

Project Design Phase-I
Proposed Solution
Template

Date	30 September 2022
Team ID	PNT2022TMID11102
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)	Birds and Wild animals attacks are a specific challenges for farmers in the world. Animals and birds may cause serious damage to crops. They can damage the crops by feeding on plant parts and by running over the fields. Therefore, the birds and wild animals may cause significant yield and financial problems. crop destruction and infest stored grains and food products. Additionally, they damage and weaken the quality of food crops.
2.	Idea / Solution description	A smart crop protection system helps farmers to keep crops protected from animals and birds that destroy crops. Automatically spraying the natural pesticides Use ultrasonic waves to protect crops from bugs and animals. It also helps farmers to monitor soil moisture levels in the field, as well as temperature and humidity values in the field. Motors and sprinkler irrigation in the field can be monitored through mobile app. Usage of LED bulbs in the field is easy to catch insects. Usage of Cameras and PIR Sensor to detect the entry of wild animals in the field.

3.	Novelty / Uniqueness	<p>This Smart crop protection system helps the farmers to reduce their work and time. Monitors the soil moisture, Temperature and humidity level with the help of Sensors. Usage of Rain sensor in the field is efficient to sense the rain fall. Automatic irrigation can be done with the help of this crop protection system.</p>
4.	Social Impact / Customer Satisfaction	<p>The integration of Digital technology into farming practices are able to increase yields, reduce costs, experience less crop damage, earn more profit and minimize water, fuel, and fertilizer usage.</p>
5.	Business Model (Revenue Model)	<p>Manpower usage is less, Cost Effective, Gain more yield, Farmers can earn more profit from the crop production. The end user can get the crop products easily available.</p>
6.	Scalability of the Solution	<p>The farmers can get a great relief from weed formation and climatic changes. They can concentrate on crop production. The farmers do not suffer from the drought and poverty due to loss in farming. This crop protection system uses techniques are integrated with IBM cloudant services, which helps efficiently in large scale and it improves scalability</p>