FORECASTING PORTABLE WATER SUPPLY IN IBADAN METROPOLITAN USING AUTOREGRESSIVE INTEGRATED MOVING AVERAGE MODEL

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ABSTRACT

The issue of supplying water that meets the demand of the population is a major problem in Ibadan city, a metropolitan town in Oyo state. Because of the fact that the supply of water by the state government does not meet the needs of the growing population. The sources of water include surface water and underground water. The surface water comes from asejire and eleyele dam, while the underground water is from boreholes. Most people have resolved to digging boreholes in their homes or buying water from water vendors in serious water crisis since the water supplied by the water works are either not available for use or not use suitable for consumption. This contributes to high cost of living and exposure to unsafe water. the result of the analysis, using the developed ARIMA model showed that water supply is set to fall, although not speedily from 34.965mgd on average from December 2019 to December 2022. This shows that adequate measures should be taken to increase water supply.

KEYWORDS: *Water, ARIMA Models, Stationarity, Augumented Dickey Fuller*