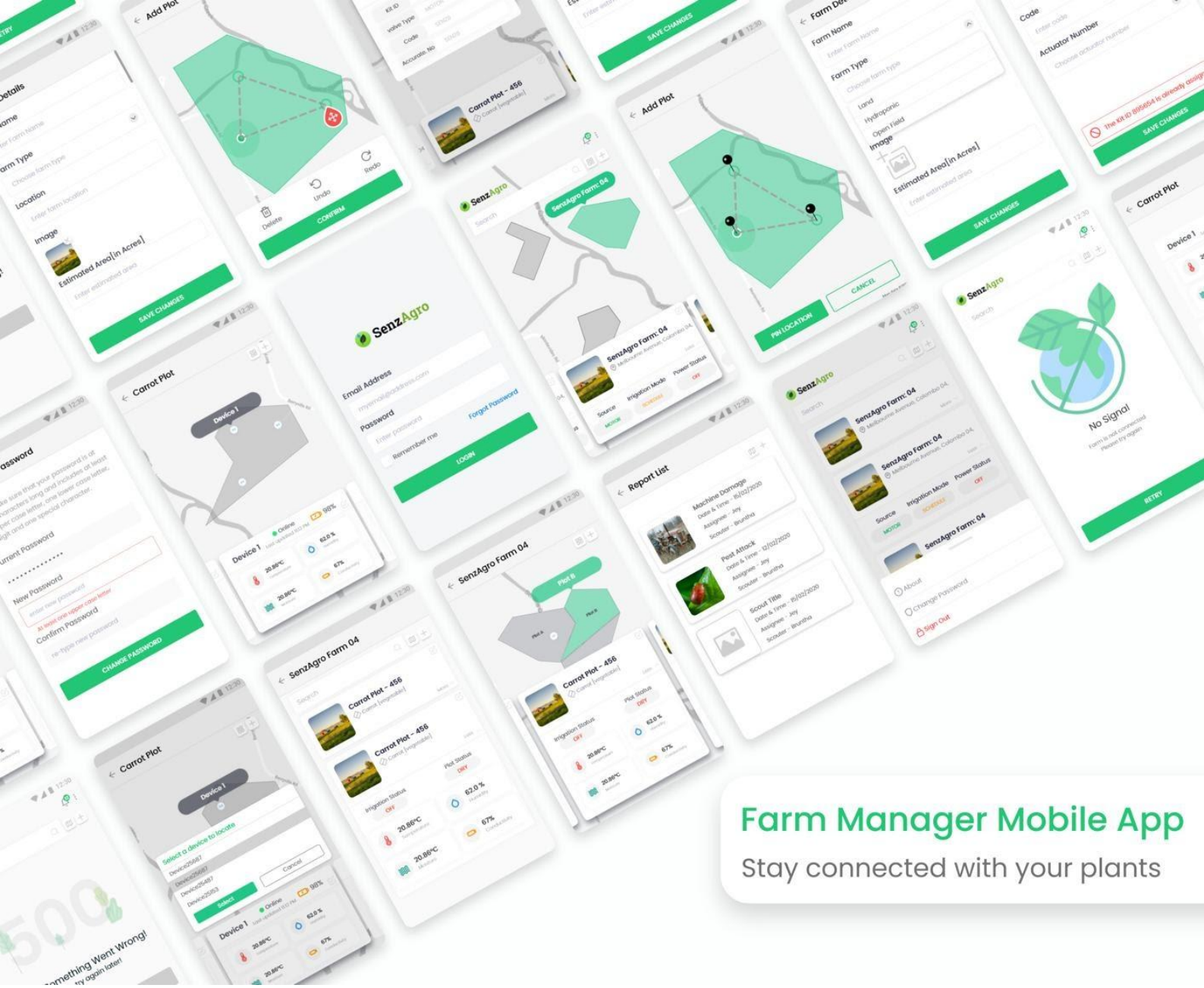


1. **Manual** - Complete manual irrigation control over internet (with mobile App) by accessing the valves and motor remotely
2. **Schedule** - Enables scheduling of irrigation cycles on daily or weekly basis
3. **Automation** - Automated irrigation to the crops based on the real-time climate parameter analytics. Irrigation will be automatically assigned for the plant's best conditions and age by providing sufficient amount of water at required times.



