IOT BASED SMART AGRICULTURE

WHAT TO EXPECT IN COMING SLIDES

- What is IOT?
- Why IOT?
- **IOT in agriculture**
- **Applications**
- Implemented method
- Advantages and disadvantages
- Conclusion

INTRODUCTION

What is IOT?

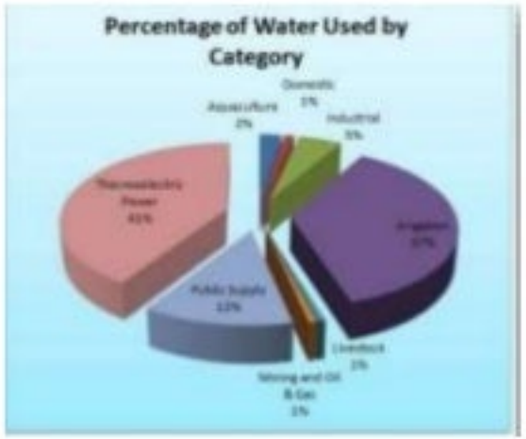
- IOT is short for Internet of Things
- The Internet of Things(IOT) is inter-networking of physical devices. This system has ability to transfer data over a network without requiring human-to-human or human-to-computer interaction.

WHY IOT?

- IOT has many applications in agriculture, smart Cities, smart home, healthcare, business sectors, Traffic monitoring , Transport and logistics etc
- This is a growing mega trend that will influence everything from businesses to our daily personal lives.
- Here we are mainly focussing on agriculture as it plays a vital role in development of our country's economy.

IOT IN AGRICULTURE

- Today, India ranks second in the world in farm output 64% of cultivated land dependent on monsoons.
- Irrigation accounts for 55-75% of water usage in India.
- Nearly 60% of the water used in irrigation is wasted.
- we conserve water by using soil moisture sensors.



IOT APPLICATION IN AGRICULTURE

- Crop water management
- Pest management and control works
- Precision agriculture
- Food production and safety etc.,

