# 1. CUSTOMER SEGMENT(S)

CS

The people who started their farming and need protection and more yield for the crop are the ultimate customers.

### 6. CUSTOMER CONSTRAINTS

CC

Threat of unauthorized access, stealing and manipulation of data in the data base.

The farmers have high risk of animal attack in the

process of chasing them away . Animals and birds

destroys the crop and reduces the yield .Improper

watering causes a huge loss.

The customer have to adapt it to cope up with the

future technology.

Interrupted internet connectivity.

#### 5. AVAILABLE SOLUTIONS

Explore AS, differentiate

Scarecrows are used to chase away the animals and birds .The irrigation process is done based on their intuition and their understanding.

Scarecrows are not reliable in chasing away the animals. Watering the crops based on the intuition can not precise.

## 2. JOBS-TO-BE-DONE / PROBLEMS

J&P

The product detects the presence of animals and birds and generates an alarm and avoids the animal from destroying the crop. The device will also monitor the soil moisture levels, temperature, and humidity values and send them to the IBM IoT Platform. A web application is developed to visualize the soil moisture, temperature, and humidity values Users can also control the motors through web applications.

### 9. PROBLEM ROOT CAUSE

RC

#### 7. BEHAVIOUR

Electric fences are used around the farm land to prevent animals from destroying the crop . Farmers dig canals for draining the excess water in the farm land and set up rain cover for their crops.

## 3. TRIGGERS

TR

It is reliable in protecting crops from Animals and Birds .The moisture level of the crop are maintained day and night without man power. Irrigation can be monitored and controlled remotely using App.

#### 4. EMOTIONS: BEFORE / AFTER

EM

BEFORE: Fear of crops being destroyed and Imprecise watering of crops.

AFTER: Confident on farming and irrigation. Serenity of field protected from animals.

### 10. YOUR SOLUTION

SL

The device uploads the processed data from each sensor to the cloud. By using the uploaded data the cloud commands the processor to take precise action or the action is taken remotely by the customer using the mobile application.

### 8. CHANNELS of BEHAVIOUR

ONLINE: Online guidance is provided to the customers about the technology and protecting the crops.

OFFLINE: Customers can use the agriculture and farmers welfare centres near them to gain knowledge about the smart crop protection system.





Extract online & offline CH of BE