Project Title: IOT Enabled Smart Farming Application | **Project Design Phase-I - Solution Fit** | **Team ID:** PNT2022TMID00408

Define CS, fit into CC

1. CUSTOMER SEGMENT(S) — CS

Farmers and Large Scale Farmlands

6. CUSTOMER CONSTRAINTS — CC

It is not possible to be at all places to prevent an intrusion

Farmer doesn't immediately know about changes in soil, moisture and pH level.

It is impossible to constantly check on your fields physically at the same time

5. AVAILABLE SOLUTIONS — AS

Use electro-chemical sensors to accurately measure soil acidity, moisture, pH levels

Use intrusion detection systems to alert the farmer if an intrusion is detected

Explore AS, differentiate

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

2. JOBS-TO-BE-DONE / PROBLEMS — J&P

Monitoring fields to check if there are any intrustions detected

Actively monitoring fields to check pH level, soil fertility, acidity and moisture levels.

9. PROBLEM ROOT CAUSE — RC

Inability to monitor and maintain large fields of crops by sheer manpower alone, Wild beasts often roam around and cause damage to the crops before the farmers realise the invasion.

7. BEHAVIOUR — BE

The behavior is to quickly react to invasions and prepare solutions to drive out wildlife. Avoid loss of crops and yield to unforseen changes in soil fertility levels.

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

Identify strong TR & EM

3. TRIGGERS — TR

Losing large amounts of yield to unforseen events and getting crops destroyed by wild animals

4. EMOTIONS: BEFORE / AFTER — EM

Before: physical monitoring, wastage of yield, destruction of crops

After: remote monitoring, more yield, less destruction of crops.

10. YOUR SOLUTION — SL

Using Electro-Chemical senosrs, we can accurately measure the fertility, acidity and pH levels of crops and other senors to measure water capacity and control watering utility.. This way, the farmer actively knows about what is going on in their field at all times. Using intrusion detectors, a wildlife intrusion could be faster relayed to the farmer, who in turn will be able to take quicker action and minimize the damage.

8. CHANNELS of BEHAVIOUR — CH

Online: Realtime monitoring of crops and their fertility levels, faster relay of information regarding invasions and better control over irrigation

Offline: Last known status of crops, their fertility levels, relay of information regarding invasions are temporarily stopped, waiting for online status.

Identify strong TR & EM