

# PROJECT DESIGN PHASE I

## PROBLEM SOLUTION FIT

### IOT BASED SMART CROP PROTECTION SYSTEM FOR AGRICULTURE

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<b>1. CUSTOMER SEGMENT(S)</b> <span>CS</span> <ul style="list-style-type: none"> <li>Commercial Farmers</li> <li>Marginal Farmers</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>Soil related problems</li> <li>Limited land</li> <li>Farming equipments</li> </ul>	<b>5. AVAILABLE SOLUTIONS</b> <span>AS</span> <small>PROS &amp; CONS</small> <ul style="list-style-type: none"> <li>Proper fencing around the land</li> <li>Enough food to animals</li> <li>Protection to avoid field fires</li> </ul>
<b>2. PROBLEMS / PAINS</b> <span>PR</span> <small>• ITS FREQUENCY</small> <ul style="list-style-type: none"> <li>Climatic Condition</li> <li>Livestock will graze the crops</li> <li>Loss of money</li> </ul>	<b>9. PROBLEM ROOT / CAUSE</b> <span>RC</span> <ul style="list-style-type: none"> <li>No enough animal feed, Because of this problem, Animals graze the crops</li> <li>Prevent loss for farmers</li> <li>Due to high temperature, Crops catch fire</li> </ul>	<b>7. BEHAVIOR</b> <span>BE</span> <small>• ITS INTENSITY</small> <ul style="list-style-type: none"> <li>Preparation of soil</li> <li>Basic practices of crop protection</li> <li>Adapting to new technology for crop protection</li> </ul>
<b>3. TRIGGERS TO ACT</b> <span>TR</span> <ul style="list-style-type: none"> <li>Agricultural practices</li> <li>Maintaining soil fertility</li> <li>Managerial decision</li> </ul> <b>4. EMOTIONS</b> <span>EM</span> <small>BEFORE / AFTER</small> <ul style="list-style-type: none"> <li>Frustration due to crop damage</li> <li>Mental illness due to money scarcity</li> </ul>	<b>10. YOUR SOLUTION</b> <span>SL</span> <ul style="list-style-type: none"> <li>Availability of irrigation facilities</li> <li>Monitoring temperature</li> <li>Using temperature sensors</li> <li>Monitoring animal movements in yield</li> </ul>	<b>8. CHANNELS of BEHAVIOR</b> <span>CH</span> <small>ONLINE</small> <ul style="list-style-type: none"> <li>Manuring</li> </ul> <hr/> <small>OFFLINE</small> <ul style="list-style-type: none"> <li>Crop management</li> <li>Harvesting and storage</li> </ul>