IoT Based Smart Crop Protection System for Agriculture

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INTRODUCTION:

The Internet of Things Smart technology allows new digital agriculture. Today, technology has become a requirement in order to handle contemporary difficulties, and many industries are utilizing cutting-edge technologies to automate their processes. Advanced agriculture, based on Internet of Things technology, is intended to help producers and farmers decrease waste and increase output by optimizing fertilizer use to raise plant efficiency. It allows farmers more control over their animals, crops, and costs and resources.

With the widespread use of the Internet of Things (IoT), linked devices have permeated every part of our lives, from health and fitness to home automation, automotive and logistics, smart cities, and industrial IoT. As a result, it is only natural that IoT, linked devices, and automation would make their way into agriculture, vastly improving practically every aspect of it. In the previous several decades, farming has undergone a variety of technical revolutions, becoming increasingly industrialized and technology-driven. Farmers have acquired improved control over the process of producing animals and growing crops by employing different smart agricultural technologies, making it more predictable and efficient.

OBJECTIVE:

Our goal is to optimize various farming processes by utilizing information and data technology. The emphasis is on data availability and how farmers may

make good use of the information collected. The goal is to improve product quality and quantity while increasing human labor productivity. Alternatively, producing more food with less money and the same quantity of land. Smart agricultural technology mostly consists of IoT and robots. Farmers may use these tools to monitor agricultural conditions without having to go out into the field. They can then make decisions for the entire farm, a lot, or even a single plant.

Our concept is not limited to large agricultural operations. It may also aid small enterprises such as family farms and organic farms. The entire farming process is software-managed and sensor-monitored, resulting in cheaper overall pricing, higher overall yield, higher availability quality, and, ultimately, a better consumer experience. Automation has increased manufacturing efficiency, quality, and sustainability significantly.

LITERATURE SURVEY:

This chapter reviews the research on IoT Based Smart Crop Protection System for Agriculture. For years, farmers have always used different strategies to gather and analyze farming data in order to boost crop yields. Soil composition, moisture level, nutrient patterns, and weather events down to the square foot of land are just a few of the observations available to farmers with today's technologies.

Data acquired by smart agricultural sensors, in this style of farm management, a major component are sensors, control systems, robots, autonomous vehicles, automated hardware, variable rate technologies, motion detectors, button cameras, and wearable gadgets. This data may be utilized to track the overall status of the firm, as well as employee performance and equipment efficiency. The capacity to predict manufacturing output provides for improved product distribution planning. Furthermore, capturing land and agricultural data and integrating it into software used in marketing, forecasting, and production is the new "standard."

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