

## Project Design Phase-I

### Problem Solution Fit

Date	13 October 2022
Team ID	PNT2022TMID28230
Project Name	IoT based smart crop protection system for agriculture

Define CS, fit into CL	<b>1. CUSTOMER SEGMENT(S)</b> <span>CS</span> <ul style="list-style-type: none"> <li>Farmers, who's not near his field.</li> <li>Crop importers</li> </ul>	<b>6. CUSTOMER LIMITATIONS</b> <span>CL</span> <small>EG. BUDGET, DEVICES</small> <ul style="list-style-type: none"> <li>High adoption costs, security concerns.</li> <li>Prevent the unnecessary use of this device.</li> <li>Use it according to the climate change</li> </ul>	<b>5. AVAILABLE SOLUTIONS</b> <span>AS</span> <small>PLUSES &amp; MINUSES</small> <ul style="list-style-type: none"> <li>Monitor different parameters and mobile or web application make easily to farm the crop field.</li> <li>Certain cultural practices can prevent or reduce insect crop damage.</li> </ul>	Explore AS, differentiate
	<b>2. PROBLEMS / PAINS</b> <span>PR</span> <small>+ ITS FREQUENCY</small> <ul style="list-style-type: none"> <li>It's difficult to monitor and control</li> <li>Ain't known if the application doesn't work properly.</li> </ul>	<b>9. PROBLEM ROOT / CAUSE</b> <span>RC</span> <p><small>What is the root of every problem from the list? eg. Poor if the door is closed, the room will be too hot, that is too expensive (1,1), and possible changes to the door might influence the room's environment (1,1).</small></p> <ul style="list-style-type: none"> <li>If temperature, PH level, humidity &amp; light intensity makes the serious cause for the environment.</li> <li>Farmer affected by less productivity which will affect in their profit.</li> </ul>	<b>7. BEHAVIOR</b> <span>BE</span> <small>+ ITS INTENSITY</small> <p><b>Direct related:</b> Tries to find a solution to prevent this problem</p> <p><b>Indirect related:</b> Located in rural where internet connectivity might not be strong enough to facilitate fast transmission speeds.</p>	
Focus on PR, tap into BE, understand RC	<b>3. TRIGGERS TO ACT</b> <span>TR</span> <p>Create opportunities to lift people out of poverty in developing nations. (Over 60%)</p>	<b>10. YOUR SOLUTION</b> <span>SL</span> <p><small>If you are working on existing business, write down existing solution first, fill in the gaps and check how much does it fit 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.</small></p> <p><b>"IoT based Smart crop protection system for agriculture"!!</b></p> <p>It help farmers grow more food on less land by protection crops from pests, diseases and weeds as well as raising productivity per hectare.</p>	<b>8. CHANNELS of BEHAVIOR</b> <span>CH</span> <p><b>ONLINE</b></p> <p><b>ONLINE:</b> The Data send through application for the farmers to know about the farms.</p> <p><b>OFFLINE</b></p> <p><b>OFFLINE:</b> The control action is taken by the farmers to monitor the farms.</p>	Extract online & offline CH of BE
	<b>4. EMOTIONS</b> <span>EM</span> <small>BEFORE / AFTER</small> <p><b>BEFORE:</b> Finances, Heavy work overload and conflict in relationship.</p> <p><b>AFTER:</b> It will easier to make more yield in</p>			