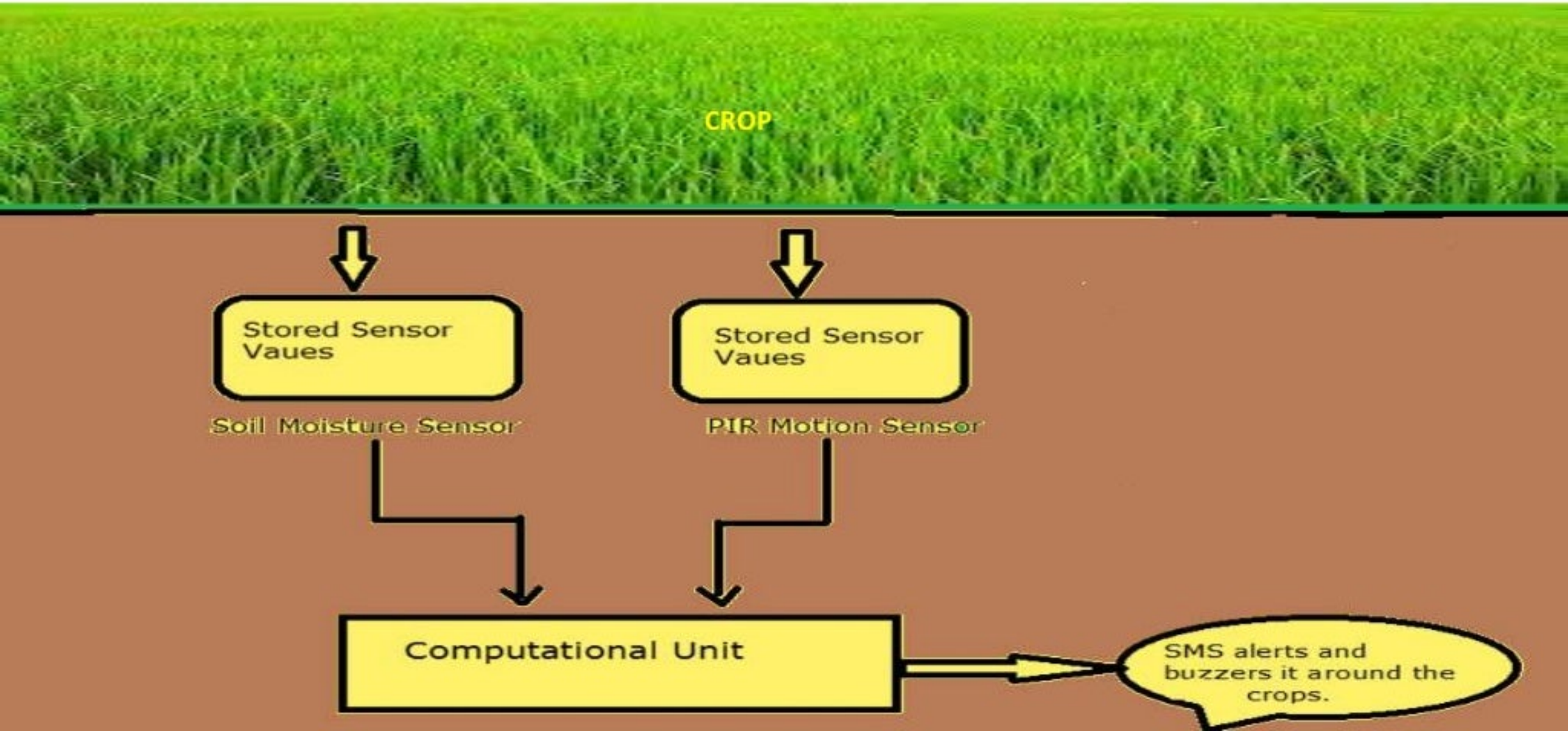
CROP WATER MANAGEMENT

- Usually the farmer pumps the water more or less to cultivate the land.
- This may result in wastage of water or insufficiency to the crops.
- sends an alerting message to the farmer when the moisture level increases or decreases.

PEST MANAGEMENT AND CONTROL WORKS

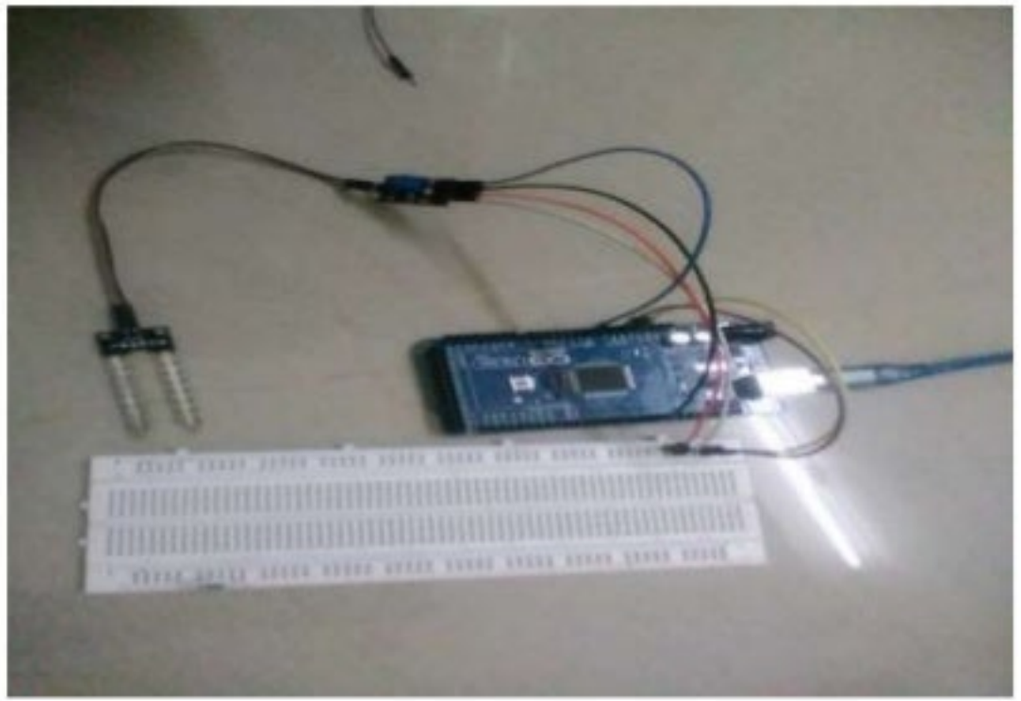
- Often farmers hardwork are destroyed by predators(pests) that results in huge loss to farmers.
- To prevent such situation **AGRICULTURE INTERNET OF THINGS** has a system that detects the motion of predators using PIR sensors.
- This information can be used by the farmers to reduce damage done by predators.

