Project Title: IOT Based Smart Crop Protection System for Agriculture

Project Design Phase-I - Solution Fit Template

Team ID:PNT2022TMID44879

1. CUSTOMER SEGMENT(S)

*Sensors for soil scanning and water, light, humidity and temperature management.
*Telecommunication technologies such as advanced networking and GPS.
*Hardware and software for specialized application and for enabling IOT based solution, robotics and automation.
*Data analytics tools for decision making and prediction ,data collection is a significant part of smart farming as the quantity of data available from crop yields, soil mapping, climate change, fertilizer ,application, weather data, machinery and animal health continues to escalate.

6. CUSTOMER CONSTRAINTS

Production constraints have been identified that contribute to explaining by the yield gap, i.e.limited water availability, limited nutrient availability, inadequate crop production, insufficient or inadequate.

5. AVAILABLE SOLUTIONS

IOT in agriculture uses robots,drones,remote sensors and computer imaging combined with continuously progressing machine learning and analytical tools for monitoring crops,surveying and mapping the fields and providing data to farmers for rational farm management plans to save both time and money.

2. JOBS-TO-BE-DONE / PROBLEMS

Customers job to be done is to monitor agricultural land, temperature , soil moisture , etc ,.....

9. PROBLEM ROOT CAUSE

There are increasing pressure from climate change, soil erosion and biodiversity loss and concerns about how it is produced. And the natural world that farming works with – plants, pests and diseases-continue to pose their own challenges.

7. BEHAVIOUR

Condition is an important indicator helping farmers decide on the optimal planting,and crop gathering time.With IOT sensors performing soil condition monitoring,farmers get instantly alerted of soil moisture and salinity.Others metrics include soil temperature and air temperature:estimating them correctly enables farmers to plan watering times and know Soil when to expect pests.
(eg:CropX)

Focus on J&P, tap into BE, under

3. TRIGGERS

Smart farming reduces the ecological footprint of farming.Minimized or site-specific application of inputs,such as fertilizers and pesticides,in precision agriculture systems will mitigate leaching problems as well as the emission of greenhouse gasses.

4. EMOTIONS: BEFORE / AFTER

Before:

Doubt full

After:

Easy to access

10. YOUR SOLUTION

- Sensors to monitor and track the status of crops and insects.
- Drones for monitoring the livestock such as hens.
- Machines for performing route operations and ensuring proper functioning of systems.
- Managing and tracking locations using GPS.
- The information collected from sensors are sent to IOT based cloud platforms for data analytics.

8. CHANNELS of BEHAVIOUR

8.1 ONLINE

online customer buying behavior is the displayed by customers in searching for,purchasing
using and evaluating of product or service that they expect will satisfy their needs through web media

8.2 OFFLINE

where as buying behavior refers to the buying behavior of the ultimate consumer who prefers to