

Improved Irrigation System for Agricultural Environments using Sensors, GSM and Water Meter

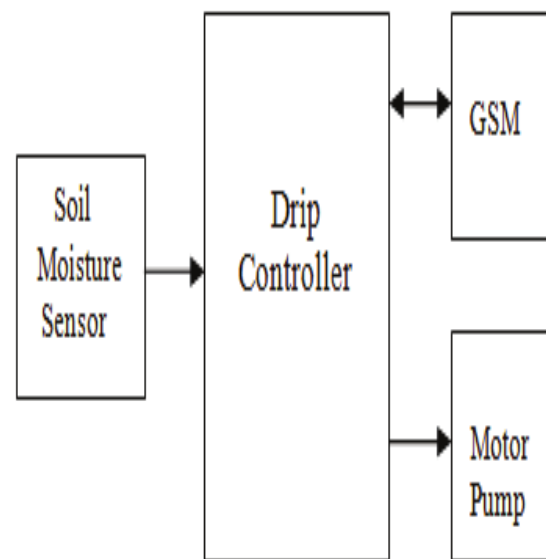
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Abstract:- Agriculture is the broadest financial area and plays an important role in the overall economic growth of a nation. India is an agriculture-based country and 75% of a people where live in rural areas. Now a day's most of the peoples migrate rural to urban places. Because of the technological development people could not more interest to work with oldest method of farming. So, overcome this problem to go with improved irrigation system in agricultural environments using sensors, GSM and water meter. In this module we can include the temperature and humidity sensing, GSM, moisture sensor and water meter where used to control the motor pumps to automation process. In the implementation of automation is to using the improvement of farming and growth of yield. So, making this model is to sensing the soil moisture level and water levels are indicate to system for automatically switched ON/OFF the motor pumps. It is usage of the less time, electricity conception and involuntarily results in wastage of water. That is the same time to the indicator sending the message to the former for using GSM. The aim of our idea to likely work with forms easily to grow of farming.

switch ON any of the motor circuit using man power. Automation of form actions can make over agricultural domain from being manual and still to intelligent and dynamic principal to superior production with lesser human management. The automated irrigation system which monitors and maintains the preferred soil moisture content by the use of automatic watering.

3. EXISTING SYSTEM ARCHITECTURE



4. PROPOSED SYSTEM

In proposed system we can add to the water meter and GSM, it can be monitoring the bore wells without use help of the man power. And water meter can be establish to calculate approximately the amount of water used for irrigation and thus offer to cost estimation.

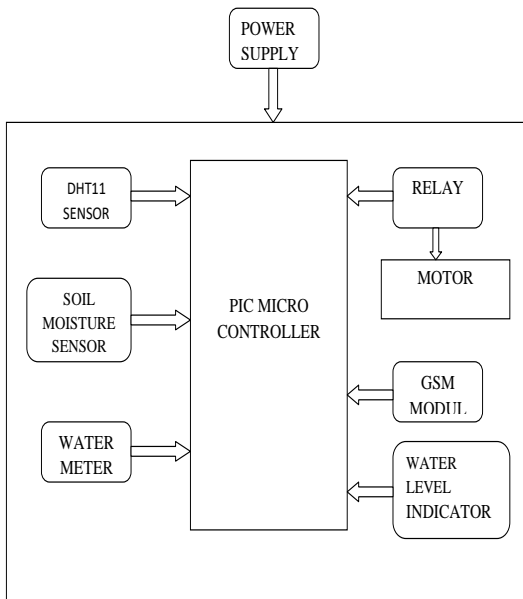
1. INTRODUCTION

In agricultural activities irrigation transportation is most imperative and trivial ground water system, canals, tanks and rain water harvesting. So, the largest system in India was the ground water well-based system. That was a 160 million hectares of urbane lands are in India another 39 million hectare can irrigated by ground water wells and a 22 million hectares by irrigation canals. During 2010 India was constantly irrigated by 35% of agricultural land. India's 2/3rd cultivated lands are dependent upon the monsoons. Last 50 years the development of irrigation system infrastructure was helped in improvement of food security, monsoons dependency was reduced, create rural job opportunities and agricultural yield was improved. In India we are consumed rice and sugar by forming used for more than 60% water available and two crops reside in 24% of cultivable area for the news report in 2019. Indians soil without caring more for replenish used for growing crops over 1000 years. In the overall world can be almost average amount of yield produced. This is over problem can be solved by using fertilizers and manures. So, irrigation is the most important in agriculture. That is the main think to developing our idea to improve our farming.

2. EXISTING SYSYTEM

In older days agriculture monitoring is the farmers functioning in the farm lands are gradually needy on the rains and bore wells for irrigation of their territory. If they

5. SYSTEM ARCHITECTURE



6. WATER REQUIREMENTS

Adequate available moisture all over the growing period is significant for obtaining greatest yields because vegetative development including cane growth is directly proportional to the water transpired. Depending on climate, water requests (ETm) of sugarcane are 1500 to 2500 mm evenly scattered over the rising season.

Development stages	days	Kc coefficients*
planting to 0.25 full canopy	30-60	0.45-0.6
0.25 to 0.5 full canopy	30-40	0.75-0.85
0.50 to 0.75 full canopy	15-25	0.90-1.00
0.75 to full canopy	45-55	1.00-1.20
peak use	180-330	1.05-1.30
early senescence	30-150	0.80-1.05
ripening	30-60	0.60-0.75

The crop coefficient (kc) values, relating ETm to reference evapotranspiration (ETo) for the different growth stages are presented in the following table.

7. SPROJECT DISCRIBSTION

In the implementation of the module automation is to using the implement of farming and growth of yield. In this system will work on the micro controller as the main system, then using temperature, soil moisture sensors and water meter is used. In the temperature sensor used to measure temperature as a function resistance. At the time of increasing temperature should also increase the resistance of soil. The soil moisture sensor measure the water content in the soil and it transfer into micro controller. Then the water meter measure the water level and its speed of flow the quantity used. This will indicate to the motor via a controller. Then the micro controller will gather the data for the sensors and water meter. The GSM to Indicate If the level of moisture is low at the time system will sending message to the formers throw the indicator.

Then automatically motor will ON/OFF for its need to the help of relay. These are the flow of working in our module can implemented.

CONCLUSION

In this work, we successfully develop a system that can help in an automated irrigation for improved irrigation system in agricultural environments using sensors, GSM and water meter. The smart irrigation system proves to be a useful system as it automate and regulate the watering not including any manual intervention. The most central function for this project is for farmers who do not have a sufficient amount time to water crops.

FUTURE SCOPE:

Our project can be improvised by using a sensor to note gives the data's into new technology used. Then used our agriculture farming to proceed without using man power. The implemented of using automation. Further, it also reduces the investment of farmers can be improve new technology in future.

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