Components of DigiPlant Sensor Node

Components	Functions
SenzAgro Sensor Node	Collects climate data and soil parameters
GSM Antenna	Enables cloud connectivity to stream data
Solar Panel	Provides power to the device



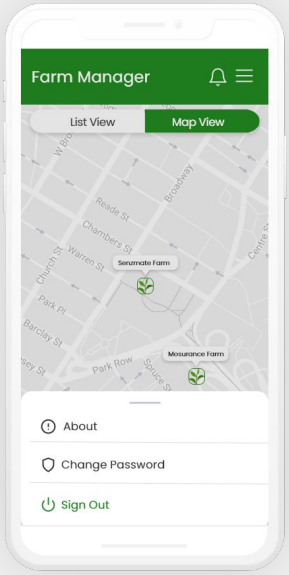
SenzAgro Farm Manager Platform

Manage your farm from the cloud

SenzAgro farm manager, the centralised farm management platform is an ideal solution in simplifying day to day farm operations, stock management and cash flow analytics, employees, resources, and eliminating spreadsheets with in-built major functionalities to manage the farm. It is a digital agro hub to save time, easily share field observations, and make better decisions.

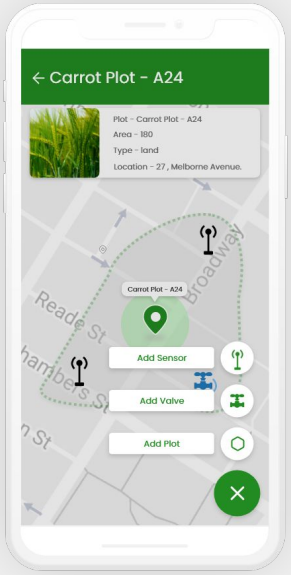
It facilitates **effective remote management of one's farms**, and the **monitoring of business economic insights** of each farm and plot. The platform also assists in **crop planning** for their farms and **predicting yield** from the harvest.

Key Usage of Farm Manager Platform



- View and print reports of daily farming operations
- Define field boundaries with our easy-to-use 'Drawing Tools'
- Get instant requirement alerts from your Farm managers

- Review work done in the field with seamless synchronization from multiple employees
- Plan applications/expenses for next year's crop and print a 'Bill of Goods'

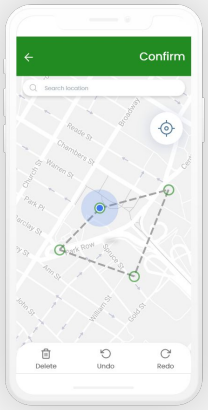


- Work offline in the field where no cellular connection needed
- Apply GPS on Field Boundaries
- Sync your information whenever you have a cellular connection

- Sync work orders from your farm to headquarters or to the owner.
- Build and assign work orders for vegetation, spray, or NPK operations
- Take pictures and record notes of what you observe in the field

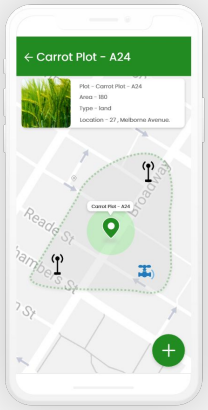
Manage Multiple Farms and Multiple Employees in One app

Key Features of Farm Manager Platform



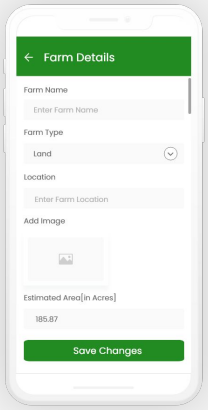
Stock Management

Easily management of yield, losses, expenses on the ground which can be easily integrated with ERP platform of the company.



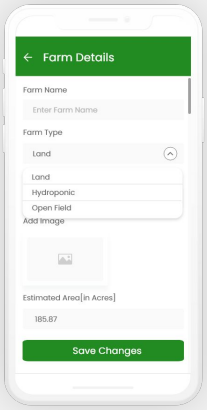
Smart Irrigation Management

Remotely monitoring the weather and soil conditions over time, and controlling irrigation and fertilization.



