Original Research Article

A SIMPLE MODEL FOR THE ETHNIC, SUB ETHNIC, CLAN AND RELIGIOUS BASED POLITICS IN KENYA PRESIDENTIAL ELECTIONS

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Abstract

A simple deterministic model with Kenya specific attributes was developed to describe the ethnic based voting blocs. Four compartmental classes: Agikuyu (A), Luo (L), Kalenjin (K) and the Rest (R) were formulated, and first order linear ordinary differential equations(ODE) deduced. The model was established to lie in the feasible region. Ethnic free equilibrium points (EFP) and ethnic bloc equilibrium point were determined. The condition necessary for the stability of the ethnic free equilibrium was established. The condition necessary for the global stability of the ethnic bloc equilibrium point was determined using lyapunov function. The estimated bound for valid votes in Kenya was obtained as 2014500 for the next 30 general election. Numerical simulation suggests that the Rest (R) class will dominate in numerical strength for the next 30 general elections. The result suggests that recruitment of new voters along ethnic plays a key role in persistence of ethnic voting pattern and effort should be focused there to reverse the trend in future.

Keywords :
Deterministic model; ODE; stability; bounded and simulation.