**ABSTRAK**

Berdasarkan zona kerawanan longsor peta menurut Badan Nasional Penanggulangan Bencana (BNPB) pada tahun 2023 berjumlah 634 tanah longsor di Indonesia. Pada umumnya, proses terbentuknya bencana alam tanah longsor sangat susah untuk di prediksi, dan minimnya pemberitahuan ataupun peringatan dini kepada masyarakat, yang tempat tinggalnya terletak di kawasan wilayah pegunungan ataupun perbukitan. *Early warning system* begitu berarti mengingat secara geologis serta klimatologis daerah Indonesia tercantum ke dalam daerah rawan bencana tanah longsor. Diperlukan suatu alat atau EWS yang dapat mendeteksi lebih dini mengenai adanya kemungkinan bencana tanah longsor. Metode penelitian yang digunakan adalah metode *ADDIE* dengan mengembangkan penelitian sebelumnya. Tahapan dari penelitian ini dengan melakukan beberapa pengujian yaitu pengujian sistem, pengujian sensor kelembaban, pengujian jarak sensor ultrasonik, pengujian sensor getaran. Sensor *soil moisture* dapat membaca kelembaban tanah didapatkan ketelitian 82,46 % dengan presentase *error* 17,54 %, sensor ultrasonik dapat mendeteksi jarak pergerakan tanah didapatkan ketelitian 82,46 % dengan presentase *error* 17,54 % dan sensor getaran dapat mendeteksi getaran tanah. Sistem dapat memberikan notifikasi ke aplikasi *blynk* dan lcd 16x2 berisi informasi kondisi status aman, waspada dan bahaya.

Kata kunci : EWS, Tanah longsor, *Internet of things*, aplikasi *Blynk*

**ABSTRACK**

*Based on the map of landslide susceptibility zones, according to the National Disaster Management Agency (BNPB), in 2023 there will be 634 landslides in Indonesia. In general, the process of the formation of natural landslides is very difficult to predict, and there is minimal notification or early warning to people whose homes are located in mountainous or hilly areas. The early warning system is very important considering that geologically and climatologically, Indonesia is listed as an area prone to landslides. A tool or EWS is needed that can detect early the possibility of a landslide disaster. The research method used is the ADDIE method by developing previous research. The stages of this research carried out several tests, namely system testing, humidity sensor testing, ultrasonic sensor distance testing, and vibration sensor testing. The soil moisture sensor can read soil moisture with an accuracy of 82.46% with an error percentage of 17.54%, an ultrasonic sensor can detect the distance of soil movement, with an accuracy of 82.46% with an error percentage of 17.54% and the vibration sensor can detect ground vibrations. The system can provide notifications to the Blynk application and the 16x2 LCD contains information on safe, alert, and dangerous status conditions.*

*Keywords: EWS, Landslide, Internet of things, Blynk app*