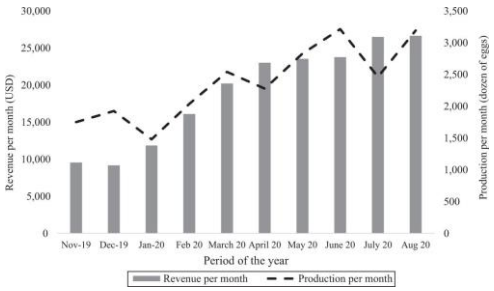
Project Design Phase-I
Proposed Solution Template

Date	27 September 2022
Team ID	PNT2022TMID14459
Project Name	SmartFarmer - IoT Enabled Smart Farming Application
Maximum Marks	2 Marks

Proposed Solution Template:

S.No.	Parameter	Description
1.	Problem Statement (Problem to be solved)	• **Increased consumption of natural resources:** The agricultural sector consumes a lot of natural resources, with water as well as metal and fuel for agricultural machines being just a few of them. • **Deteriorated quality of the soil:** The extensive use of artificial fertilizers, pesticides and insecticides has caused considerable deterioration of the soil fertility. The quality of the soil has decreased, which leads to decreased growth rates for all crops. • **Monitoring climatic changes:** The need for more agricultural products leads to increased demand for farming land. Forests get cut so the land can be used for agriculture. The lack of natural cooling factors leads to increased temperatures, which negatively impacts the humans, but to a much bigger extent impacts the plants and their growth processes.
2.	Idea / Solution description	• Use of IOT sensors enables to get accurate real time information such as temperature, humidity and soil condition. • Precision agriculture is a farming management approach that uses digital technologies to enable farmers to make better decisions about where, when and how much to fertilize, irrigate, and spray pesticides.
3.	Novelty / Uniqueness	• IoT sensor nodes collect information from the farming environment, such as soil moisture, air humidity, temperature, nutrient ingredients of soil and water quality, then transmit collected data to IoT backhaul devices.

		• It helps the farmer to operate the motor from anywhere at any time.
4.	Social Impact / Customer Satisfaction	• It maximize yields using minimum resources such as water, fertilizers, seeds etc. • Solar powered and mobile operated pumps save cost of electricity. • It makes the monitoring and maintaining process easier. • It is a cost effective method and saves time. • It delivers high quality crop production.
5.	Business Model (Revenue Model)	
6.	Scalability of the Solution	• This solution helps in improving the scalability. • It improves the ability and also increases the capacity and demand for the system.