

## Mapping and Measuring the Vulnerability Level of the Belawan District Community in Encountering the Rob Flood Disaster

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**Abstract :** Medan Belawan is one of the subdistricts of 21 districts in Medan. Medan Belawan Sub-district is directly adjacent to the Malacca Strait in the North. Due to its direct border with the Malacca Strait, the problem in this sub-district, which has continued for many years, is a flood of rob. In 2015, rob floods inundated Sicanang urban village, Belawan I urban village, Belawan Bahagia urban village and Bagan Deli village. The extent of inundation in the flood of rob that occurred in September 2015 reached 540, 938 ha. Rob flood is a phenomenon where the sea water is overflowing into the mainland. Rob floods can also be interpreted as a puddle of water on the coastal land that occurs when the tidal waters. So this phenomenon will inundate parts of the coastal plain or lower place of high tide sea level. Rob flood is a daily disaster faced by the residents in the district of Medan Belawan. Rob floods can happen every month and last for a week. The flood is not only the residents' houses, the flood also soaked the main road to Belawan Port reaching 50 cm. To deal with the problems caused by the flood and to prepare coastal communities to face the character of coastal areas, it is necessary to know the vulnerability of the people who are always the victims of the rob flood. Are the people of Medan Belawan sub-district, especially in the flood-affected villages, able to cope with the consequences of the floods? To answer this question, it is necessary to assess the vulnerability of the Belawan District community in the face of the flood disaster. This research is descriptive, qualitative and quantitative. Data were collected by observation, interview and questionnaires in 4 urban villages often affected by rob flood. The vulnerabilities measured are physical, economic, social, environmental, organizational and motivational vulnerabilities. For vulnerability in the physical field, the data collected is the distance of the building, floor area ratio, drainage, and building materials. For economic vulnerability, data collected are income, employment, building ownership, and insurance ownership. For the vulnerability in the social field, the data collected is education, number of family members, children, the elderly, gender, training for disasters, and how to dispose of waste. For the vulnerability in the field of organizational data collected is the existence of organizations that advocate for the victims, their policies and laws governing the handling of tidal flooding. The motivational vulnerability is seen from the information center or question and answer about the rob flood, and the existence of an evacuation plan or path to avoid disaster or reduce the victim. The results of this study indicate that most people in Medan Belawan sub-district have a high-level vulnerability in physical, economic, social, environmental, organizational and motivational fields. They have no access to economic empowerment, no insurance, no motivation to solve problems and only hope to the government, not to have organizations that support and defend them, and have physical buildings that are easily destroyed by rob floods.

**Keywords :** disaster, rob flood, Medan Belawan, vulnerability

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