

New Generation Agriculture Technology

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Abstract - From prehistoric times are human stores from the gatherers community have been practicing agriculture and the field has evolved into modern era', the technology and methods of agriculture have changed a lot but to make it easier and more sustainable many researches are going on one of them. There is no doubt that agriculture is the largest living source of India, is the backbone of our country and it providently provides to the total economic growth of Every day in India agriculture get challenges such as climate changes, population growth Etc. In agriculture the farmer gets so many challenges every day that it's really difficult for him to handle yet he tries his best to do as much as possible. A revaluation in agriculture sector is expected and (IOT) internet of things based smart agriculture robotic system as a part of it. In IOT sensors they have the capability of providing meaningful information to farmers in agriculture. This work meets major factors of agriculture field which includes monitoring, automated system Etc. This system is designed so that this work can get easily and falsely, the sensor gets a sense of extra grass which gets cutter by a leaser, secondly it also enhances the fertility of the soil and it also germinates the seeds into the soil and it also automatically waters the soil, it also sprays the pesticides on the crops so that it is inset resistant, it can also be modified into security surveillance of the area. After synchronizing the data all the sensors are activated or deactivated according to the situation.

Key Words: - IOT Technology, Bluetooth, Arduino, Wireless system, Agriculture, Farmer,

1. INTRODUCTION

As we all know that India is Agricultural Based Country. Around 70% of Indian Population work in Agriculture Industry. As technology builds the used of advanced technology in farming is need of future. Hence the used of advanced technology is known as Smart Farming. Smart farming is well planned & well organized, more efficient than the traditional methods used. This system can get easily and fastly the sensor gets a sense extra grass which get cutter by a laser secondly it also enhances the fertility of the soil and it also spray the pesticides on the crop so that it is insect resistant it can also be modified into security surveillance of the area. In India agriculture is playing the key role and is supplying the countries food demand and contribute towards the huge economy, but this process of agriculture in

the country arrant advanced compared to now a day. The productivity of farming has consequences a climate a smart agriculture robotics systems based on Internet of Things is used in work which support to boost the economic-growth & productivity. Smart agriculture system support by integrating modern technologies. Smart farming systems increase production, quality as well as efficiency of farming sectors. Internet of Things enables live tracking of the agriculture harvest sectors with the help of sensors. Using this Internet of Things technology data is store in cloud storage which will be additional use for investigation to give correct information on predict accurate reap hence, top quality of farming will be established. In this field massive research & experiment are conducted for many years. In this sectors sensors & Internet of Things based technology are supporting to increase conservation agriculture process to improve better agricultural output (production). By using recent new technology sensors & Internet of Things technologies in cultivation methods all the aspect point of traditional farming issues like for inundation, dry spell, crop optimization, soil usefulness & harvesting. The integration of automation system, sensor & Internet of Things in smart agriculture enhance farming to level that were impossible. The objective of smart farming systems using Internet of Things with automation & robotics systems to improve productivity, quality by improving irrigation facilities of the crops field, harvesting weeding which produce better revenue of farmer & increases the economy as well as GDP of country

1.1 Methodology-

Use of futuristic technic in agriculture practices are increasing rapidly. Automations enhancing ethnicity and degrading physical work. The path which are used in the agriculture system of our country does physical work instead of use in machines Farmers of our country still uses traditional method like cultivation, monitoring, irrigating, and plowing. This shows that we desperately need smart automation to enhance the productivity of farming which in turn will give us better revenues as well as help to deplete hunger of the country. When it comes to our biodiversity problems agriculture uses IOT which as varies advantages including the use of national resources like water and soil. IOT helps agriculture in accurate farming using data through internet. Smart Agriculture Robotic system helps to make more precise and accurate. The main parts used for Smart

Agriculture Robotic system in farming are automated hardware,

Various sensors, and robotic vehicles. The experience experts in agricultural sectors were skilled chemists who use their talents to food production. Development of farming rules aren't applied in supervised.

1.2 Working of Block Diagram-

The process of this system starts from one input. The Arduino works as a brain, then the connection of battery fed to the Arduino. Then we have used two motors (300RPM) to run this robot to run it, the motor will also get Arduino signal and they will work. Then the signal goes to the motor that the motor will run to whole robot. But in this process Arduino will get Bluetooth signal then Arduino will give signal to motor then motor will do this job. But in this process, the connection of Bluetooth will go to Arduino and Arduino will go to Bluetooth, which means they will connect each other. And this bidirectional signal will go to the motor and motor will do this job. Then the Arduino connection will go to the servo motor, just like the connection between the two motors (300RPM) for running the robot as seen, but the signal and their working will be different. And the shaft of the servo motor will be coupled to four shafts and all four shafts will work on that one servo motor with the help of the gear. Then the Arduino connection will be connected to the water pump then the Arduino will give signal to the water pump time to time then the water pump will be spraying water to the help of Spray. Then the Arduino will connect to the seed feeding storage and Arduino will pass signal to the seed feeding storage and this signal will work as the open and close of the door in correct timing. Then the laser blade will also have been connected to it, it will also receive signals and it will act as a grass cut.

