

# SMART FARMING POT

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**Abstract**— Idea of Smart farming pot is generated to automate the farming. Today, India ranks second worldwide in farm output. Agriculture and allied sectors like forestry and fisheries accounted for 13.7% of the GDP (Gross Domestic Product) in 2014, about 50% of the total workforce. The economic contribution of agriculture to India's GDP is steadily declining with the country's broad-based economic growth. Still, agriculture is demographically the broadest economic sector and plays a significant role in the overall socio-economic fabric of India [2]. Farmers are not well trained in our country so that sometimes because of their lack of knowledge in maintenance and nurturing the plant they face difficulties. To remove this problem we are going to design this Smart farming pot. First we have to study the characteristic of the plant. Here we will cover requirement of water, requirement of fertilizer, requirement of sunlight confined to this specific plant. It is a pot that can detect the presence of sunlight and water. When the quantity of these two things goes beyond the minimum defined limit, then the LED glows. It also gives an alert if it requires water and sunlight. Then we will use water level sensor and based on that sensor output we will drive our motor to supply water to the plant. Now to adjust the amount of Sunlight a rotating motor is connected to a vertical semi slide. Now our idea can be elaborated by driving the motors with solar energy.

We will start our work considering a single plant. After successful implementation area of application of this pot will

help us to survive better and also can bring good changes in agricultural growth of our country

**Keywords**— Photo resistor, Rotating Motor, Water level Indicator

## I. INTRODUCTION

**Smart Farming Pot**— It is a pot that can detect the presence of sunlight and water. When the quantity of these two things goes beyond the minimum defined limit, then the LED glows. It also gives an alert if it requires water and sunlight. As we know India is the largest producer of different eatable things like fruits, vegetables, fishes, poultry, dry fruits, spices, milk, mustard oil, oil, wheat, rice, bajara and even fibrous crops etc. India is also in front in the textile industry. We are one of the largest market largest market for other countries as most of the products are either buy or sell in India market. Even population of India is large and more product are consumed in the Indian market. Farmers are not well trained in our country so that sometimes because of their lack of knowledge in maintenance and nurturing the plant they face difficulties. Smart Farming Pot will help them. In this first we study the characteristic of the plant. Here we will cover requirement of water, requirement of fertilizer, requirement of sunlight confined to this specific plant. It is a pot that can detect the presence of sunlight and water. When the quantity of these two things goes beyond the minimum defined limit, then the LED glows. It also gives an alert if it requires water and sunlight. Then we will use water level sensor and based on that sensor

output we will drive our motor to supply water to the plant. Now to adjust the amount of Sunlight a rotating motor is connected to a vertical semi slide. Now our idea can be elaborated by driving the motors with solar energy.

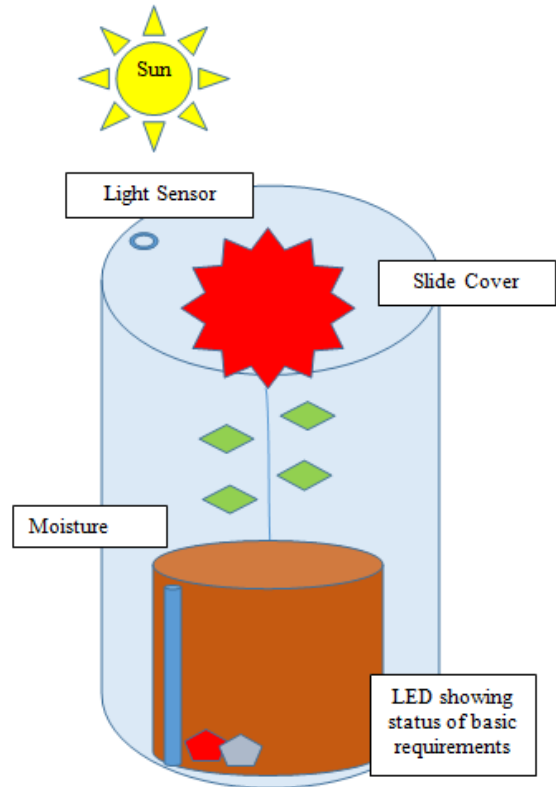
### Literature survey

- "The Story of India: a PBS documentary". Public Broadcasting Service, United States.

Today, India ranks second worldwide in farm output.

- ^ Agriculture's share in GDP declines to 13.7% in 2012-13  
Agriculture and allied sectors like forestry and fisheries accounted for 13.7% of the GDP (Gross Domestic Product) in 2014, about 50% of the total workforce.

### Block Diagram



### Description Of Component

The block diagram consists of:

#### Sensors:-

Sensor in simple words can be define as the one medium that can sense different in environment, temperature and other things also. There are many type of sensor that are available in the market. Sensor can be used in different application such as mobile, tv, laptops and many other electronics gadget that are used in everyday life. Sensor is most common thing that are used in today's scenario that is present.

There are many plat form through which sensor can be integrated in any device and one of the most common platform we use is microcontroller. A microcontroller is one of major part of today's world appliances that are present in the market.

Without a microcontroller nothing can be implemented and integrated together properly.

Sensors are integrated with the help of the microcontroller. As we know there are lots of advantages of the microcontroller that are used that are, they save lots of power and can run on least power source that is provided and this is one of the main advantages that is used and present. One important thing about sensors that they are really sensitive and that is why they need to be used in a proper way and if they are not used properly then it can lead to big mistakes.

In this block diagram two types of sensors are used

1. **LIGHT SENSOR:** It is a device that is used to detect the light (photodiode). It will check the appropriate amount of light required for the plant.
2. **WATER SENSOR:** Give information and tell about water requirement of plants and monitor it.

**SLIDE COVER:** A slide cover is used which is light weight fabricate that work as window. It will block the sunlight when not needed by the plant

**Motor:** Motor is used to rotate the slide cover and here coding is done with the light sensor. It will also be used to supply the water to the plant when it requires depending upon the output of the water sensor.

### Merits

1. It would help the farmers in providing the basic requirements of the crops in appropriate amount.
2. It will increase the production.

3. It will improve the quality of the crops.
4. It is reusable.

### Demerits

1. It will increase the cost of production.

### Conclusion

This technology is for healthy future of farming and making it more effective and good for us so, that we eat healthy food and see healthy and green India with more crop grown. This will help in growth of agricultural industry and can be used on different plants according to their condition.

### Future scope

This technology will help in increasing farmer's knowledge about the basic requirements of the plants which in turn will increase the quality and production of crops. As we know India is an agricultural country and we need technology to grow healthy plant and so this device will be used to monitor need to different plants in different season for large scale farming for farmer and healthy future of our country.

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