Project Design Phase-I – Problem Solution Fit

Project Title: Fertilizers Recommendation System for Disease Prediction **Team ID:** PNT2022TMID52605

Define CS, fit into CC

1. CUSTOMER SEGMENT(S) CS

- Farmers
- Agriculturalist
- Nursery owners
- Beginners in farming & gardening

6. CUSTOMER CONSTRAINTS CC

Unfavorable soil properties, climatic conditions led to new diseases in crops. Manually identifying the diseases is time-consuming. Difficulty in finding best fertilizers to get rid of an infection in crop.

5. AVAILABLE SOLUTIONS AS

Farmer traditionally add manure as fertilizers to crops. They use pesticides and insecticides.

Explore AS, differentiate

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

2. JOBS-TO-BE-DONE / PROBLEMS J&P

Crops are prone to diseases and infections during their different growth stages. If unnoticed this can affect their productivity.

9. PROBLEM ROOT CAUSE RC

Lack of sufficient nutrients in the soil can cause diseases. Pollution in air, water and soil are also factor of crop diseases. Ill-agricultural practices also contribute to spread of disease.

7. BEHAVIOUR BE

Plant diseases vary in incidence from season to season. Farmers can add fertilizers to increase soil nutrients. Adopt good agricultural practices that are traditionally followed and proved to give good results.

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

Identify strong TR & EM	3. TRIGGERS TR • Availability of fertilizers at nominal price. • User-friendly web application to detect crop diseases. • Anytime available web-app 4. EMOTIONS: BEFORE / AFTER EM **Before:** Farmers feel depressed and sad after seeing their crop be affected by a disease. **After:** They feel satisfied and are stress-free in curing their crop by using suitable fertilizers.	10. YOUR SOLUTION SL A solution created using Deep learning Convolution Neural Network (CNN) to classify leaf images into the type of diseases it is being affected by. This solution is given in the form of a 24x7 web portal.	8.CHANNELS of BEHAVIOUR CH **8.1. ONLINE** Can make use of the automated fertilizer recommendation system for disease prediction. Can provide their valuable feedbacks and suggestions online **8.2. OFFLINE** Can be advice from other cultivators in their community. Contact agricultural research centers nearby for a remedy.	Identify strong TR & EM