Original Research Article

MODELING SCRAMBLE FOR OTHER TRIBES VOTES BY THE THREE MAIN TRIBAL VOTING BLOCS IN KENYA PRESIDENTIAL ELECTION

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Abstracts

A deterministic model was formulated to describe the tribal based voting blocs in Kenya presidential politics using four compartmental classes: Kikuyu (K), Luo (L), AKalenjin (A) and other tribes (T). The first order nonlinear ordinary differential equations governing the dynamics were developed using Lokta-Voltera equations (Predator-Prey interspecific competition). Model analysis was carried out. The possibility of at most four tribal bloc equilibrium points was predicted using Descartes's rule of sign. The stabilities of the equilibrium points were predicted using Routh-Hurwitz criteria, eigenvalues of Jacobi matrix and Lyapunov function. The estimated bound for valid votes in Kenya was obtained as 21212503 for the next five general elections and numerical simulations were carried .The result indicates that anti-tribalism civic education on new voters' holds great promise to reverse the trend in future.

Keywords :

Deterministic; Lokta-Voltera; descartes's; Routh-Hurwitz and simulation.