IMPLEMENTED METHOD



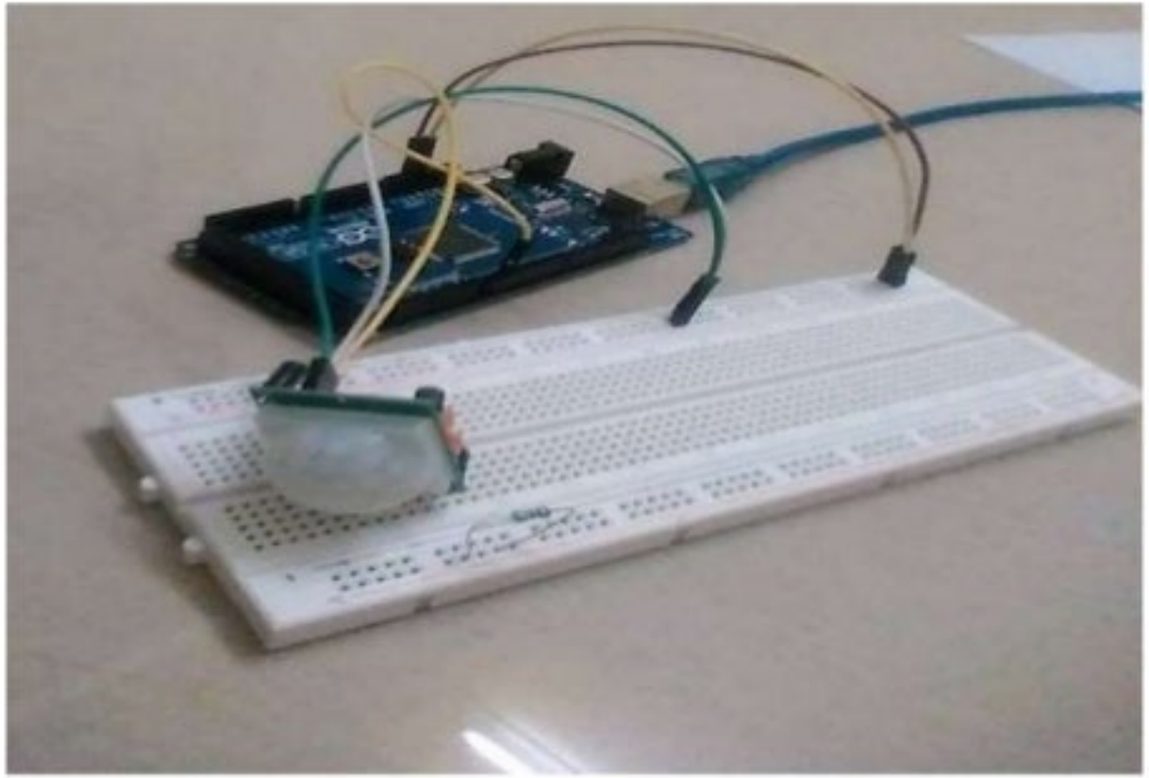
SOIL MOISTURE SENSOR

- A sensor that will sense the moisture level in the land (sand) called **SOIL MOISTURE SENSOR.**



PASSIVE INFRARED SENSOR

- A **PIR** based motion detector is used to sense movement of people,animals or other objects.



ARDUINO

- Both **SOIL MOISTURE SENSOR** and **PIR SENSOR** are connected to the Arduino to perform an action.
- Arduino will send the data to the data base using **Ethernet shield** and if emergency it also send message to the user by using a device called **GSM module**.

ADVANTAGES

- Cost effective method
- Optimize water use
- Sustain high-yielding
- High quality crop production

DISADVANTAGES

- Need for each soil type is calibrated

There are many other applications of IOT in agriculture

CONCLUSION

- We can predict soil moisture level and motion of predators.
- Irrigation system can be monitored .
- Damage caused by predators is reduced.
- Increased productivity.
- Water conservation.
- Profit to farmers.

Thank You!!

ANY QUERIES?