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# Adoption of Precision Agriculture Process with Wireless Environment Plant Disease Monitoring System using Smartphone

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### Abstract



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##### Abstract:

Agriculture is a backbone of India. Precision agriculture focuses on delivering tools for harvest data, task coordination, and growth updates, thereby enhancing agricultural productivity through the incorporation of sensor network technologies to monitor various farming activities. This studyr introduces a solar-powered wireless system for detecting plant diseases in the environment. A comprehensive wireless sensing system is showcased, comprising sensors for temperature, humidity, and soil moisture, along with a microcontroller, IR transmitter and receiver, camera, and GSM module, enabling extended periods of environmental monitoring ARM processor used for ADC and sends the collected data to mobile via GSM. A camera is periodically enabled for capturing the plant picture for diseases monitoring and IR unit used for the purpose of plant growth monitoring. It use soil energy to power the temperature sensor to develop plant growth monitoring system and plant disease monitoring, also develop android application to monitor such conditions by using this technology to achieve a green electronics system.

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 Contents**I. INTRODUCTION**

Currently, the world is witnessing a surge in population growth, leading to consequences such as shifts in weather conditions, global warming, and critical concerns regarding food and energy crises globally. The environmental effects of agriculture differ based on the diverse range of agricultural practices adopted worldwide. The environmental consequences ultimately depend on the production techniques implemented by farmers within a specific agricultural system. The relationship between emissions released into the environment and the farming system is not direct, as it is also influenced by other climate factors like rainfall and temperature. Two categories of indicators are used to assess the environmental impact: "means-based" indicators, which consider the farmer's production methods, and "effect-based" indicators, which measure the impact of farming practices on the farming system and emissions released into the environment. A prime illustration of a means-based indicator is the groundwater quality, which is influenced by the quantity of nitrogen applied to the soil. Conversely, an effect-based indicator would measure the extent of nitrate loss to groundwater. The impact of agriculture on the environment encompasses numerous elements, including soil, water, air, animal and soil diversity, people, plants, and the food itself. Agriculture is associated with several environmental concerns, such as climate change, deforestation, genetic engineering, irrigation issues, pollution, soil degradation, and waste. [1]

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