Project Title: IOT BASED SMART CROP PROTECTION SYSTEMS

Project Design Phase-I - Solution Fit Template

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Explore AS, differentiate

Focus on PR, tap into BE, understand RC

1. CUSTOMER SEGMENT(S) — CS

Farmers and agriculture industries
Private Agricultural contract companies
Can be included in Government welfare scheme.

6. CUSTOMER CONSTRAINTS — CC

Money, network connectivity, lack of government support, financial stress, family situations unawareness of the new technologies, lack of electricity.

5. AVAILABLE SOLUTIONS — AS

Boundary walls and Solar fences are built around the sensitive areas to prevent the wild animal attacks.
Electric fences were used to control livestock.
Sensor based technologies are used to detect animals but they can't find the kind of animal that enters the farm.

2. JOBS-TO-BE-DONE / PROBLEMS — J&P

❖ Loss of human life due to human animal conflict	Harvest season
❖ Difficulty in irrigating large farms manually.	Everyday
❖ Less production due to climatic changes.	Drought
❖ Unable to monitor the farm during night time.	Night time and during extreme climate

9. PROBLEM ROOT / CAUSE — RC

Farms near the forest area are in the danger of animal intrusion unexpectedly
Wastage of water due to over irrigation.
Reduced productivity due to improper monitoring of Crop field.
Damage to Crops by trespassed animals will leads to loss of revenue to farmers.

7. BEHAVIOR — BE

❖ Using crackers to drive away the animals from the farm.	Frequently
❖ Fighting with neighbouring land owners regarding the inadequate water for irrigation.	Rarely
❖ Quiet farming and involve in other kind of works due to less income.	Frequently
❖ Surveillance of farmland in late night manually which may lead to human animal conflicts.	Frequently

3. TRIGGERS TO ACT — TR

Family's economic condition.
By hearing about the new farming technologies that are easy and comfortable .
Loss of life in human animal conflicts.

4. EMOTIONS — EM

- **Before: Fear of animals and tired of** heavy workloads.
- **After: Relieved, Secure, Confident** and happy.

10. YOUR SOLUTION — SL

- Using computer vision for identifying and classifying trespassed wild animals and cattles and diverting them using speakers.
- Implementing an automatic irrigation system using iot application.
- Monitoring the soil conditions and controlling the motor and sprinklers can be done with the help of mobile application using WiFi module.

8. CHANNELS of BEHAVIOR/online — CH

- Queries can be posted regarding the controlling of the system in the official website.
- Chatbot customer service.
- Report complaints online on any malfunctioning of the system.

offline

Periodic surveys regarding the condition/working of the system.
Manuals in all languages to guide the users with operating steps.