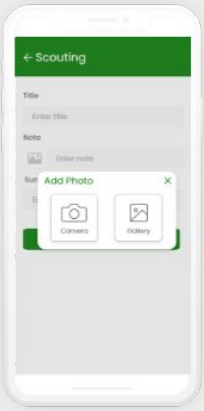
Scouting

Scout your fields for potential threats to your crops such as pests, diseases, weeds, and/or nutrient deficiencies – simply add a Scout Object and start scouting.



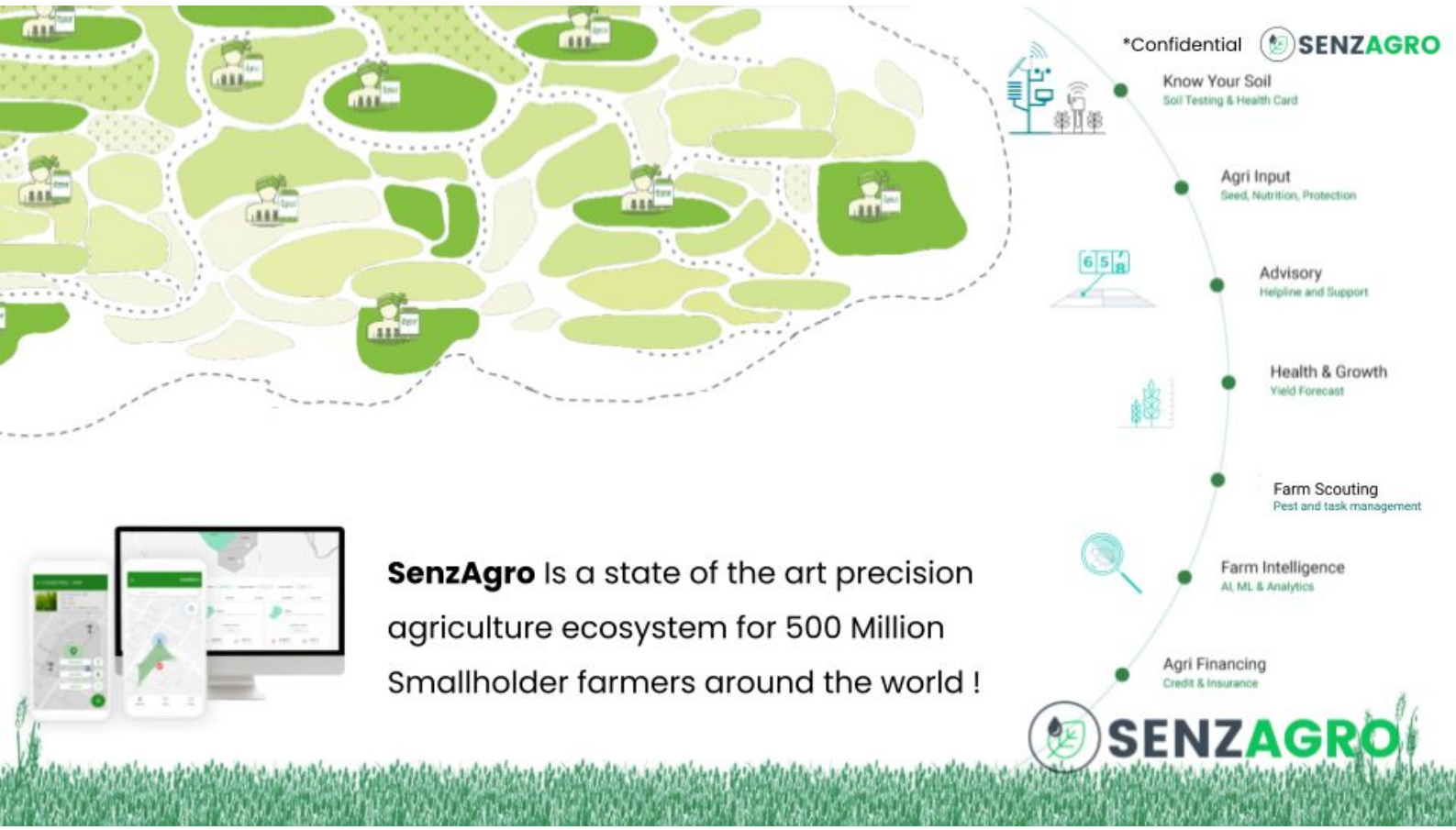
Pest and disease management

Scout crops, share observations, and make treatment decisions simply and intelligently



