

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

Date	31-October-2022
Team ID	PNT2022TMID52180
Project Name	IoT based smart crop protection system for Agriculture
Maximum Marks	2 Marks

**Proposed Solution Template:**

S.No.	Parameter	Description
❖	Problem Statement (Problem to be solved)	Agriculture is the backbone of a country. Approx 58% people depend on agriculture and the GDP of the Indian economy contributed by agriculture is about 38%. It depends on the monsoon and rainfall. Due to over population deforestation occurs and therefore agricultural land become reduced and the rate of crop production is decreased. Similarly, the crops that are damaged by pests and other micro organisms. On the other hand, the crops in the fields that are also damaged by wild animals such as buffalo, elephants and reptiles such as rats,snakes. etc. Inorder to overcome this and to protect the crops, we need to invent a modern smart crop protection system . The smart crop protection wants to help the farmers from the endangers.
❖	Idea / Solution description	Inorder to overcome the issues facing in crop protection a new smart crop protection should be made. To overcome this challenge,we have propose the smart crop protection in agriculture.This system can helps the farmers to protect the crops from the crop damage. By using the different sensors and microcontrollers the signals are transmitted to the cloud which in turn can detect the hazards causing to the crops. Thus, the system will helps to protect the crops from the hazardness.

❖	Novelty / Uniqueness	<ul style="list-style-type: none"> <li>❖ Due to the crop monitoring with the help of IoT which helps to increase the productivity.</li> <li>❖ The sensors used in the IoT system which can help to detect the crops realtime.</li> <li>❖ The GPS which can help to track the location and the area of the fields full time.</li> <li>❖ The motion sensors used in the system which will help the farmers to detect whether the animals are entered or not.</li> <li>❖ The buzzers used in the system which will help to make sure that any smoke exists due to any fire.</li> </ul>
❖	Social Impact / Customer Satisfaction	<ul style="list-style-type: none"> <li>❖ It helps the farmers to maximize the productivity of crops.</li> <li>❖ Remote management provides transparency and real-time crop monitoring.</li> <li>❖ With the help of sensors, it collects vital information like crop health, temperature etc.</li> <li>❖ It helps the farmers for thorough marketing and business development.</li> <li>❖ The smart crop protection system may minimize the human work and effort.</li> </ul>
❖	Business Model (Revenue Model)	<ul style="list-style-type: none"> <li>❖ Agriculture is the main income of the economy.</li> <li>❖ The smart crop protection system which can be controlled and monitored by the websites and the internet facility.</li> <li>❖ The agricultural products that are exported from the country which may be based upon the commissions involved.</li> </ul>
❖	Scalability of the Solution	<ul style="list-style-type: none"> <li>❖ The method focuses on the sensors used in the system.</li> <li>❖ It increases the number of connected devices, users, applications and analytical capabilities.</li> </ul>