ABSTRACT The purpose of this study is to develop a real-time flood monitoring and early warning system in the northern portion of the province of Isabela, particularly the municipalities near Cagayan River. Ultrasonic sensing techniques have become mature and are widely used in the various fields of engineering and basic science. One of advantage of ultrasonic sensing is its outstanding capability to probe inside objective non-destructively because ultrasound can propagate through any kinds of media including solids, liquids and gases. This study focuses only on the water level detection and early warning system (via website and/or SMS) that alerts concern agencies and individuals for a potential flood event. Furthermore, inquiry system is also included in this study to become more interactive wherein individuals in the community could inquire the actual water level and status of the desired area or location affected by flood thru SMS keyword. The study aims in helping citizens to be prepared and knowledgeable whenever there is a flood. The novelty of this work falls under the utilization of the Arduino, ultrasonic sensors, GSM module, web-monitoring and SMS early warning system in helping stakeholders to mitigate casualties related to flood. The paper envisions helping flood-prone areas which are common in the Philippines particularly to the local communities in the province. Indeed, it is relevant and important as per needs for safety and welfare of the community.

FLOW CHART

