VISVESVARAYA TECHNOLOGICAL UNIVERSITY, BELAGAVI

A PROJECT REPORT ON

"WIRELESS SENSOR NETWORK BASED WATER WELL MANAGEMENT SYSTEM FOR PRECISION AGRICULTURE"

Submitted in partial fulfillment for the award of Degree of,

BACHELOR OF ENGINEERING

IN

COMPUTER SCIENCE &ENGINEERING

By

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CERTIFICATE

This is to certify that the project entitled **"WIRELESS SENSOR NETWORK BASED WATER WELL MANAGEMENT SYSTEM FOR PRECISION AGRICULTURE"** has been successfully completed by

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the bonafide students of **DEPARTMENT OF COMPUTER SCIENCE & ENGINEERING, ALVA'S INSTITUTE OF ENGINEERING AND TECHNOLOGY** of the **VISVESVARAYA TECHNOLOGICAL UNIVERSITY, BELAGAVI** during the year 2018–2019. It is certified that all corrections/suggestions indicated for Internal Assessment have been incorporated in the report deposited in the departmental library. The project report has been approved as it satisfies the academic requirements in respect of Project work prescribed for the Bachelor of Engineering Degree.

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ABSTRACT

Due to climate change, traditional fertilization and watering system has become very hard to get success of growing plants in certain areas. On the other hand, humanity depends on water and Agriculture for survival. As a result optimal, profitable and sustainable use of water is critical. Several researchers continue their research on precision agriculture for easy implementation, continuous monitoring and control of water for the community. Wireless Sensor Network (WSN) is a very reliable and successful technology in precision agriculture. The project proposes a WSN based approach using some convenient instrument that able to monitor and control water level in well using remote devices from distance location. The current work gives an overall description of a WSN based model and implementation that includes introduction and relevant argument indicating the importance and validity of the proposed system, methodology and implementation. WSN model is used to help the farmer in a great way. It is possible to check the level of the water in the well using ultrasonic sensor so that whenever the water goes below certain threshold limit, a notification is sent to user through the android app and user needs to turn on the pump. Also when there is overflow of water in water well it uses sensor to detect the water level so that if the water level goes above certain limit a notification is sent. This system prevents wastage of water. WSN model also uses soil moisture sensor to indicate the moisture level based on the requirement of the crops. A message is sent to the farmer if the water is needed for the crop.