ABSTRACT

Infant mortality rate is very important because it can describe the level of health and is a reflection of the level of social and economic development in a region. Neonatal infant mortality cases in East Java in 2022 is demonstrated using Geographically Weighted Regression (GWR) for adressing the spatial heterogeneity aspects. Fixed Gaussian is used for the weighting function. Independent variables such as number of pregnant women experiencing obstetric complications (X_1), number of health centers (X_2), number of midwifery staff (X_3) are identified as local variables, whereas other independent variables, such as percentage of first married women under 17 years of age (X_4) and percentage of households that have access to adequate sanitation (X_5) are identified as local variables hence the *Mixed* Geographically Weighted Regression (MGWR) model, which combine both local and global variables, is used. The MGWR model with fixed gaussian weighting is the best model because the Akaike Information Criterion (AIC) value is the lowest compared to other models at 36.41126.

Keyword: Neonatal infant mortality, GWR, MGWR, *fixed gaussian*