International Journal of Innovative Research in Computer and Communication Engineering

| e-ISSN: 2320-9801, p-ISSN: 2320-9798| www.ijircce.com | Impact Factor: 7.194 |

|| Volume 8, Issue 4, April 2020 ||

A Survey on Rain Protection System for Agricultural Goods

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ABSTRACT: Agriculture is a backbone of our country.70 percent population our country is directly or indirectly dependent upon the agriculture sector. But during untimely heavy rain falls, the farmers face lot of problems because their cultivated crops get washed off or destroyed. So in order to avoid this problem this project is designed which helps if saving the crops from heavy rainfall. For our work we used automatic rain protected drying sheds.In this project we propose a system in which the rains are detected by rain sensor.We use atmega-328 which acts as controller of system When the rain is sense by rain sensor the buzzer will get on and relay module motor will get started after starting motor simulteneously and shed will cover the goods ,thus agricultural goods will get saved from rain

KEYWORDS: Agriculture, crops,rain, rain- sensor,sheds,relay module motor,buzzer,ATMEGA 328

I. INTRODUCTION

The science and heart of cultivation of soil and rearing livestock is called agriculture. Farmer being the backbone of the nation is still facing many problems at his work place.Though he feeds the entire humanity, their life condition are far from satisfactory. In present scenario of uncertain of seasonal conditions, farming has became a challenging task for farmers so due to untimely rain crops may get wet due to heavy rainfall thus crop are destroyed and farmers have to face tremendous loss.

In order to save the crops from rain we introduced a system that helps to overcome these problem.Rain protection system is used to save agricultural goods .sometimes we don't know when its going to rain so farmers may bustle in this situation how to cover the goods in very short time, so our system will help him to avoid his bustle - ness.In this project ,we are introducing a good system that alarms farmers when its raining and helps farmers to cover his goods and thus helps preventing loss.

II. LITERATURE SURVEY

Sanjay Kumawat, AshwiniKapadnis et al [1] has proposed this RainGun Irrigation System that uses automatic microcontrollerin which the irrigation will take place only whenthere is intense requirement of water and a large quantity of water can be saved. This system has developed a softwarestack called Androidused for mobile devices that include operating system, middleware andkey applications and the management of the field resources can be enhanced.

Naveen K.B,Sagar G.H et al [2] hasproposed this system design and simulation can be done usingproteus software.There are two sensors which are rain sensorand soil moisture sensor. Rain sensor determines the amount of rainfalland moisture content is measured by the moisture sensorwhich will be displayed on LCD. The auto roof is used. Theautomatic rain water and crop saving system protects crops fromlarge amount of rain water and also prevents wastageof water.

A.Pederi and H.S.Cheporniuk et al [3] hasproposed this paper presents combination of new approaches and technologies in modern-day agriculture. Perspectives andbenefits of usage of Unmanned Aerial Vehicles in different spheres of agriculture considered on the base of spraying droneproject called "Aerodrone".

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III. SYSTEM DESIGN

3.1 Block Diagram

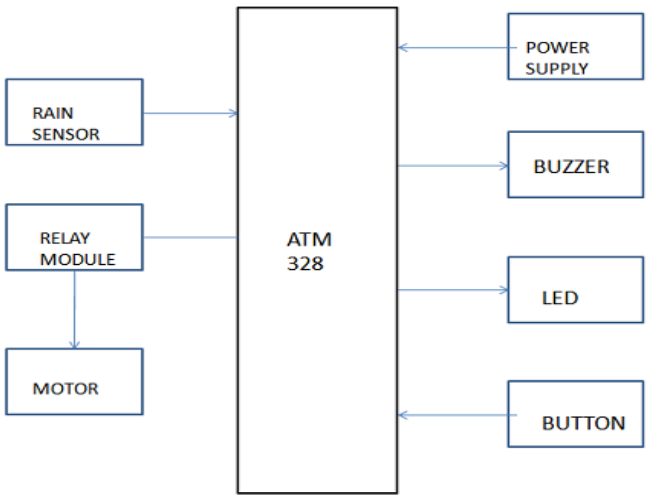

Figure 1: Block diagram

ATM328: ATM328 is an 8-bit and 28 pins AVR micro controller , it follows RISC architecture and has flash type program memory.

