

# **The Future of Agriculture: Smart IoT Farming**

In the world today, we are living in a digital era. We cannot think of a day without technologies such as televisions, mobile phones, computers and others. These technologies have become an essential part in our day-to-day lives and being without them would be unimaginable for some of us. Recent advancements of Digital technologies have made us more luxurious and productive.

Among all, the most trending technology which I am going to discuss in this blog is on “**Internet of things (IoT)**”. Simply we can say that, IoT is a combination of software and hardware to connect each and everything starting from home appliances to vehicles with internet. That means we can control each and every objects from our mobiles/laptops from anywhere in the world via internet.

The explosive growth of the “Internet of Things” is changing our world rapidly. Therefore the main objective that emerges in IoT is the use of devices that are connected over a network to provide a specific functionality. The information gathered by the devices is fed into other systems that act on it. The devices could be commonly used or purpose built.

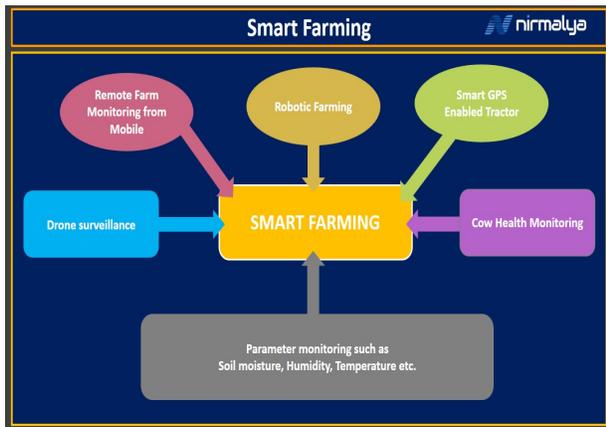
To further clarify the concept of IoT, some examples are discussed below:

- In health care, a sensor on a patient collects various parameters and sends the information to a physician without the need to visit a clinic. Another example is using a sensor to remotely monitor the safety of an old family member.
- At home, IoT helps in reducing energy costs by switching off lights and appliances when there is nobody present in the house. We can also remotely operate our device when needed.
- In city management, sensors monitor trash bins and send alerts on when trash needs to be collected thereby saving time and money. Parking management is an area that can be optimized by using sensors and applications to help in finding a parking spot.

## **Smart Farming:**

Agriculture is the backbone of our country. But the main drawback is, Farming in India is done using inefficient techniques. Due to lack of knowledge of the farmers, a large portion of farming and agricultural activities are based on the predictions, which many times fail. Farmers have to bear huge losses and at times they end up committing

suicide. Since we know the benefits of proper soil moisture and its quality, air quality and irrigation, in the growth of crops, such parameters cannot be ignored.



We, therefore, have come up with an innovation of crop monitoring in the agricultural farms and smart farming using IoT technology. Our objective is to digitalize farming and agricultural activities so that the farmers can check on the requirements of the crops and accurately predict their growth. This concept will surely accelerate their productivity and increase their profit.

**Sensors**—Sensors will be connected at agricultural field to monitor the parameters such as soil Moisture, Temperature and humidity etc. These sensors can notify farmers about the dry soil conditions, amount of water needed or fertilizer needed. It can also alert of a sick animal in time for the animal to be removed. Other examples include technology that collects data from GPS yield maps to help farmers determine different nutrient mixes that should be sprayed for the next harvest.

**Drones**—Drones are the unmanned Arial vehicles that can a play a vital role in the field of smart farming. They can be deployed for filed surveying, fertilizer spraying, Crop monitoring etc.

**Smartphone Apps**—Farmers will use their smart phones applications with internet connectivity to track farm parameters. They can also control the appliances such as water pumps, drones by using their mobiles remotely.

**Robots** - Agricultural robots are used to automate agricultural processes, such as harvesting, fruit plucking and transporting, soil maintenance, seeding, planting, watering and fertilizer spraying.

Hence, the use of IoT in agricultural applications as discussed in the blog can lead the traditional farming concept to a new level. It will help to save manpower as well as time. It will make the farmers more productive and lead them to earn more profit.

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