Review Paper Based on Automatic Seedling

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Abstract- *India is an agricultural country. Indian farmer lives simple and difficult life. In farming seedling is most costly and time-consuming process and requires a lot of man power because seed planting is a manual process. The workers work in the farm daily and farmers have to pay them on a daily basis. To save time, manpower and money "automatic seedling robot" which include processes like drilling, seedling, object detection, weed removing and SMS alert if any process gets interrupted.*

Keywords - Drilling, line follower, object detection, seedling, trekking, weed remover.

INTRODUCTION

India is a land of farmers and farmers are the backbone of the Indian economy. It is because more than 40% of Indians are directly or indirectly involved in agricultural activities. And there are many problems that farmers are facing. One of the problems is seedling process, which requires a lot of manpower and money. To overcome this problem, there are many technologies out there; Automatic seedling robot is one of them. An implementation of seedling robot was developed using various techniques, every implication has some advantages and disadvantages too.

LITERATURE REVIEW

In this paper [1], they implemented a robot which identifies the obstacle and perform the cleaning without interrupting human activity. For this purpose, they used Infrared sensor to detect obstacles and the whole process executed using PIC controller.

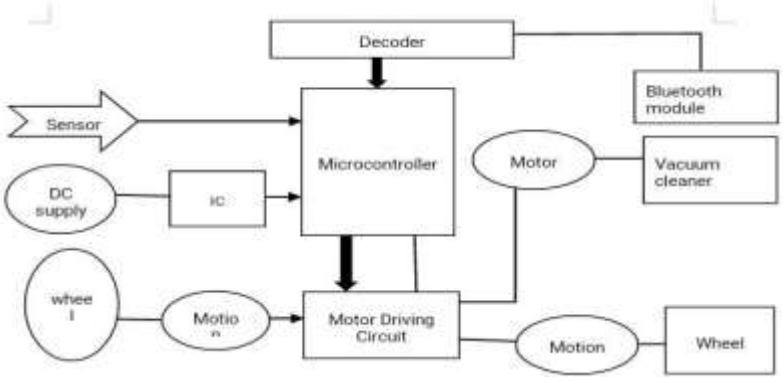

Figure 1: Block Diagram of cleaning robot system Using PIC Microcontroller [1]

In this paper [3] they implemented automatic seed sowing machine operated by a solar panel. The purpose of the project was to develop the machine. In this paper the solar energy is converted into electrical energy which is used to charge 12volt battery, which is the requirement to drive DC motor used in the project. By using this DC motor, the wheels of the robot are driven.

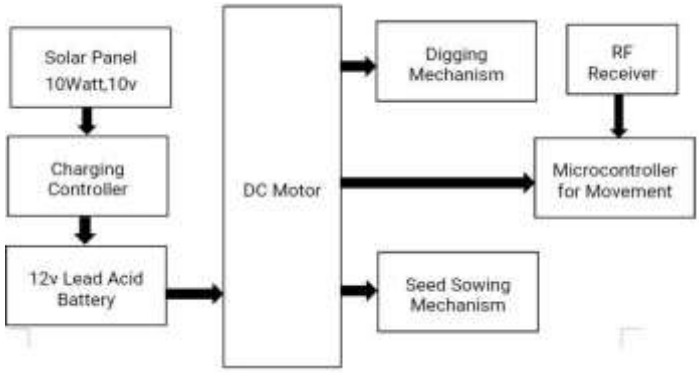

Figure 2: Block Diagram of solar operated automatic seed sowing machine [3]

In this paper [4] author implemented a robotic agricultural machine. They studied time required for seedling, distance between the seeds, how much seed wasted during seedling process, energy requirement etc. But the drawback of the system was the distance, and areas are set manually.

