Project Design Phase-I
Proposed Solution Template

Date	24 September 2022
Team ID	IBM-Project-19345-1659696505 PNT2022TMID27900
Project Name	IOT BASED CROP PROTECTION SYSTEM FOR AGRICULTURE
Maximum Marks	2 Marks

Proposed Solution Template:

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

S.No.	Parameter	Description
1.	Problem Statement (Problem to be solved)	Agriculture is the backbone of the economy but because of animal interference in agricultural lands, there will be huge loss of crops.Crops in farms are many times ravaged by local animals like buffaloes, cows, goats,birds etc. Elephants and other animals coming in to contact with humans, impact negatively in various means such as by depredation of crops, damaging grain stores and , injuring and death of humans.This leads to huge losses for the farmers. It is not possible for farmers to barricade entire fields or stay on field 24 hours and guard it.It requires urgent attention as no effective solution exists till date for this problem.
2.	Idea / Solution description	The key research objectives are as follows: • The proposed system detects movement of animals and birds which destroy crops and turns on the alarm. • This system also helps farmers to monitor the soil moisture levels in the field and also the temperature and humidity values near the field. • In the proposed system, it will sense the soill moisture level by placing the sensors at the required position, which automatically turns on sprinklers.
3.	Novelty / Uniqueness	The uniqueness of this system is that it detects the movement of animals and alerts the farmers and sense the moisture level and automatically turns on sprinklers without any human intervention.

4.	Social Impact / Customer Satisfaction	It is not possible for famers to protect the field from animals and birds at all times. Improves the productivity,saves lives of farmers. Simple solution to suite the farmer community.
5.	Business Model (Revenue Model)	Community based solution by FAO's. Solution through contract farming. The global crop production systems enhances farmer's income. This growth is attributed to the rising product demand in light of the surging of crop production. Therefore surging government standards and regulations for the improvement of the crop production.
6.	Scalability of the Solution	Crop protection system is highly scalable in various aspects. Following this approach, this idea presented an efficient IoT-based and real-time crop protection model for improving the production of crops. This system can be scaled by adding various technologies to it. More sensors can be used to detect position and movement of animals and moisture level of soil even in undesirable conditions. This can also be implemented in farms and gardens . Mobile apps and websites can also be used to monitor the areas frequently.