Notes/Pics

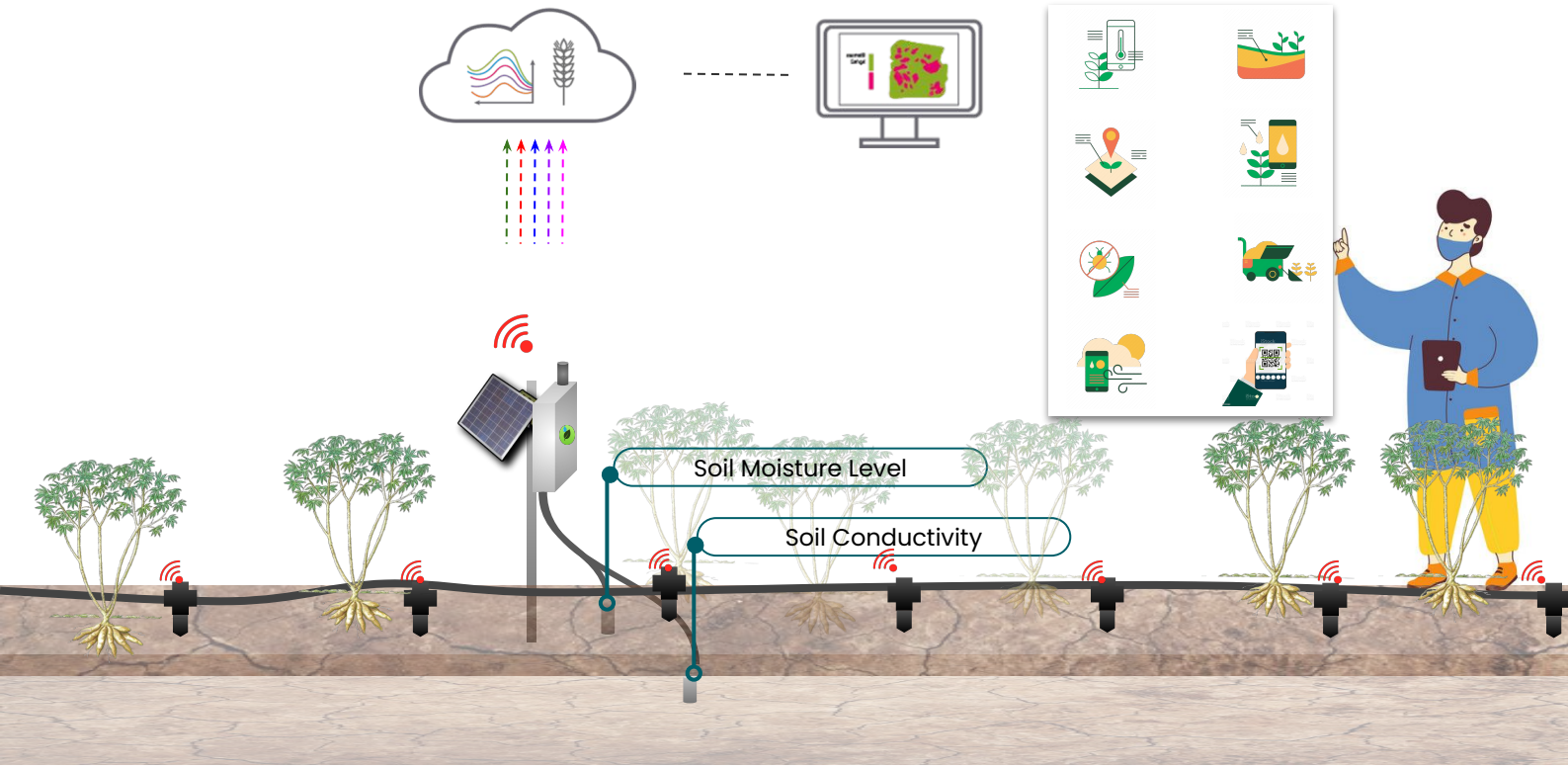
Take GPS tagged notes and pictures in the field to help you remember what you've found, and share them with others



A deep insight into Value chain processes

The value chain traceability system enables the company to better understand their farming communities in order to invest appropriately and measure improvement. Collaborating with SenzAgro promotes greater *traceability and transparency* with your farmer group partners and offer their customers the ability to connect more deeply with their farm base.