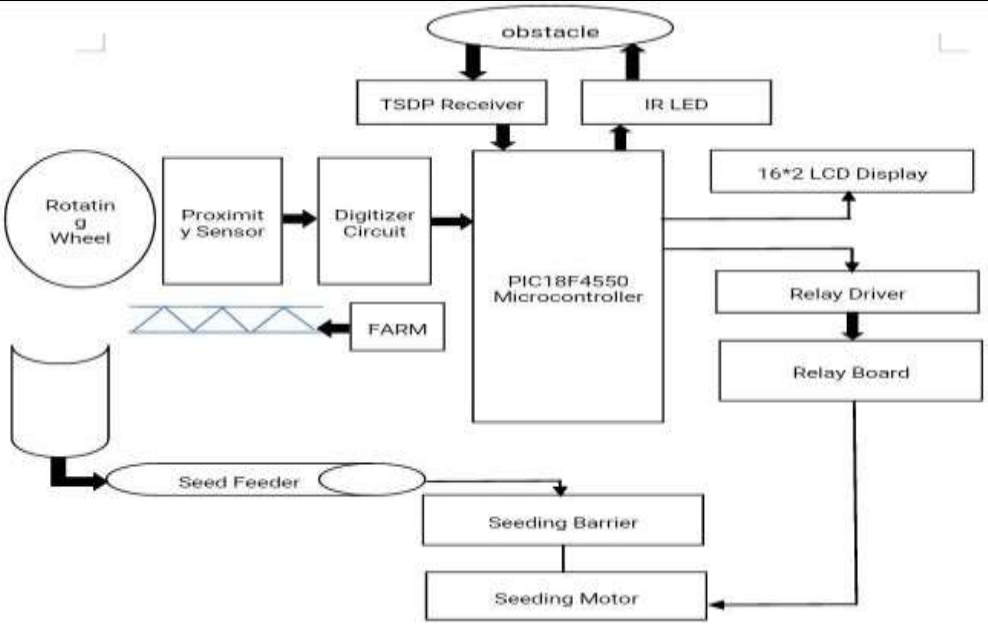

Figure 3: Automatic seedling Robot [4]

In This paper [5] presents the advanced system which improves undeveloped process like cultivation on law land, based on automatic platform. They are using two wheels steered by DC motor. The machine considers rows and limited column at fixed distance depending on crops and distance. On the front edge of the robot infrared sensor is used. The whole algorithm for processing and monitoring were designed, and motors and sensors are IR with microcontroller to realize it. [5]

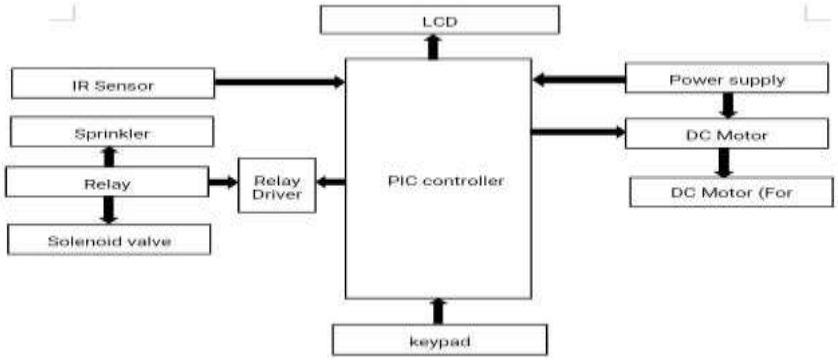

Figure 4: Autonomous System for Cultivation Process [5]

In This article [6] they have developed a automatic vehicle having four wheels instead of two wheels steered by DC motor. They used MATLAB and Simulink for modeling, analyzing is designing purpose [6]

