Smart Farming e-Monitoring System

IDEATION

The main idea of my project is about the development of **'Smart Farming e-Monitoring System'.** The objective of this project is the farmers can monitor his agriculture lands by using his mobile phone. **Smart farming** brings out the concept of **Internet of Things** through which he monitors the data obtained from the sensors. IoT sensors capable of providing farmers with information about crop yields, rainfall, pest infestation, and soil nutrition are invaluable to production and offer precise data which can be used to improve farming techniques.

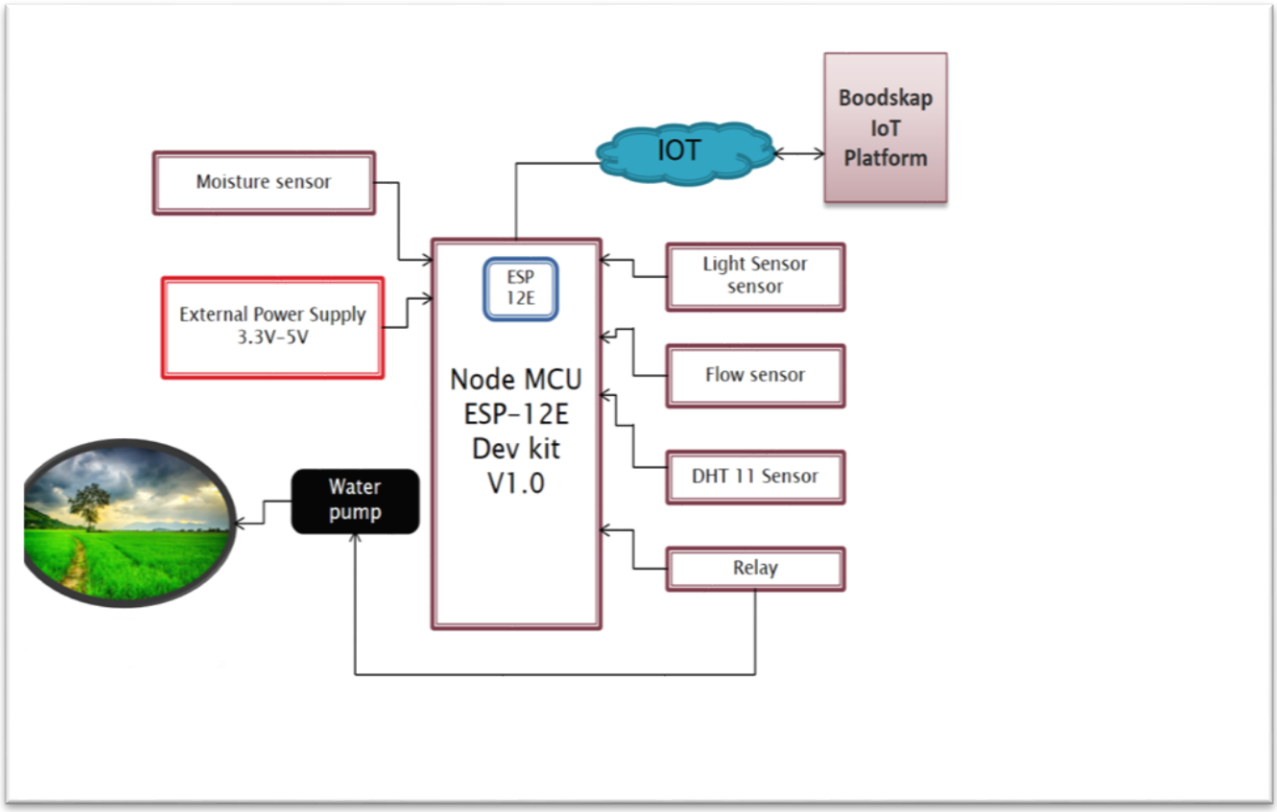
PROBLEMS FACING:

The problems facing by farmers in agriculture is they were struggling hard in the agricultural fields round the clock. In the agricultural sector, water pumps are used for irrigating small tracts of land from tube wells or open wells. Agriculture receives power mostly during mid night as this reduces the cost of electricity supply for the transmission and Distribution Company. The farmers have to be on their guard all the time due to the unpredictable nature of supply of electrical energy. And the farmers have to switch on their motor after electricity supply resumes.

Due to their negligence, sometimes they switch on the motor and then forget to switch off, which may lead to wastage of water. To overcome this problem, we are going for '**Smart Farming e-Monitoring System'** to monitor the real time farming processes with critical historical data, such as weather events, climate changes, resources' availability, economics, product information

DESCRIPTION OF INNOVATION

In this project we are using **Node MCU** board ultra-small computing platform as it supports Wi-Fi(**ESP8266**) connect feature and the sensors (Moisture Sensor, Temperature Sensor, Humidity sensor, Light sensor, Flow sensor) which will be placed in the field and able to monitor amount of light falling on the plants, Temperature and Humidity level, water flow rate and the moisture content in the soil. When the moisture content in the soil is too low, the system will give command to switch ON the motor and water the soil. The flow meter monitors the water consumption.



FUNCTIONAL FLOW CHART

The data obtained from the sensors will be send to the Cloud (**BOODSKAP PLATFORM)** where the farmer can monitor the status of his land, availability of water and light intensity. Even the motor can be controlled by the switch in button in **BOODSKAP dashboard**. Based on the moisture content, the Water Pump will be automatically Switched ON for watering the plant. Finally, the Notification message will be send to the Farmer's Mobile regarding the amount of water flows to the land. This Project enables precision agriculture in order to maximize food production, minimize environmental impact and reduce costs**.**