Project Title: IOT BASED SMART CROP PROTECTION SYSTEM FOR AGRICULTURE

Team ID: PNT2022TMID04647

1. CUSTOMER SEGMENT(S)



Farmers are the customers who are unable to predict the animals entry into the farming field

> Interference of animals in agricultural lands cause a huge loss of crops

6. CUSTOMER CONSTRAINTS



➤ High adoption costs, more power and security concerns

- ➤ Lack of man power
- ➤ Limited supervision
- > Limited financial constraints

5. AVAILABLE SOLUTIONS



Explore AS, differentiate

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

> Alarm system to give alert while animals attack the crop field

- > Monitor different parameters by mobile or web application which helps to earn the crop yield
- > Customers uses fence to prevent the intervention of animals

2. JOBS-TO-BE-DONE / PROBLEMS

> Improper maintenance of crops

➤ Lack of knowledge among farmers in

> To increase the commodity, import,

export and make profit for farmers

> Need to reduce crop losses and monitor

usage of fertilizers and hence crops are





> Due to intervention of animals during growth of the crop customer faces the consequences

- > Due to various environmental factors such as temperature climate, topography and soil quality which results in crop destruction
- > The solution is proposed to rectify the problem of labor shortage and to minimize the cost budget

7. BEHAVIOUR

current solution



> Looking for an alternative solution to a

- > Collects suggestions from the suburb and uses current technologies
- > Finding an animal's entry into the farming lands is always a difficult task for a customer

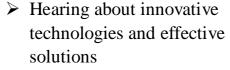
3. TRIGGERS

animals entry

affected



 \mathbf{EM}



- > Increasing in crop yield and saving on fertilizer costs
- > Some of the triggers like advertisements in the television and information from the experts

4. EMOTIONS: BEFORE / AFTER

yield of the healthy crops.

Traditional farming was depressed due to the

using IoT system they are happy with the high

inability to predict the animals grazing in the fields

10. YOUR SOLUTION



- > IOT based crop protection system against birds and wild animals' attacks
- ➤ Here moisture sensor is interfaced with arduino to measure the moisture level in soil and relay is used to turn ON and OFF the motor pump for managing the excess water level.
- Temperature sensor is connected to the microcontroller used to monitor the temperature in the field. The optimum temperature required for crop cultivation is maintained sing sprinklers.
- Image processing techniques with IOT is followed for crop protection against animal attacks

8.CHANNELS OF BEHAVIOUR CH 8.1 ONLINE



> Using different platforms like social media to describe the working and uses of smart crop protection device

8.2 OFFLINE

- > Raising awareness of the device's use among the farmers
- > Can buy IoT based system from authorized shops

Identify strong TR & EM