**ANALISIS POTENSI PENYEBARAN DBD MENGGUNAKAN *GIS*
BERBASIS *FUZZY* : STUDI KASUS DI KABUPATEN JEMBER**

*ANALYSIS OF THE POTENTIAL SPREAD OF DHF USING FUZZY-BASED GIS :
CASE STUDY IN JEMBER DISTRICT*

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ABSTRACT

Jember Regency is one example of a district still categorized as a DHF endemic area in East Java. Based on the 2021 East Java Health Profile, Jember Regency ranks second with around 800-1000 cases. (P2PM Section, East Java Provincial Health, 2021). The active role of the community in promotive efforts as a response to DHF is to routinely carry out 4M Plus (Draining, Closing, Burying, and Monitoring), which is conducted once a week regularly. However, these preventive efforts did not work as expected by the Jember District Health Office. The ABJ factor needs to be more influential for dengue prevention efforts because its spread is influenced by other factors, such as climate change, including changes in temperature, rainfall, humidity, and unpredictable air direction. So that the Health Service cannot reach areas where the dengue disease is spread. Health and environmental characteristics are usually measured by different indicators and are not related to one another. The importance of executing one disparate aspects in one combined way requires a more extensive process each time it is completed. There are several methods for running health and environmental factors into one output, one of which is fuzzy logic. The Mamdani Inference System can be implemented to combine health and environmental factors. Therefore it is necessary to build a DHF Preventive System that utilizes the distribution pattern using a Geographic Information System. The accuracy results obtained using fuzzy-based GIS reach 91% with 5 parameters, namely rainfall, rainy days, larvae free number, humidity, temperature.

Key Word: *Preventive, Larvae Free Number, Spread, Mamdani Inference System*