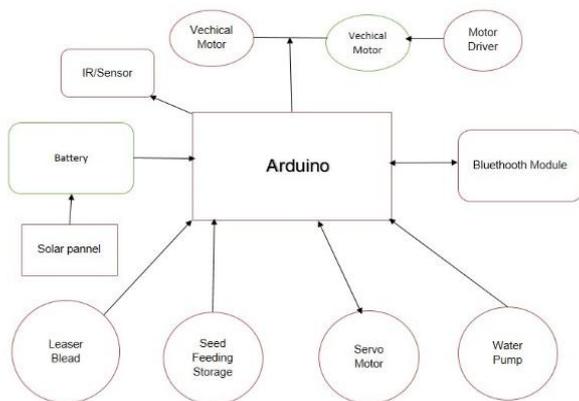


Fig. 1. Block Diagram

2. Design of Robot-

This paper is a demonstration of the design and achievement of smart agriculture. Through robotics. Our is mainly design to reduce human effort increase number of female farmers, Female farmer also use it easily climate condition it work easily it does not need y human support to work on the field. The farmer can sit at home and look after the filed easily

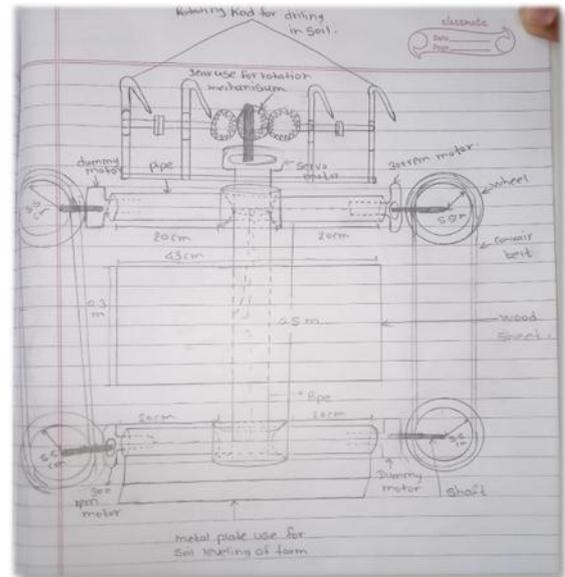


Fig. 2. Design Of Robot

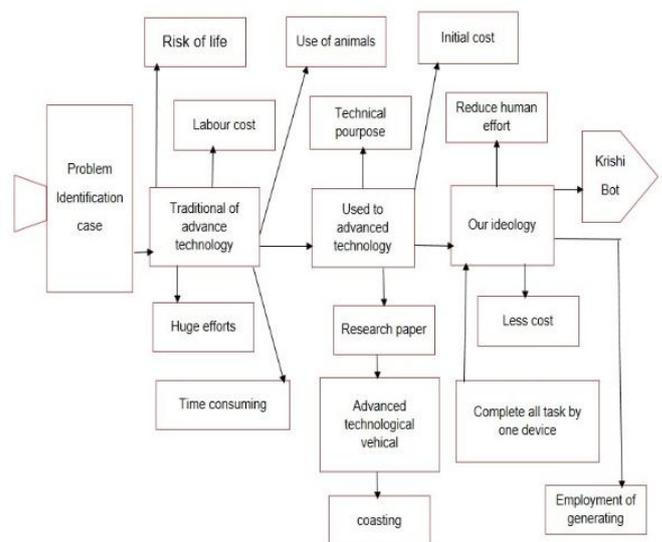


Fig. 3. Technology

Table -1: Components Specification Table

Component Name	Specification	Use
DC motor	12V, 300RPM	Use for help to Run the Wheel
Servo Motor	2.5Kg/cm	Used to help for moving Drilling Mechanism
Lead acid battery	12V Rechargeable	Provide supply for whole robot
Arduino	Uno	Use for provide command for whole robot
Bluetooth Module	-	Used for to provide wireless signal
Wheel	For Conair belt	Used for help to Run the robot
Solar panel	12V	Used to store the supply for Exestuation
Water pump	5V	Use to spray the water or pesticide
Connected Cables	As per Requirement	Use to provide connection for all components
Motor Driver	-	Use for control the motor speed or supply
IR/sensor	5V	For sensing mechanism
Leaser bled	-	Used for cutting mechanism
Pipe and plywood	As per requirement	Use to make body of robot
Seed storage/Water storage	As per Requirement	Use for to storage the water and seed

3. Future Scope-

In the world the major problem is global warming so, on basis of this project work on the solar technology which reduce pollution. Our project use Future scope change Smart farming & Internet of Things-driven agriculture will make the third agricultural revolution in agriculture. In future we need renewable energy on basis of this concept we build the Krishi-bot so, in future will increase their demand in market.

3. CONCLUSIONS

The usage of smart agriculture practices can improve the production of crops. In this project a completely especial IOT based smart robotic system is Progress while using more output can generated uniform amount of input. This agriculture motoring system serves a reliable and efficient system and corrective action van be taken wireless motoring field decreases the human power it also allows to see accurate change in crop yield. It is in coast and consumes less power. Developed system is more efficient and beneficial for farmer. This system increases the production and it definitely help advance the harvest of crop and global production. This system uses to monitor the parameters which is important for agriculture such as sensor get a sense of extra grass which get cutter by a lesser, secondly it also enhances the fertility of soil and it also geminates the seeds into the soil it also sprays the pesticides on the crops so that it is insect resistant, it can also be modified into security surveillance of the area.

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