PROBLEM SOLUTION FIT

IOT BASED SMART CROP PROTECTION SYSTEM FOR AGRICULTURE

Define CS, fit into CC

1. CUSTOMER SEGMENT(S) — CS

A Farmer manages farms, ranches, greenhouses, nurseries, and other agricultural production organizations. Farmers are involved in planting, cultivating, performing post-harvest duties, overseeing livestock, and supervising farm labor depending on the type of farm.

6. CONSTRAINTS — CC

Lack of proper irrigation facilities, production machinery, and access to institutional credit, difficulties procuring inputs and storing products, and negative impacts of climate were identified as the major constraints to agricultural productivity and marketing in the lagging regions.

5. AVAILABLE SOLUTIONS — AS

- Livestock tracking and Geo fencing.
- Smart logistics and warehousing.
- Smart pest management.
- Smart Greenhouses.
- Climate monitoring and forecasting.
- Predictive analytics for crops and livestock.
- Remote crop monitoring.

Explore AS, differentiate

Focus on J&P, tap into BE, understand RC

2. JOBS-TO-BE-DONE / PROBLEMS — JP

In India, the agriculture sector is shrinking day by day which disturbs the eco-system production capacity. There is a burning requirement to resolve this problem in the area to reestablish vitality and place it back on higher progression. Farmers are facing issues in detecting disease in crop and protecting the farm from animals. The unavailability of manual labors and high cost involved cause fewer margins to the farmers. Sometimes manual maintenance leads to errors and it take a large amount of errors.

9. PROBLEM ROOT CAUSE — RC

- Cope with climate change, soil erosion and biodiversity loss.
- Satisfy consumers' changing tastes and expectations.
- Meet rising demand for more food of higher quality.
- Invest in farm productivity.
- Adopt and learn new technologies.

7. BEHAVIOUR — BE

Farmers are responsible for all crops and livestock that are needed for us to survive. Without food, the world would slowly die, and farmers work hard every day to keep plenty of crops and animal products in the market to keep that from happening.

Focus on J&P, tap into BE, understand RC

Identify strong TR & EM

3. TRIGGERS — TR

Agricultural communities developed approximately 10,000 years ago when humans began to domesticate plants and animals. But at present many farmers consider about smart farming to get a 100% yield in their fields. Some of them are not aware of smart farming, they only think about their failures.

4. EMOTIONS: BEFORE / AFTER — FM

- More investment but lead leads to failures
- Confusion in what pesticides to use.
- Tired of bugs
- Expect a hundred percentage of yield
- Need enough amount of water

10. YOUR SOLUTION — SL

To become advance in agricultural, IoT Based Agriculture Stick for Live Monitoring of Temperature and Soil Moisture and Humidity has been proposed using Arduino, Cloud Computing, Application. The stick has high efficiency and accuracy in fetching the live data of temperature and soil moisture and humidity. The agriculture stick being proposed via this project will assist farmers in increasing the agriculture yield and take efficient care of food production as the stick will always provide helping hand to farmers for getting accurate live feed of environmental temperature and soil moisture with more than 99% accurate results. And using the Sensors to protect farm for animals and birds. And by Application the motor and sprinklers can be controlled. These all-help farmers to get good yield with great pleasure as a gain

8. CHANNELS of BEHAVIOUR — CH

8.1 ONLINE

They can control the motors and sprinklers by application and not only for that. They can monitor the soil temperature, moisture level and humidity using sensors. This helps to reduce the time to be present in manual and reduce labor costs.

8.2 OFFLINE

Here sometimes user should present for harvesting time and some control measures to estimate the value of yield.

Extract online & offline CH of BE