ABSTRACT

Chili is an important commodity for the people of Indonesia. The various benefits and uses produced by chili make the demand for chili very high. However, the high demand is actually inversely proportional to the non-optimal chili production, making the market price of chilies skyrocket.

Therefore, in this study a process system for measuring levels of Nitrogen (N), Phosphorus (P), and Potassium will be designed. (K) on plantation land, especially chilies, directly using the NPK sensor which will be connected to the internet. This device is connected to the internet with the concept of Internet of Things and uses LPWAN LoRa technology which results in broad coverage and saves power. The sensor detection results can then be displayed through the Android application.

The result of designing this system is a device that can move farmers in the process of measuring plantation nutrients. Measurement data can be displayed through an application, making it easier for farmers to analyze the nutrient content of the land they manage from a distance.

Keywords: *Internet of Things, Nitrogen, Phosphorus, Potassium, Chili, SensorNPK, Long Range (LoRa), Low Power Wide Area Network (LPWAN).*