RAIN –SENSOR:This module allows us measure moisture via output pinsand it provides a digital output when a threshold ofmoisture is exceeded. The module is based on the L M393op amp. It includes the electronics module and printedcircuit board (control board) that "collects" the rain drops.As rain drops are collected on the circuit board, theycreate paths of parallel resistance that are measured via the op amp. The lower the resistance the lower the voltageoutput.Conversely, the less water, the greater the output voltage on the analog pin. A completely dry board forexample will cause the module to output to five volts

REALAY MODULE: Relay are switches that open and close circuitselectro mechanically .Relay controls one electrical circuit by opening and closing contact in another circuit.

MOTOR: Motor function is ability to learn or to demonstrate the skilful and efficient assumption, maintenance,modification ,and control of voluntary postures and movement patterns.

POWER SUPPLY: A power supply is electronic circuit. Its function is to deliver constant supply voltage in the simple application or automation

BUZZER: A buzzer is an audio signalling device which may be mechanical,electro-mechanical or piezoelectric .It includes alarm devices ,timers.

LED: LED is light emitting diode is a semiconductor light source that emits light when current flows through it. Electron in the semiconductor recombine with electron holes releasing energy in the form of photons.

BUTTON: Button is used to on and off.

3.2 Flowchart:

We are making project on saving of agricultural goods in rainy season .In this system we use rain sensor which is switching device activated by rainfall. Rain sensor is automatic irrigation system.here also we use atmega 328 as a controller,which controls all the devices which is connected to it n we also have use buzzer of 10V DC supply which buzz when rain gets started .Relay module motor is used as switches that open and close circuits electro mechanically.Relay controls one electrical circuit by opening and closing contact in another circuit.and Motor function is ability to learn or to demonstrate the skilful and efficient assumption, maintenance,modification ,and control of voluntary postures and movement patterns of system.Power supply is also used which is electronic circuit.

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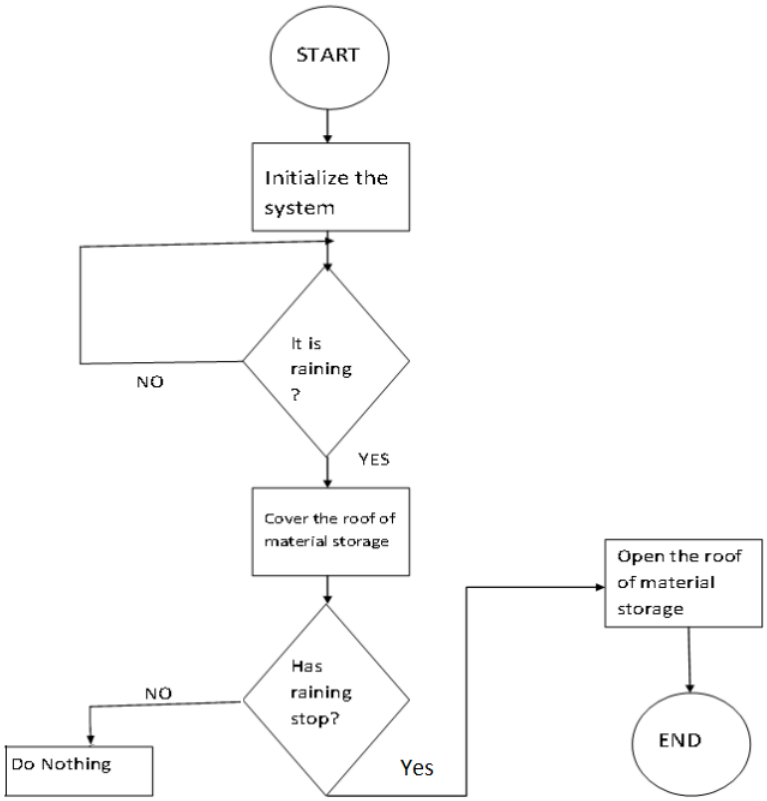

Figure 2. Flowchart

IV. CONCLUSION

In this research work, we studied and used a technology for protection of agricultural goodsfrom heavy rainfall. This method reduces loss of agricultural goods andalso reduces need of manpower to cover goods in case of untimely rain

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