

**PENGEMBANGAN *DECISION SUPPORT SYSTEM (DSS)* UNTUK  
OPTIMALISASI PENDISTRIBUSIAN BANTUAN BENCANA DI  
KABUPATEN GRESIK DENGAN MEMPERTIMBANGKAN  
KELOMPOK USIA DAN JENIS KELAMIN**

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**ABSTRAK**

Indonesia terletak di zona cincin api atau *ring of fire* karena aktivitas vulkanik dan seismik yang tinggi akibat konvergensi tiga lempeng besar di bawah laut. Akibat aktivitas seismik tersebut, Indonesia menjadi negara yang rawan bencana. Salah satu daerah yang terdampak besar terkena bencana yaitu Kabupaten Gresik, yang telah mengalami 171 bencana pada tahun 2022. Penelitian ini bertujuan untuk mengembangkan sistem *Decision Support System (DSS)* berbasis *Microsoft excel* dalam optimalisasi pendistribusian bantuan bencana di Kabupaten Gresik dengan metode *Maximum Coverage Problem*. Metode ini digunakan untuk menentukan lokasi pos pendistribusian yang mengcover semua lokasi bencana serta menentukan jenis maupun jumlah bantuan yang didistribusikan berdasarkan pengelompokan usia dan jenis kelamin. Dari hasil penelitian ini didapatkan 10 kluster untuk pendistribusian bantuan bencana. masing-masing kluster terdiri beberapa desa yang dapat tercover oleh posko dengan mempertimbangkan *critical distance (DC)* sebesar 5 km. Adapun kandidat lokasi pendirian posko yang terpilih yaitu terletak di DS55 dan DS169. Jumlah distribusi bantuan bencana pada DS55 membutuhkan sebanyak 148.165 paket dan DS169 membutuhkan 154.005 paket.

**Kata kunci:** DSS, *Maximal Coverage Problem*, Distribusi Bantuan Bencana

***DEVELOPMENT OF DECISION SUPPORT SYSTEM (DSS) TO OPTIMIZE  
THE DISTRIBUTION OF DISASTER AID IN GRESIK REGENCY BY  
CONSIDERING AGE GROUP AND GENDER***

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**ABSTRACT**

*Indonesia is located on the ring of fire zone due to high volcanic and seismic activity caused by the convergence of three large plates under the ocean. Due to that seismic activity, Indonesia is a disaster-prone country. One of the areas that was heavily affected by the disaster was the Gresik district, which had experienced 171 disasters in 2022. This study aims to develop a Microsoft excel-based Decision Support System (DSS) system in optimizing the distribution of disaster aid in Gresik district using the Maximum Coverage Problem method. This method is used to determine the location of disaster relief distribution posts with a cover all disaster locations. In addition, this study determines the type and amount of disaster aid that can be distributed based on age and gender groups. From the results of this research, 10 clusters were obtained for the distribution of disaster relief. each cluster consists of several villages that can be covered by the post taking into account the critical distance (DC) of 5 km. The candidate locations for the establishment of the selected posts are located at DS55 and DS169. The total distribution of disaster aid on DS55 required 148,165 packages and DS169 required 154,005 packages.*

***Keywords:*** *DSS, Maximal Coverage Problem, Distribution of Disaster Aid*