**Title of the Project:** SmartFarmer-IoT Enabled Smart Farming Application.

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**Problem Statement:**

The world's population is estimated to grow to 10 billion by 2050. As a consequence, the demand for agricultural products is continuously increasing. However, the agricultural sector is facing several problems on a daily basis. The problems are detailed below,

* One-third of the world's population lives in water-stressed areas. In India, agriculture is the primary user of water. However, water sources are not effectively linked to fulfilling the demand for irrigation in all farming areas.
* Irregular traditional irrigation practices show numerous adverse effects on groundwater quality and height, water logging, soil salinity, soil health, crop productivity, partial factor productivity, and farm practice economics.
* Weather and climate are critical factors in the success of any agricultural crop output. Increasingly volatile weather and rapid climate change are causing crop yields and farm operations to be more susceptible to lower margins. It is estimated that 90 per cent of crop losses are related to extreme weather.
* Economic factors are the most important elements influencing cropping patterns, and every farmer would prefer to switch to a crop combination that maximises his revenue. Unfortunately, implementing a better farming plan is not feasible for many farmers, owing to a lack of necessary infrastructure, leading to soil degradation.
* The spread of loss and waste According to the United Nations Food and Agriculture Organization, one-third of all food produced globally is either lost or wasted owing to reasons such as insect infestations, harvest issues, or market and supply-chain inefficiencies.
* More emphasis on food quality and sustainability increased food recalls and an expanding population are driving up demand for quantity and quality. However, these objectives must be met through long-term policies that assist conserve and maintain the environment for future generations.
* Even if production parameters are improved, a shortage of storage facilities limits output. According to estimates, around 1.35 billion USD worth of food grains is lost annually in India due to a lack of storage facilities.