

**Project Title: *Fertilizers Recommendation System For Disease Prediction***

**Project Design Phase-I - Solution Fit**

**Team ID: *PNT2022TMID525***

Define CS, fit into CC

**1. CUSTOMER SEGMENT(S)**

**CS**

- Farmers
- Agricultural Scientists
- Agricultural Researchers

**6. CUSTOMER CONSTRAINTS**

**CC**

- Constraints preventing customers from taking action
- Non availability of strong network connection in rural areas.
  - Less availability of devices to upload the plant images.
  - Regular power cuts.
  - Insufficient knowledge about the use of devices and applications.

**5. AVAILABLE SOLUTIONS**

**AS**

- Farmers manually observe plant diseases and make a rough guess based on their experience , sometimes the fertilizer chosen might not be appropriate
- Other schemes for fertilizer recommendation may not be accurate for a specific disease.

Explore AS, differentiate

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

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

**J&P**

- Prediction of plant disease
- Recommendation of appropriate fertilizers
- Suggest preventive measures
- Improvement of model using feedback

**9. PROBLEM ROOT CAUSE**

**RC**

- Incorrect usage of fertilizers in the past.
- Low soil quality due to excess use of fertilizers.
- Disease causing pathogens.
- Usage of infected seeds.
- Delay in the observation of disease leading to its spread
- Improper maintenance.

**7. BEHAVIOUR**

**BE**

Directly related: Early detection of disease and usage of accurate fertilizer by making use of automated models  
Indirectly related : Approaching other framers, agricultural researchers for guidance at the right time

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

Identify strong TR & EM	<b>3. TRIGGERS</b> <b>TR</b> <ul style="list-style-type: none"> <li>➤ Observing neighboring fields and the crop yield</li> <li>➤ Learning about alternate solutions on the internet</li> <li>➤ Gathering information about other applications used by farmers for fertilizer recommendation</li> </ul>	<b>10. YOUR SOLUTION</b> <b>SL</b> <p>Our fertilizer recommendation model uses deep learning techniques to identify various diseases that the plants are affected with and helps the farmer to choose the appropriate fertilizer to cure the same, thus making their task simpler. By training the model numerous times to make it accurate enough to predict various new diseases in less time.</p>	<b>8. CHANNELS of BEHAVIOUR</b> <b>CH</b> <p><b>8.1 ONLINE</b></p> <ul style="list-style-type: none"> <li>➤ Reading articles online to improve knowledge about various plant diseases and appropriate fertilizers.</li> <li>➤ Gathering information online about various fertilizer recommendation sources.</li> </ul> <p><b>8.2 OFFLINE</b></p> <ul style="list-style-type: none"> <li>➤ Manual observation of other fields and the fertilizers used by other farmers</li> <li>➤ Talking to agricultural researchers in person about plant diseases.</li> </ul>	Identify strong TR & EM
	<b>4. EMOTIONS: BEFORE / AFTER</b> <b>EM</b> <p>When the crop gets affected by the disease the farmer feels</p> <div> <p>Confused &gt; Clarified</p> <p>Distressed &gt; Satisfied</p> <p>Insecure &gt; Content</p> </div>			