This intuitive system allows easy access and information sorting for consumers to get to know more about the farming communities supplying their food. Furthermore, it increases the consumer trust on the company products regarding its quality.



Real - Time Monitoring of Agricultural Practices

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SenzAgro will provide **automated precision irrigation** to farms through **crop specific intelligence** gained from our platform.

- Monitoring the micro climate parameters
- Sending real time alerts to farm extension officers/supervisors when there are agronomic violations
- Providing real time advisory services

Enabling the core data to traceability.

SenzAgro Agricore Platform stores and manages all the information related to farmers of a company.

The system includes,

1. A detailed web dashboard for the Company Administration.
2. A mobile platform for the field officers to input data
3. QR code base plastic card/IDs for all the farmers to access the services

The following things will linked up to the consumer end QR code tracing to validate the organic practices and the producers' social status.

1. Farmer Management data

- Farmer Profile (Static and dynamic data)
- Household info social status info
- Certifications of farmers
- Land profile of farms (Size, location, etc)
- Historical yield data of experience
- Training programs participation

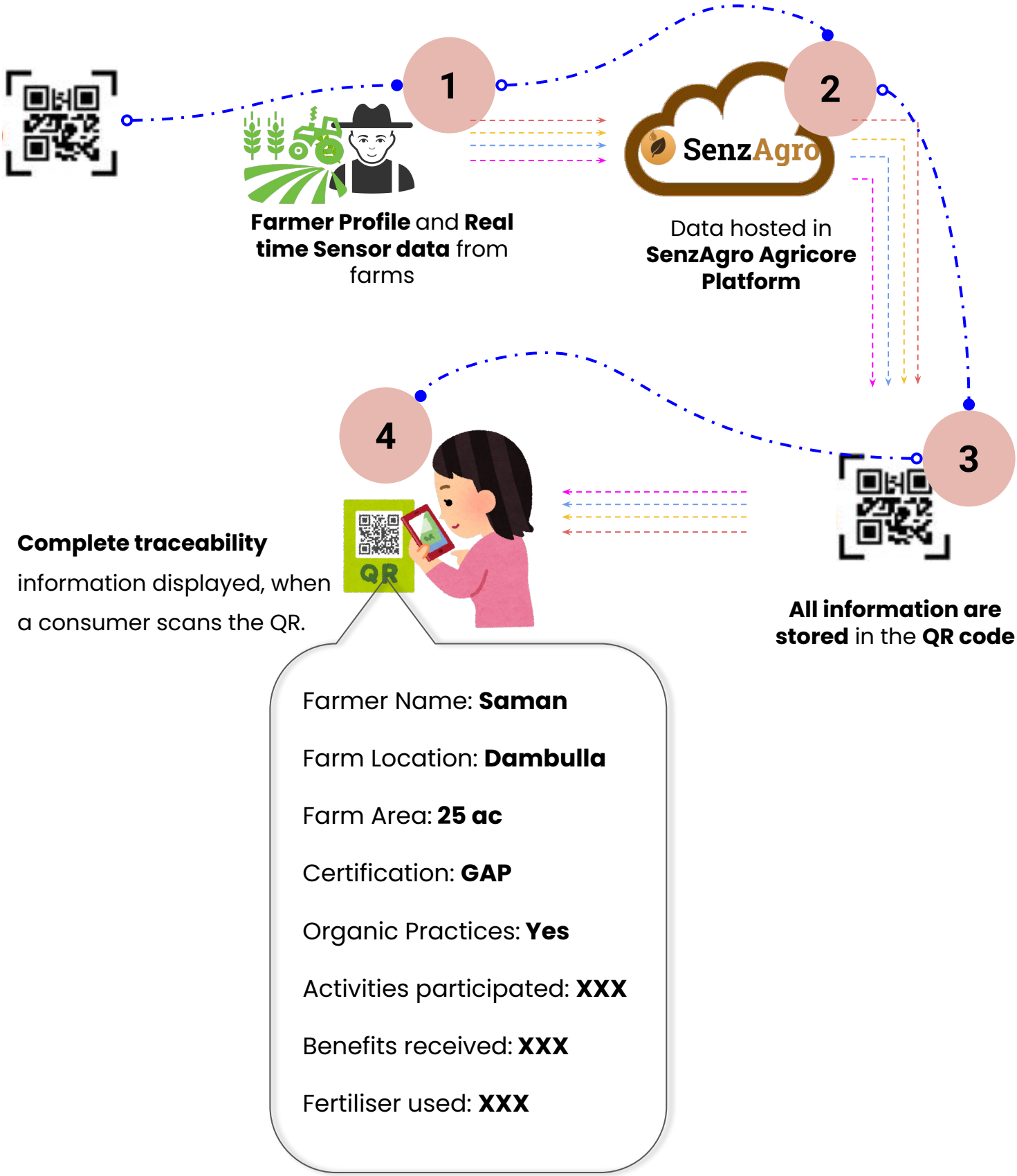
2. Resource Distribution Management

- Keep records of benefits received by the farmers:
  - Subsidies
  - Microfinance
  - Seeds & Seedlings
  - Fertilisers
  - Keep records of the participant and unit.

3. organic Training Programs

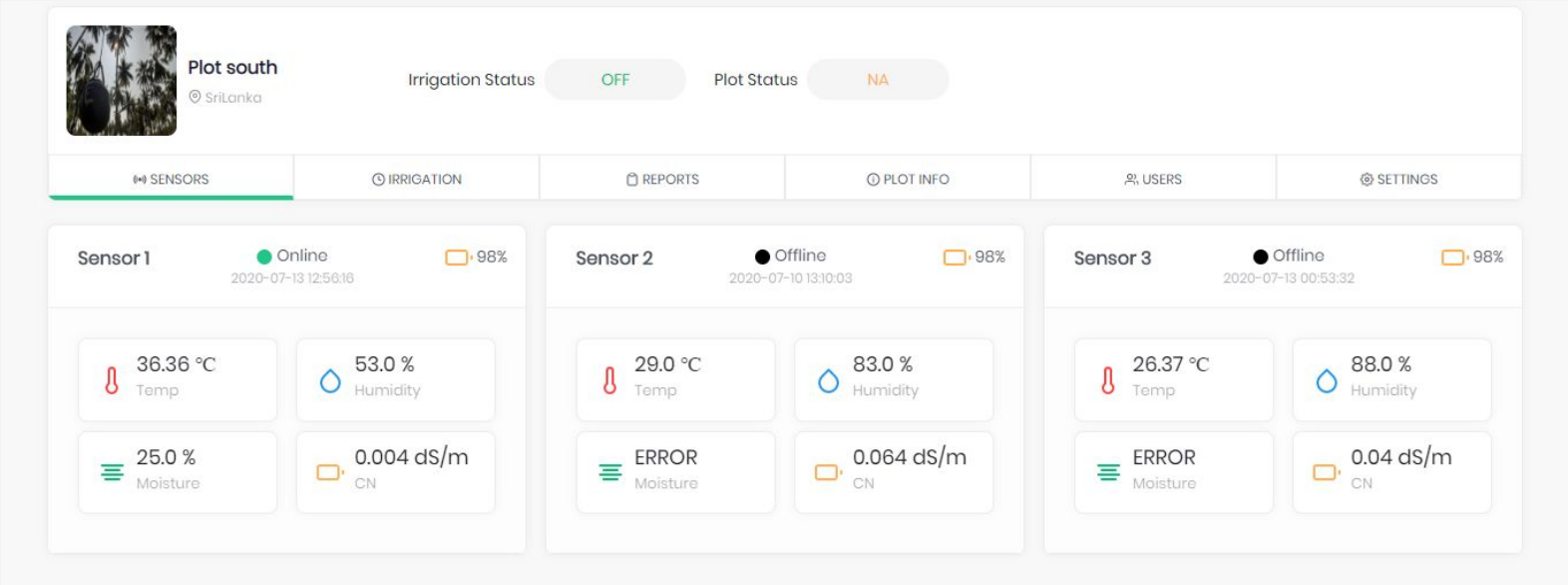
- Creating and scheduling activities or training programs
- Log the participation of farmers in the activities or training programs

