

**Project Design Phase-I**  
**Proposed Solution Template**

Date	19 September 2022
Team ID	PNT2022TMID04647
Project Name	Project – IoT Based Smart Crop Protection System for Agriculture
Maximum Marks	2 Marks

**Proposed Solution Template:**

Project team shall fill the following information in proposed solution template.

S.No.	Parameter	Description
1.	Problem Statement (Problem to be solved)	<ul style="list-style-type: none"> <li>➤ Develop smart and affordable system to protect crops from wild animals that works well to keep an eye on and alert users (Farmers).</li> <li>➤ To prevent the farmer from visiting the farm at night, this system will also incorporate remote monitoring and control of pump.</li> </ul>
2.	Idea / Solution description	<ul style="list-style-type: none"> <li>➤ Here we proposed automatic crop protection system from wild animals.</li> <li>➤ This is the microcontroller-based system using PIC family controller, which use a monitor sensor to detect wild animals approaching near the field.</li> <li>➤ The microcontroller now emits an alarm to entice the animals out of the field and sends a text message to the farmer alerting him to the problem, so he may respond by arriving at the spot if the animals don't leave after hearing the alarm.</li> <li>➤ This ensures complete safety of crops from animals thus protecting the farmers loss.</li> </ul>
3.	Novelty / Uniqueness	<ul style="list-style-type: none"> <li>➤ Additionally, the gadget will track the soil moisture levels, temperature, and humidity readings and transmit them to the IBM IoT Platform.</li> <li>➤ Through IoT and smart farming, the dependence of manual labor has reduced significantly.</li> <li>➤ Fastest alerts to farmers</li> <li>➤ User friendly</li> </ul>

4.	Social Impact / Customer Satisfaction	<ul style="list-style-type: none"> <li>➤ Periodically checking the crop was a staple of old farming techniques, which required the farmers to be out in the field.</li> <li>➤ The data obtained by the smart sensors will enable us to monitor things like crop's growth, soil quality, weather conditions and more.</li> <li>➤ Enhance productivity while saving farmer's lives and can work with irrespective of fear.</li> </ul>
5.	Business Model (Revenue Model)	<ul style="list-style-type: none"> <li>➤ Community-based resolution provided by FAQs Contract farming solutions.</li> <li>➤ IoT-based solutions assist farmers in making the changeover to more affordable and environment friendly farming practises.</li> </ul>
6.	Scalability of the Solution	<ul style="list-style-type: none"> <li>➤ Wild animals have the potential to significantly reduce crop yields and generate further financial issues.</li> <li>➤ Consider the fact that crop security from wild animals necessitates taking extra precautions.</li> <li>➤ Farmers can make better on-farm decisions such as the optimal time to plant, irrigate, protect or harvest their crops.</li> <li>➤ It creates immense economies of scale, lowers expenses, helps save scarce resources and boosts production.</li> </ul>