

**UNIVERSITI TEKNOLOGI MARA**



**FORECASTING SOLID WASTE GENERATION IN NEGERI  
SEMBILAN AND MELAKA**

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## ABSTRACT

Solid waste management is vital to ensure the cleanliness of the country as well as keeping the good health of the people. Poor solid waste management can lead to environmental problems and affect the entire population's health. Landfilling is the most used methods to manage waste in Malaysia, however, landfill sites in Malaysia are in dire state and constructing new landfills become impossible due to land scarcity. On top of that, the practice of recycling among the public are critically lacking which contributes to rapid increase in the volume of solid waste generated. Thus, forecasting solid waste generation is crucial to avoid overflow of waste. This study is conducted to forecast the solid waste produced in Negeri Sembilan and Melaka in one year ahead and see whether the landfills in both states are still able to accommodate the solid waste produced. A secondary data of the solid waste generated in Negeri Sembilan and Melaka from January 2017 to August 2020 is used in this study. The error measures of several univariate and ARIMA models are evaluated using the Mean Square Error (MSE) and Mean Absolute Percentage Error (MAPE) to choose the best model in forecasting the solid waste generation in both states. The results revealed that ARMA (2,2) and ARMA (3,1) is the best model to forecast the solid waste generation in Negeri Sembilan and Melaka respectively. It is found that the estimated solid waste generation for both states is approaching the maximum landfill capacity and this issue should be taken seriously so that environmental damage can be reduced.

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