"Implementation of a paddy soil fertility monitoring and classification system based on the Internet of Things using the Support Vector Machine Algorithm."

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ABSTRACT

This research aims to design and develop a technology-based system capable of monitoring and classifying land fertility levels to determine land suitability for rice cultivation. The system serves as a solution to the limited understanding among farmers regarding appropriate soil conditions for specific crops, which often leads to agricultural failures. Key parameters observed include nutrient content such as Nitrogen (N), Phosphorus (P), Potassium (K), as well as environmental factors like temperature, humidity, and soil pH. The Internet of Things (IoT) technology is used to collect real-time data, while the Support Vector Machine (SVM) algorithm is applied to classify the land's fertility level based on the collected data. The system is expected to assist farmers in making better decisions regarding land management and to improve agricultural productivity, particularly in rice farming.

Keywords: Soil fertility, Internet of Things (IoT), Support Vector Machine (SVM), classification, rice farming.