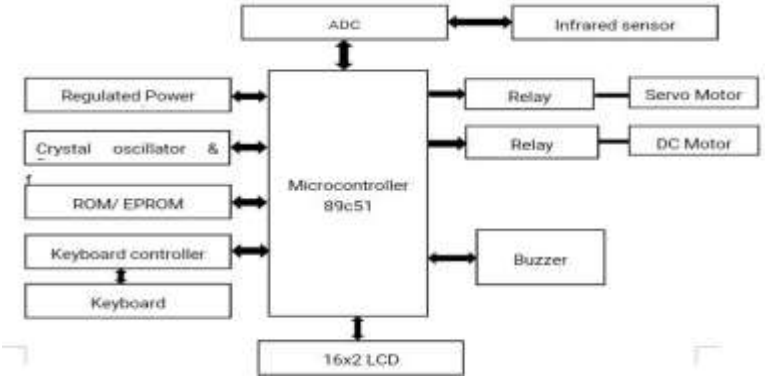

Figure 5: Block Diagram of Advanced Agriculture System [6]

In this paper [7] they find various ways to recover efficiency. This paper represents designing an autonomous farming robot which indicates plant health by observing the color of leaves. the robot identifies the surrounding environmental condition of plant like temperature, so that the robot will come to a decision about the health of plant and will display on the LCD.

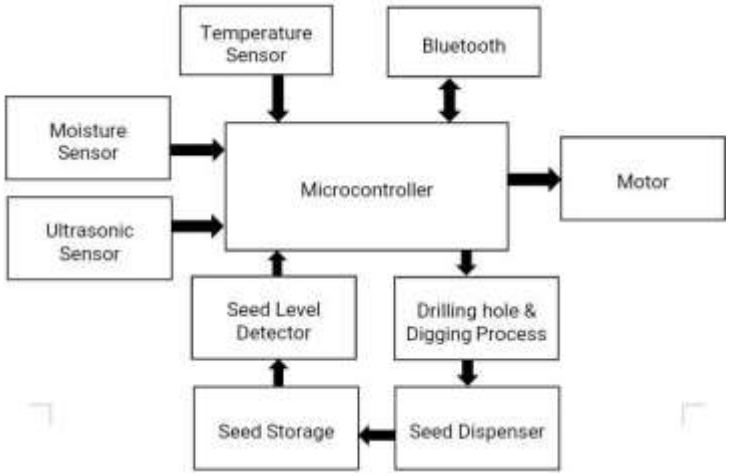

Figure 6: Block Diagram of two d Seed Sowing Robot [7]

In this paper [8] author develop the robot for the purpose of sowing operation to put the seeds and fertilizer in depth and gives require spacing between them.

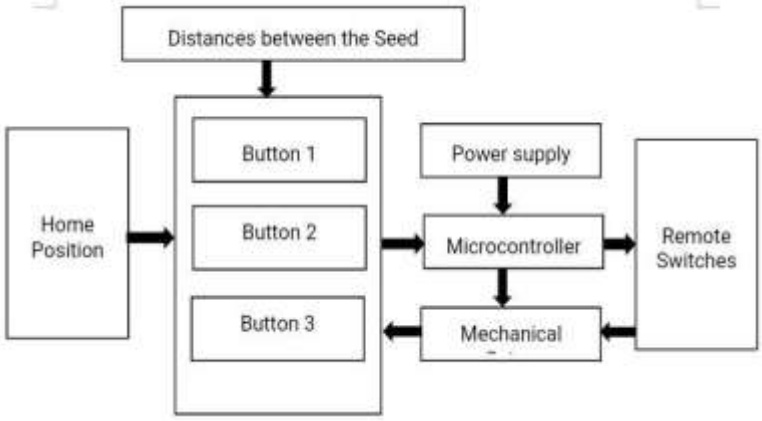

Figure 7: Block diagram of Automation and Emerging Technology Development of 2D Seed Sowing Robot [8]

CONCLUSION:

By reviewing these different papers, we can conclude that an automatic economical robot can be developed for seedling, weed removing etc. purpose. Robot can develop by using solar panel so that we can save the electricity. While performing seedling operation the main aim is to maintain distance between the seeds and minimum wastage of seeds during this while process.

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