ABSTRACT

Food security is a multidimensional issue influenced by economic, social, institutional, and geographical factors. Eastern Indonesia faces more complex food security challenges due to its archipelagic characteristics, limited infrastructure, and regional development disparities. This study aims to analyze the spatial and temporal dynamics of food security and identify the heterogeneity of its determinants across regencies/municipalities in Eastern Indonesia during 2018–2022. The dependent variable is the Food Security Index (FSI), while the independent variables include farmer groups, agricultural extension workers, regional fiscal capacity, audit opinions, construction cost index, market access, village cooperatives, open unemployment rate, net enrollment rate, and hospital availability. The analysis employs panel data regression, Geographically Weighted Regression (GWR), and Geographically and Temporally Weighted Regression (GTWR). The results reveal significant spatial and temporal heterogeneity in the relationship between the determinants and the FSI. The GTWR model outperforms both global and GWR models in explaining regional and intertemporal variations. These findings imply that food security policies should be adaptive and region-specific, as the effects of each determinant vary across locations and over time.

Keywords : Food Security, Spatial Analysis, Geographically and Temporally Weighted Regression (GTWR), Eastern Indonesia.