PROJECT SCOPE

ON

SMART AGRICULTURE SYSTEM

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Project Scope:

Plants and water have had and still have a key role in the history of life on earth. They are responsible for presence of oxygen needed for human survival on this planet. At the same time agriculture is also important to human beings because it forms the basis for food security. It helps human beings to grow appropriate crops with right nutrients and raise the animals in accordance to environmental factors.

Agriculture plays a crucial in country's development and any country's stand in the world can be determined by this sector. Agriculture plays a vital role in India's economy. Over 58% of the rural areas depend on agriculture as their main source of livelihood. Agricultural export constitutes 10% of the country's export. Yet farmers are using traditional techniques for agriculture and most of the farmers still depend on rain for irrigation. The farmer's and even the nation's economy will be ruined if there are no proper yields due to lack of knowledge of the soil nature, timely unavailability of water. Thus the government should take steps for a better and profitable irrigation.

It is a smart agriculture system based on IOT (Internet of Things) technology which brought revolution to each and every field of common man's life by making everything smart and intelligent. Aim of this project is to propose a novel smart IOT based agriculture system assisting farmers in getting live data (Temperature, soil moisture, soil temperature, weather condition, pressure) for efficient monitoring of the water content in the field by controlling the motor that enables them to provide smart irrigation system and reduce the unnecessary wastage of water in the fields, increase the overall productivity of the crops as adequate amount of water is provided and increase the quality of crops. We will use IBM Watson IOT platform to create devices and sensors that are required to control the water flow and connectivity and User Interface is provided by IBM Node red. The live data of the environment of field is given by using Open Weather API.

According to the World Wildlife Fund (WWF), 70% of our planet is covered by water. However, only 3% of it is fresh water, and only one-third of that is available for consumption. Many water systems are stressed due to the growing human population and over-consumption. Agriculture consumes more water than any other source. Much of the water used in agriculture is wasted due to inefficient irrigation systems. To alleviate this problem, many governments impose restrictions on water usage, especially in drought-stricken states.
To improve irrigation efficiency and properly enforce water usage restrictions we use Smart Agriculture system. This project enables us to provide the right amount of water needed by the plants. The present project proposes an IOT enabled smart soil moisture monitoring system that helps the government authorities to know the information about dry soil areas in the agricultural lands within a village, town or even a state, so that necessary precautionary steps can be taken to make such lands fertile. Besides, the project is also very much useful for the farmers, organizations or individuals running plant nurseries to automatically the pumping Motor ON and OFF on sensing the moisture content of the soil. The advantage of using this method is to reduce human intervention and still ensure proper irrigation.