

## Project Design Phase-I

### Problem – Solution Fit Template

Date	01 October 2022
Team ID	PNT2022TMID30303
Project Name	Project – Emerging Methods for Early Detection of Forest Fires
Maximum Marks	

### Problem – Solution Fit Template:

**Problem-Solution fit canvas 2.0**

Emerging Methods for Early Detection of Forest Fires

<div style="display: flex; justify-content: space-between;"> <div style="writing-mode: vertical-rl; transform: rotate(180deg); font-weight: bold; font-size: 0.8em;">Define CS, fit into CC</div> <div> <b>1. CUSTOMER SEGMENT(S)</b>  <ul style="list-style-type: none"> <li>Forest Officers</li> <li>Natives inhabiting Forests</li> <li>Environmentalists</li> <li>Rescue Officers</li> </ul> </div> <div style="background-color: #f8d7da; padding: 2px 5px; font-weight: bold; font-size: 0.8em;">CS</div> </div>	<div style="display: flex; justify-content: space-between;"> <div></div> <div> <b>6. CUSTOMER CONSTRAINTS</b>  <ul style="list-style-type: none"> <li>Lack of resources</li> <li>Lack of data</li> <li>Huge area to monitor</li> </ul> </div> <div style="background-color: #f8d7da; padding: 2px 5px; font-weight: bold; font-size: 0.8em;">CC</div> </div>	<div style="display: flex; justify-content: space-between;"> <div></div> <div> <b>5. AVAILABLE SOLUTIONS</b>  Mitigation after the occurrence of forest fires  <b>Pros:</b> <ul style="list-style-type: none"> <li>Easy to identify</li> </ul> <b>Cons:</b> <ul style="list-style-type: none"> <li>Difficult to respond quickly</li> <li>Resources are lost in the delayed response time</li> </ul> Monitoring forests with sensors and cameras  <b>Pros:</b> <ul style="list-style-type: none"> <li>Better early detection</li> </ul> <b>Cons:</b> <ul style="list-style-type: none"> <li>Still has a long delayed response time</li> </ul> </div> <div style="background-color: #f8d7da; padding: 2px 5px; font-weight: bold; font-size: 0.8em;">AS</div> </div> <div style="writing-mode: vertical-rl; transform: rotate(180deg); font-weight: bold; font-size: 0.8em;">Explore AS, differentiate</div>
<div style="display: flex; justify-content: space-between;"> <div style="writing-mode: vertical-rl; transform: rotate(180deg); font-weight: bold; font-size: 0.8em;">Focus on J&amp;P, tap into BE, understand RC</div> <div> <b>2. JOBS-TO-BE-DONE / PROBLEMS</b>  <ul style="list-style-type: none"> <li>Early detection of forest fires</li> <li>Securing a emergency exit path</li> <li>Ensuring inhabitants have a way to save themselves</li> <li>Trapping forest fires within a range of area</li> <li>Reduce loss of lives of both flora and fauna</li> <li>Create a fast, utility - having and resourceful response team</li> </ul> </div> <div style="background-color: #fff3cd; padding: 2px 5px; font-weight: bold; font-size: 0.8em;">J&amp;P</div> </div>	<div style="display: flex; justify-content: space-between;"> <div></div> <div> <b>9. PROBLEM ROOT CAUSE</b>  <ul style="list-style-type: none"> <li>Lack of methods to detect forest fires before they actually appear</li> <li>The delayed response time</li> <li>Lack of mitigation mechanisms</li> <li>Lack of safety measures for people and flora &amp; fauna to protect themselves</li> </ul> </div> <div style="background-color: #fff3cd; padding: 2px 5px; font-weight: bold; font-size: 0.8em;">RC</div> </div>	<div style="display: flex; justify-content: space-between;"> <div></div> <div> <b>7. BEHAVIOUR</b>  <b>Directly related:</b> <ul style="list-style-type: none"> <li>Help the people and animals mitigate after the forest fire has occurred</li> <li>Reduce the range of forest fires by extinguishing them</li> <li>Response team tend to people's injuries</li> </ul> <b>Indirectly related:</b> <ul style="list-style-type: none"> <li>Creating awareness about forest fires to people</li> <li>Saving endangered species way ahead of the actual forest fires</li> </ul> </div> <div style="background-color: #fff3cd; padding: 2px 5px; font-weight: bold; font-size: 0.8em;">BE</div> </div> <div style="writing-mode: vertical-rl; transform: rotate(180deg); font-weight: bold; font-size: 0.8em;">Focus on J&amp;P, tap into BE, understand RC</div>
<div style="display: flex; justify-content: space-between;"> <div style="writing-mode: vertical-rl; transform: rotate(180deg); font-weight: bold; font-size: 0.8em;">Identify strong TR &amp; EM</div> <div> <b>3. TRIGGERS</b>  <ul style="list-style-type: none"> <li>Loss of lives</li> <li>Loss of flora and fauna</li> <li>Loss of huge areas of forests and natural resources</li> </ul> </div> <div style="background-color: #d4edda; padding: 2px 5px; font-weight: bold; font-size: 0.8em;">TR</div> </div> <div style="margin-top: 10px;"> <b>4. EMOTIONS: BEFORE / AFTER</b>  <ul style="list-style-type: none"> <li>powerless / confident</li> <li>devastated / grateful</li> </ul> </div> <div style="background-color: #d4edda; padding: 2px 5px; font-weight: bold; font-size: 0.8em;">EM</div>	<div style="display: flex; justify-content: space-between;"> <div></div> <div> <b>10. YOUR SOLUTION</b>  <b>Emerging Methods for Early Detection of Forest Fires</b> <ul style="list-style-type: none"> <li>Our solution uses Artificial Intelligence to predict and detect Forest Fires way ahead from the time it occurs.</li> <li>Our solution helps us to create mitigation maneuvers to rescue people, flora and fauna</li> <li>It helps the Forest Officers and the Rescue Team to be ready to encounter a disaster</li> <li>It prevents loss of lives</li> </ul> </div> <div style="background-color: #d4edda; padding: 2px 5px; font-weight: bold; font-size: 0.8em;">SL</div> </div>	<div style="display: flex; justify-content: space-between;"> <div></div> <div> <b>8. CHANNELS of BEHAVIOUR</b>  <b>8.1 ONLINE</b> <ul style="list-style-type: none"> <li>Move the forest officers to the location</li> <li>Move the rescue team to appropriate locations</li> <li>Mobilize medical teams</li> </ul> <b>8.2 OFFLINE</b> <ul style="list-style-type: none"> <li>Help people to exit the area of forest fire</li> <li>Reduce the range of forest fire</li> <li>Tend to injured people</li> <li>Rescue animals to escape this situation</li> </ul> </div> <div style="background-color: #d4edda; padding: 2px 5px; font-weight: bold; font-size: 0.8em;">CH</div> </div> <div style="writing-mode: vertical-rl; transform: rotate(180deg); font-weight: bold; font-size: 0.8em;">Extract online &amp; offline CH of BE</div>

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