# **SMART FARMING AGRICULTURE (IRRIGATION SYSTEM)**

PROJECT REPORT :Part 1

Submitted to the

**CENTER FOR CREATIVITY**

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**ABSTRACT**

India is mainly an agricultural country. Agriculture is the most important Occupation for the most of the Indian families. It plays vital role in the Development of agricultural country. In India, agriculture contributes about16% of total GDP and 10% of total exports. Water is main resource forAgriculture. Irrigation is one method to supply water but in some cases there Will be lot of water wastage. So, in this regard to save water and time we have Proposed project titled automatic irrigation system using IoT. In this proposed System we are using various sensors like temperature, humidity, soilmoisture Sensors which senses the various parameters of the soil and based on soil Moisture value land gets automatically irrigated by ON/OFF of the motor. These Sensed parameters and motor status will be displayed on user channel

**KEYWORDS: Internet of things (IoT), Arduino, Temperature sensor, Soil moisture Sensor**

**CHAPTER 1**

**INTRODUCTION**

Agriculture is the major source of income for the largest population in India and is Major contributor to Indian economy. However, technological involvement and its Usability have to be grown still and cultivated for agro sector in India. Although few Initiatives have also been taken by the Indian Government for providing online and Mobile messaging services to farmers related to agricultural queries and agro vendor’s Information to farmers. Based on the survey it is observed that agriculture contributes 27% to GDP, and Provides employment to 70% of Indian population . IoT is changing the agriculture domain and empowering farmers to fight with the huge difficulties they face. The agriculture must overcome expanding water deficiencies, restricted availability of lands, while meeting the expandingconsumption needs of a world population. New innovative IoT applications are addressing these issues and increasing the quality, quantity, sustainability and cost effectiveness of agricultural production.Agriculture is the backbone of Indian Economy. In today’s world, as we see rapid growth in global population, agriculture becomes more important to meet the needs of the human race. However, agriculture requires irrigation and with every year we have more water consumption than rainfall, it becomes critical for growers to find ways to conserve water while still achieving the highest yield. But in the present era, the farmers have been using irrigation technique through the manual control in which they irrigate the land at the regular interval.According to statistics, agriculture uses 85% of available freshwater resources worldwide, and this percentage will continue to be dominant in water consumption because of population growth and increased food demand. There is an urgent need to create strategies based on science and technology for sustainable use of water, including technical, agronomic, managerial and institutional improvements. Agricultural irrigation based on Internet technology is based on crop water requirement rules. By using Internet technology and sensor network technology we can control water wastage and to maximize the scientific technologies in irrigation methods. Hence it can greatly improve utilization of water and can increase water productivity.The Internet of Things (IoT) is a technology where in a mobile device can be used to monitor the function of a device. The Internet of Things (IoT) is concerned with interconnecting communicating objects that are installed at different locations that are possibly distant from each other. Internet of Things (IoT) is a type of network technology, which senses the information from different sensors and makes anything

To join the Internet to exchange information.It can also be used to modify the status of the device. The central processing unit will also include communication device to receive data from the sensors and to be relayed to the user’s device. This will be done using a higher communication device such as a Relay module. The data processed by the central module is converted to meaningful data and relayed to the user. The user can view the data with the help of a handheld device such as a mobile phone or a tablet. Nowadays water scarcity is a big concern for farming. This project helps the farmers to irrigate the farmland in an efficient manner with automated irrigation system based on soil moisture.The proposed system has been designed to overcome the unnecessary water flow into the agricultural lands. Temperature, moisture and humidity readings are continuously monitored by using temperature, moisture and humidity sensor and send these values to the assigned IP address. Android application continuously collects the data from that assigned IP address. Once the soil moisture values are exceeded the particular limit then the relay, which is connected to the arduino microcontroller controls themotor. The android application is a simple menu driven application, with 4 options. This includes motor status, moisture, temperature and humidity values. The motor Status indicates the current status of the pump.

**1.1 SYSTEM OVERVIEW**

The smart irrigation system uses temperature, soil moisture and humidity Sensor to measure the relative parameter in order to give the water to crops. … Since it’s a real time system thus microcontroller sends the measured values of different parameter and according that water is given to the crops.

**1.2 PROBLEM STATEMENT**

In India, agriculture is the need of most of the IndiansLivelihood and it is one of the main sources of livelihood. Agriculture also has a major impact on economy of the Country. The consumption of water increases day by day that May leads to the problem of water scarcity. Now a days not Only for crops outdoor plants in home becoming quite difficult For them.

**1.3 OBJECTIVE**

The main objective of this project is to provide an automatic irrigation system thereby Saving time, money & power of the farmer. The traditional farm-land irrigation Techniques require manual intervention. With the automated technology of irrigation The human intervention can be minimized.