Project Title: IoT Based Smart Crop Protection System for Agriculture **Project Design Phase-I - Solution Fit Template** **Team ID:** PNT2022TMID34905

Define CS, fit into CC

1. CUSTOMER SEGMENT(S)

CS

Who is your customer?
i.e. working parents of 0-5 y.o. kids

Small scale farmers

6. CUSTOMER CONSTRAINTS

CC

What constraints prevent your customers from taking action or limit their choices
of solutions? i.e. spending power, budget, no cash, network connection, available devices.

Spending power, memory, network connection, available devices

5. AVAILABLE SOLUTIONS

AS

Which solutions are available to the customers when they face the problem

or need to get the job done? What have they tried in the past? What pros & cons do these solutions have? i.e. pen and paper is an

Scarecrow is used to chase the birds that helps us to protect the vegetables, fruits and crops.

Explore AS, differentiate

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

2. JOBS-TO-BE-DONE / PROBLEMS

J&P

Which jobs-to-be-done (or problems) do you address for your customers? There could be more than one; explore different

1) Too much of birds, spoiling the ripened fruit.
2) When soil is moisture less then drought problem will arise.
3) Unauthorized person enter in to the farm and damage the crops.so it leads to economical loss or the farmers.

9. PROBLEM ROOT CAUSE

RC

What is the real reason that this problem exists? What is the back story behind the need to do this job?

The field is open so too much of birds enter into the field and damage the crops.
Drought is due to lack of rainfall, so soil become moisture less.

7. BEHAVIOUR

BE

What does your customer do to address the problem and get
i.e. directly related: find the right solar panel installer, calculate usage and benefits; indirectly associated: customers spend free time on volunteering

Irrigation is not maintained properly. Protect the fruits from the birds is very difficult task. Work is done by using smart technology and manpower is thus reduced.

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

Identify strong TR & EM

3. TRIGGERS

TR

What triggers customers to act? i.e. seeing their neighbour installing solar panels, reading about a more efficient solution in the news.

Using new technology can improve the crop productivity by overcoming the problems and this helps the farmers.

4. EMOTIONS: BEFORE / AFTER

EM

How do customers feel when they face a problem or a job and afterwards?
i.e. lost, insecure > confident, in control - use it in your communication strategy & design.

Before:
1) usually man power is large while farming.
2) Frequent monitoring of the farm is needed in person .
After:
1) Now man power is reduced so less number of labour is enough hence we can save the money.
2) Now there is no need of direct monitoring

10. YOUR SOLUTION

SL

If you are working on an existing business, write down your current solution first, fill in the canvas, and check how much it fits reality.
If you are working on a new business proposition, then keep it blank until you fill in the canvas and come up with a solution that fits within customer limitations, solves a problem and matches customer behaviour.

Birds can be chased away using ultrasound sensors.
Animals are restricted using fencing and door protected by RFID.
Drought can be overcome by providing proper irrigation using DC motor.
Soil humidity and moisture are detected using moisture sensor.
Information can be sent to the farmers using mobile app.

8. CHANNELS of BEHAVIOUR

CH

8.1 ONLINE
What kind of actions do customers take online? Extract online channels from #7

8.2 OFFLINE
What kind of actions do customers take offline? Extract offline channels from #7 and use them for customer development.

Online:
1) Control of motor using mobile app.
2) Getting alert message, when unauthorized person enter into the field and humidity detection.
Offline:
1) Automatic ON/OFF of door when authorized people enter while the farm is fenced.
Ultrasound sensor is used to chase the birds away.
2)In case of no fencing, IR sensor is used to detect the animal enter into the farm.