

# PROJECT NAME: IOT BASED SMART CROP PROTECTION FOR AGRICULTURE

## PROJECT DESIGN PHASE 1: PROBLEM SOLUTION FIT

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Define CS, fit into CL	<b>1. CUSTOMER SEGMENT(S)</b> <span>CS</span> Farmer, who is far from field and unaware of animals, weeds and insects.	<b>6. CUSTOMER LIMITATIONS</b> <small>EG. BUDGET, DEVICES</small> <span>CL</span> 1) Not aware of the implementation of IoT in agriculture. 2) High costs for installing the protection systems.	<b>5. AVAILABLE SOLUTIONS</b> <small>PLUSES &amp; MINUSES</small> <span>AS</span> By using the sensors, arduino, smartphones and via messages we can protect the fields.	Explore AS, differentiate
	<b>2. PROBLEMS / PAINS</b> <small>+ ITS FREQUENCY</small> <span>PR</span> i.) It is difficult to maintain the IoT control systems in field. ii.) The natural world that farming works with plants, pests and diseases continue to pose their own challenges.	<b>9. PROBLEM ROOT / CAUSE</b> <span>RC</span> 1) Water stress, nutrient deficiency, high or low temperature reduces the crop yields. 2) Soil characteristics will affect the profits for farmers.	<b>7. BEHAVIOR</b> <small>+ ITS INTENSITY</small> <span>BE</span> <b>Direct related:</b> Tries to find a solution to prevent this problem <b>Indirect related:</b> Located in rural where internet connectivity might not be strong enough to facilitate fast transmission speeds.	
Identify strong TR & EM	<b>3. TRIGGERS TO ACT</b> <span>TR</span> Create opportunities to lift people out of poverty in developing nations. (Over 50%)	<b>10. YOUR SOLUTION</b> <span>SL</span> <i>"IoT based Smart crop protection system for agriculture" !!</i> It helps to keep plants healthy and maintain sustainable yields and improving productivity of field and forage crops.	<b>8. CHANNELS of BEHAVIOR</b> <span>CH</span> <b>ONLINE:</b> To obtain required output, by using sensors and microcontrollers the farmers will be alerted.	Extract online & offline CH of BE
	<b>4. EMOTIONS</b> <small>BEFORE / AFTER</small> <span>EM</span> <b>BEFORE:</b> heavy works are done by farmers to protect the fields. <b>AFTER:</b> It is a very efficient way to protect the		<b>OFFLINE:</b> The farmers will take current actions for protection of crops.	