LITERATURE SURVEY

INTRODUCTION

Agriculture is one of the most important aspect in India. Irrigation accounts for 55-70% of water usage in India. Water usage for irrigation is nearly 60%.Most of this water used is wasted. We can use soil moisture sensor as a solution for wastage of water. This is done by Iot devices . The IoT networks reduce human labour requirements in the farm. IoT uses wireless sensor networks for gathering the information to monitor and control the activities. For monitoring the farm remotely, the end devices are equipped with soil moisture sensor, temperature sensor, etc. There are no means for farmers to have complete control over their farms and monitor the activity on the farm remotely. Here we try to provide a system that is cost effective and provides the functionalities that is required by the Indian farmers. IoT devices enable all farms to be connected and share knowledge regarding farming from experienced users. The smart farm, embedded with IoT systems, can support a wide range of devices. Due to the deployment of connected farms, it can be easy to detect disease on crop or virus spread over farm using prediction technique. All sensors and actuators who are monitoring and growing the crops are connected through a gateway. The gateway is intern connected to a server called Mobius. It will communicate with expert farming knowledge system and control actuators to make farm suitable to grow crops.

PROPOSED METHOD

This paper proposed the wireless sensor networks' development for watering crops to optimize agriculture to design and develop the control system between node sensors in the field of crops and the data management via smartphone and web application.The data mining technique was applied to analyze the obtained data for predicting the suitable temperature, humidity, and soil moisture of crops in the future plan.The result showed that this work was suitable for usefulness in agriculture.The moisture content in the soil was suitable for the vegetables to be converted with good care reducing costs and increasing agricultural productivity. Moreover, this work will be useful to farmers or those interested in agriculture driving by innovation.

Challenges and Open Research Directions

The survey results indicate that IoT components for the smart agriculture sector, including hardware and software, have been focused on research and achieved many breakthrough results. Several IoT solutions have been deployed on large-scale farms/fields. However, the widespread deployment of IoT in the agricultural sector still presents some challenges. We have present two main problems: economic efficiency and technical problems. We consider these issues coupled with policies that will drive the integration of IoT technologies in agriculture.

CONCLUSION

This concept can be implemented in a real greenhouse for growing good agricultural produce which can be of export quality. The system will take care of automatic irrigation control and various parameters of the greenhouse can be monitored like Temperature, Humidity and Soil Moisture. The

main advantage of this paper is that, all the functions to be performed by the Fan and Sprinkler to control the climatic conditions like temperature, relative humidity and soil moisture levels in the Greenhouse environment are all automated and it does not require any human intervention. This is particularly an important factor because the presence and availability of the human cannot always be trusted on. For important structures like the greenhouses, we need a more dependable and reliable way for its management which is easily achieved by this project.

FUTURE SCOPE

Future work would be focused more on increasing sensors on this stick to fetch more data especially with regard to Pest Control and by also integrating GPS module in this IoT Stick to enhance this Agriculture IoT Technology to fullfledged Agriculture Precision ready product.

Implementation of Foggers

Implementation of sliders.

Implementation of roof sheets.

Implementation of controllable water motor.

REFERENCES

[1] Joaquín Gutiérrez, Juan Francisco Villa-Medina, Aracely López-Guzmán, and Miguel Ángel Porta Gándara, “Smartphone Irrigation Sensor”, Proceedings of IEEE Sensors Journal Sensors 2015, P.3-4 [2] F. Viani, M. Bertolli, M. Salucci, “Low-Cost Wireless Monitoring and Decision Support for Water Saving in Agriculture’’, Proceedings of IEEE Sensors Journal, Vol 0, 2017, P.6-9. [3] Jan Bauer and Nils Aschenbruck,” Design and Implementation of an Agricultural Monitoring System for Smart Farming”, Proceedings of IEEE IoT Vertical and Tropical Submit on Agriculture, 2018, P.978-982. [4] Soumil Heble, Ajay Kumar, K.V.V Durga Prasad, Soumya Samirana, P.Rajalakshmi, U. B. Desai, ”A Low Power IoT Network for Smart Agriculture”, Proceedings of Data Science Based Farming Support System for Sustainable Crop Production Under Climatic Changes, 2016, P.609-613. [5] Ravi Kishore Kodali, Vishal Jain and Sumit Karagwal, ”IoT based Smart Farming”, Proceedings of IEEE Conference, 2017, P.2-6.