ABSTRACT

People's welfare is a crucial aspect of development in a region. Clustering of regencies/cities based on indicators of people's welfare can can serve as a parameter for the government in formulating a more targeted policy. The research applies the Fuzzy C-Means and Fuzzy Gustafson-Kessel methods to cluster regencies/cities in Central Java Province based on indicators of people's welfare. The Fuzzy C-Means method clusters data with euclidean distance while the *Fuzzy Gustafson-Kessel* method clusters data using *mahalanobis distance*. Optimal clusters from both methods are selected using Modified Partition Coefficient Index validation. The results of this study indicate that the optimal number of clusters for regencies/cities in Central Java Province based on people's welfare indicators is 7 clusters using the Fuzzy Gustafson-Kessel method with a Modified Partition Coefficient Index value of 0.9999563.

Keywords*: Clustering; Welfare; Fuzzy C-Means; Fuzzy Gustafson-Kessel; Modified Partition Coefficient Index*