PROJECT DESIGN PHASE- 1 PROBLEM SOLUTION FIT

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| DATE | 10 OCTOBER 2022 |
| TEAM ID | PNT2022TMID08727 |
| PROJECT | IOT BASED SMART CROP PROTECTION SYSTEM FOR AGRICULTURAGRICULTURE |
| MARK | 2 MARK |



Purpose / Vision

**1. CUSTOMER SEGMENT(S)**

* Crop Management
* Precision Farming.
* Data Analytics
* Remote monitoring.
* Robotic System.

. **6. CUSTOMER CONSTRAINTS CC**

* Low availability of improved hybrid seed.
* Lack of water constraints.
* Automatic process reduces the time and labour cost.
* Low profitability and efficiency of fertilizer
* Weeds can cause significant reduction in crop field if not controlled.

**5. AVAILABLE SOLUTIONS**

* The soil quality can be continuously monitored by the farmers to manage long term crops.
* Sensors provides location of crop mapping helps the farmers to identify the crops easily
* Effective weed dessication and seeding

must be done to increase the yield of crop.

**AS**

**CS**

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

**J&P**

* To manage and track the location of GPS by using IOT.
* Automatics sprinklers systems must be implemented.
* To monitor soil,pest,insect attacks in the fields.
* By using sensors we can gather real-time data about the health of the crops and herds, which is helpful in making better decisions for the

farmers..

# 9.PROBLEM ROOT CAUSE

* The crops are being ravaged by animals leads to huge loss for farmer.
* Another problem is small land fragmented land-holdings.
* By using,checimals the soil quality is diminished and leads to annual loss.
* The crops are seriously affected due to the climatic changes.

# BEHAVIOUR

* To predict the soil ,Humidity ,Temperature

**BE**

**RC**

,ph,Cattle ,Fertilization Monitoring so many things are Benefical here.

* Easier Recording and Reporting,Providing data to Farmers continuously.
* Everything is digitalized soo it is faster and easy to use without human intervention
* In addition to agricultural use, they can also be used for pollution and global warming

# 3. TRIGGERS

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**TR**

* + Farmers are able to recognise the issues and work without anyone help.
  + They are equipped with wireless chip so that they can be remotely controlled.

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# 10.YOUR SOLUTION

* Smart farming can make agriculture more profitable for the farmer.

**SL**

* Decreasing resource inputs will save the farmer money and labor, and increased reliability of spatially explicit data will reduce

**CH**

# CHANNELS of BEHAVIOUR

* 1. **ONLINE :** Data Analytics helps to give data to farmers systematically. By using IoT the data can be stored safe and secure.

# 4. EMOTIONS: BEFORE / AFTER

**EM** risks.

* 1. **OFFLINE :** The proposed system contains

**BEFORE :** Fear of smart farming, High Cost

**AFTER** : Cost Effective , Accuracy

* Weed dessication and growth control must be

concentrated effectively..

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different types off sensors to test and guarantee the Crop quality based on the factors such as pH level, temperature,humidity,pest,soil fertility.