Automatic Solar Power Pesticides Sprayer in Agriculture

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Abstract

Demand is one of the major threads for our country. Finding solutions, to meet the "Energy- demand" is the great challenge for social scientist, Engineers, entrepreneurs, industrialist of our country. According to them, applications of non-conventional energy is the only alternate solution for conventional energy demand. Now a days a concept and technology employing this non-conventional energy becomes very popular for all kinds of development activities. Solar energy an important role in drying agriculture products and for irrigation purpose pumping the well water in remote villages without electricity. This technology on solar energy can be extended for spraying pesticides, sfungicides and fertilizers etc, using polar sprayers.
Keyword- Spray Pumb, Agriculture Sprayer

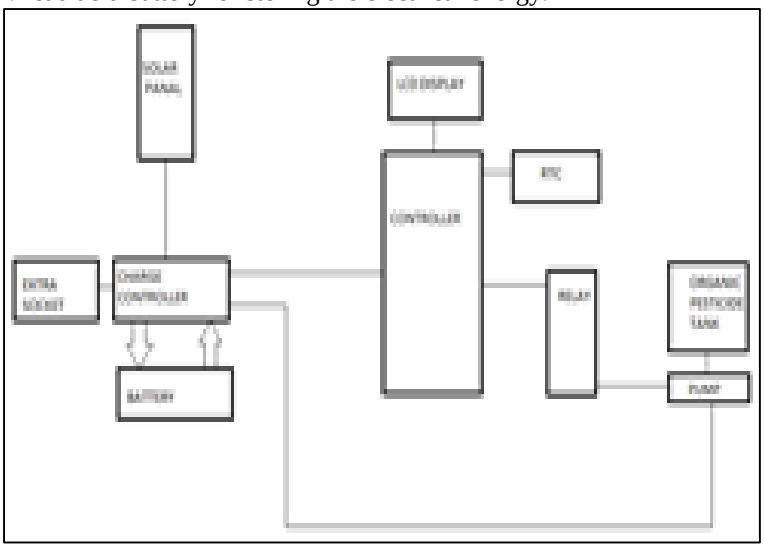
I. INTRODUCTION

In this project aluminium frame is constructed using aluminium bars to keep the weight of the frame low. In this frame the retractable link is fixed to the top end of which a solar photovoltaic is fixed that converts solar power into electricity. This electricity is then provided to battery via charging circuit and is used for charging the battery. Electric power from this battery is given to an electric moter via control switches, by controlling which entire device can be operated.

II. PROPOSED SYSTEM

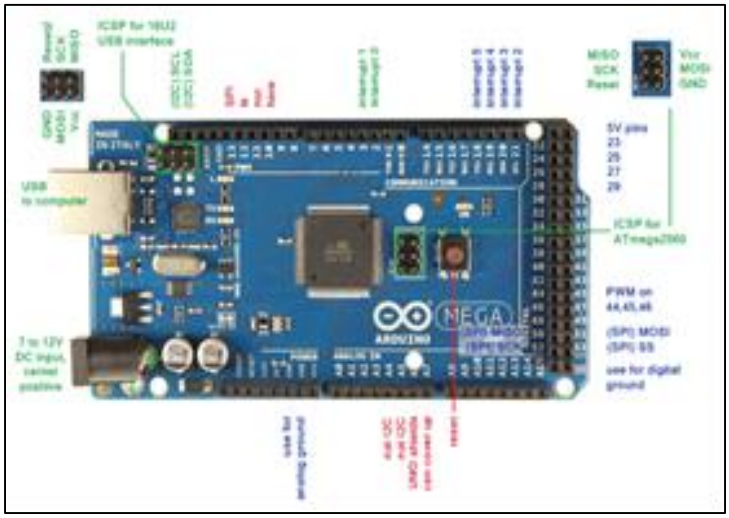
A. Hardware Section

Solar radiation can be converted directly into electricity using semiconductor devices, which are known as photovoltaic cells. This solar panel is connected to 12v lead acid battery for storing the electrical energy.



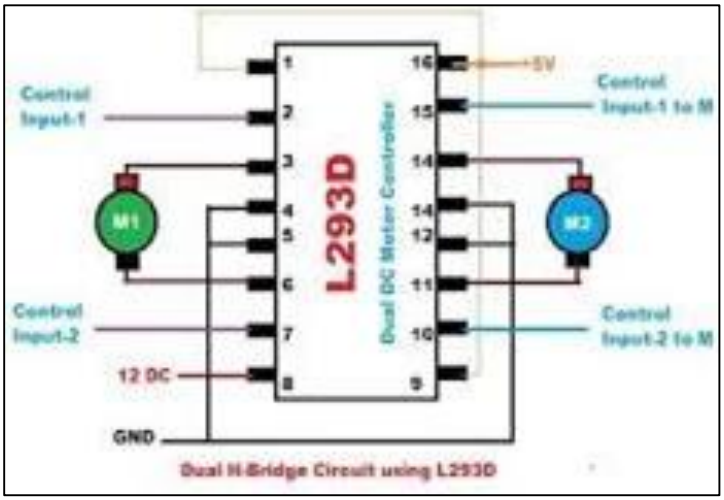
Charging can be done using a solar panel battery can be charged continuously during discharge itself by attaching the panel on the sprayer.

B. Aurduino Mega 2560



C. H Bridge Moter L293D

D. H Bridge Circuit L293D



E. Software Section

Solar panel collects the solar energy into electricity supplies it to battery. Battery uses this electricity charge itself. This battery next is used to operate moter is controlled with sprayer

III. PROGRAM

```
int pwm_pin=      ;
float loop1_duty_cycle=       ;
//Calculate the speed
int loop1_speed=loop1_duty_cycle*255;
void setup()
{
//Configuring the arduino pins
  pinMode(pwm_pin,OUTPUT);
}
void loop()
{
  //LOOP1
  analogWrite(pwm_pin,loop1_speed); //Function 1
}
```

IV. CONCLUSION

As we know 70% of population of our country lives in villages& their main occupation is agriculture. This project is used to fulfil task the spraying pump for controlled relay. Thus solar operated spray pump using non-conventional energy sources. Water pumping has long been the most reliable and economic application of solar electric system. The output of solar pumping system is very depended on good system design.

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