ABSTRACT

Indonesia is a country that has a high vulnerability to various types of natural disasters, such as earthquakes, floods, landslides, and tornadoes, because it is in the path of the ring of fire and is located in the meeting area of three tectonic plates. West Java, as one of the provinces with the largest population in Indonesia, is also an area with a high rate of disaster incidents every year. In facing these challenges, a disaster management and mitigation system is needed that is not only reactive, but also preventive, structured and systematic. One of the problems faced by the Social Service of West Java Province is the absence of an internal system that is used independently to determine regional priorities in the allocation of disaster assistance in the pre-disaster phase. So far, the determination of priority areas still depends on external data, especially based on the disaster risk index (IRBI), without considering other supporting factors.

This study aims to determine the priority areas for disaster relief allocation in the pre-disaster phase according to the characteristics of the disaster-affected areas using the Analytical Hierarchy Process (AHP) method AHP was chosen because it can simplify the process of making multi-criteria decisions in a logical and structured way. The four main criteria used in this study are: population, disaster risk, accessibility, and infrastructure. Primary data was collected through interviews and questionnaires with stakeholders from the West Java Provincial Social Affairs Office, specifically the Social Protection and Security Division (Linjamsos), as well as secondary data in the form of official IRBI (Indeks Risiko Bencana Indonesia) *documents, historical data on aid distribution to districts/cities, and population statistics.*

The results of data processing show that population criteria have the highest weight of 36,56%, followed by disaster risk of 31,17%, then accessibility and infrastructure of 17,37% and 14,90%. respectively. This shows that population is the main consideration in prioritizing areas, because the larger the affected population, the higher the urgency of handling and distributing aid. Disaster risk remains an important factor but does not stand alone, as the potential impact is also strongly influenced by the number of people exposed. Accessibility and infrastructure rank third and fourth, respectively, as both are technical in nature and can be relatively addressed through logistical operational mechanisms.

The results of the regional priority calculation show that of the ten districts/cities analyzed, Kabupaten Cianjur ranks first as a top priority area in the allocation of disaster assistance. This is based on the medium population, very high disaster risk, and accessibility barriers in some remote sub-districts. Garut Regency and Tasikmalaya Regency follow in second and third place due to the combination of large population and significant risk level. In contrast, Cirebon and Kuningan districts are at the bottom of the rankings due to relatively lower population and accessibility criteria values.

This research produces a decision support system that can be used by the West Java Provincial Social Service in planning the distribution of assistance more objectively, purposefully, and accountably. With this system, the process of determining priority areas becomes more transparent and based on measurable data. In addition, this system can also be adapted for use by other agencies or further developed by adding sub-criteria or other decision-making methods.

Keywords:Analytical Hierarchy Process, Disaster Relief, Regional Prioritization, Multi-Criteria Decision Making.