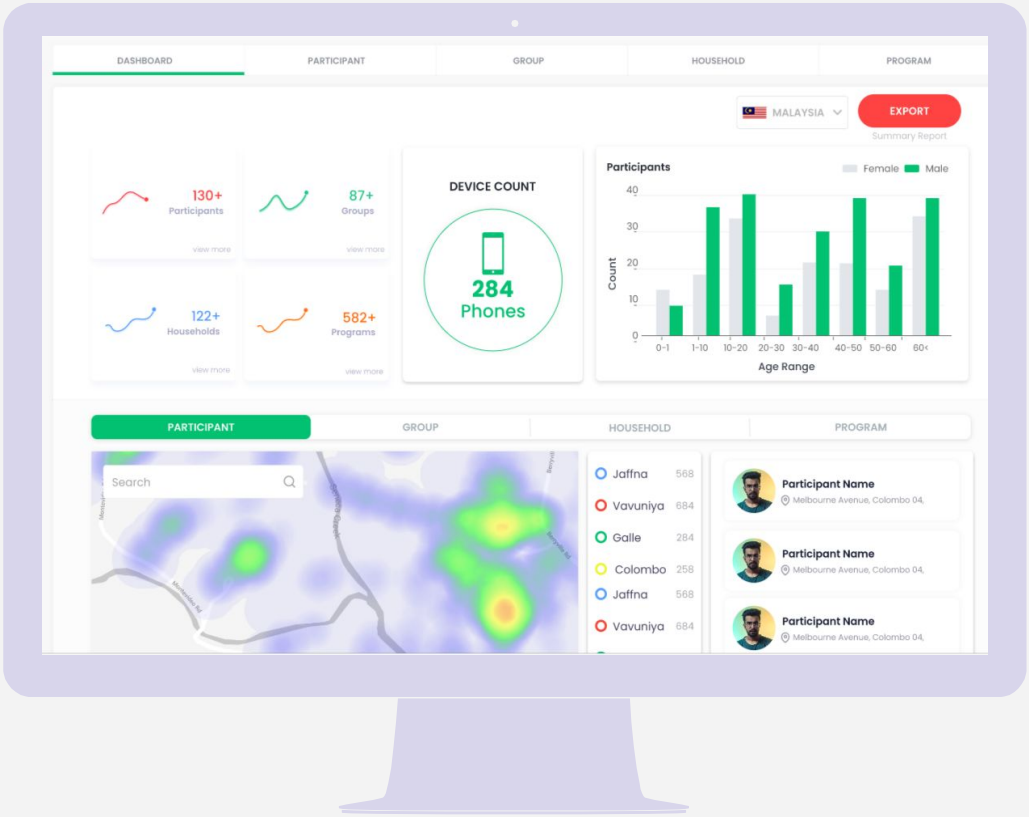
Information Traceability to End Customer

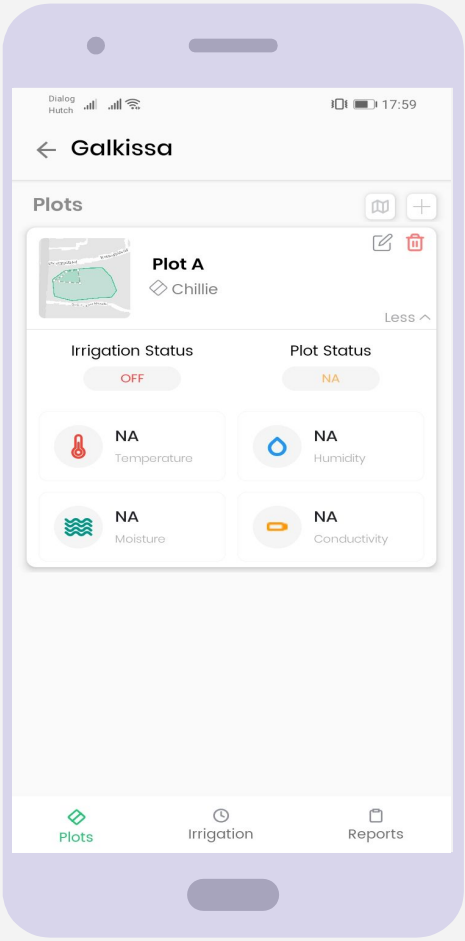


Complete traceability information displayed, when a consumer scans the QR in the product packet.

User Interface







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SenzAgro Partners

SenzAgro recognised by

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AI QUAD CAMERA


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