# *ABSTRACT*

*In the modern era, rapid population growth is becoming increasingly significant. Under these conditions, urban communities interested in farming can use hydroponic methods. Hydroponics is an agricultural cultivation method that does not require soil, making it suitable for narrow and limited spaces. Water spinach (kangkung) is one of the most popular vegetables among Indonesians, as it contains essential nutrients such as vitamins A, B, C, and proteins beneficial for growth and overall health. Monitoring pH levels and dissolved nutrient concentrations is a key factor for successful water spinach harvests. Utilizing IoT technology can help automatically control nutrients and enable remote real-time monitoring. In this study, the TDS sensor showed an accuracy rate of 95.74%. The TDS sensor monitors dissolved solids in the nutrient container. Meanwhile, the pH sensor demonstrated an accuracy rate of 99.18%. The pH sensor is used to measure the acidity or alkalinity levels in the nutrient container. For QoS testing, a Delay value of 413 ms and a Packet Loss rate of 0% were achieved.*

Keywords: Hydroponics, TDS Sensor, pH Sensor, Android Application