Spatial dynamics of armed conflict in Kenya during the electioneering periods of 1997, 2002, 2007, 2013 and 2017 general elections

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Since Kenya became a multiparty state in 1991, most of the elections have been proceeded by election violence mostly in form of armed conflict. In addition, election violence is prone to some Kenyan parts. To understand the dynamics of armed conflict during the electioneering period, there is a need to understand the interaction between the time before and after the election and the location of the armed conflict. Furthermore, there is a need of an empirical approach that describes armed conflict spatial dynamics during the electioneering period putting into consideration spatial effects, time effects and also the interaction between time and space for the armed conflict. This study aims at mapping armed conflict relative risk during the electioneering period of 1997,2002,2007,2013 and 2017 general elections held. The electioneering period is defined as 180 days before and 180 days after the election. Five-time knots, with each knot at day 180 and day 90 before the election, the election date, day 90 and day 180 after elections are used. Secondary data from the Armed Conflict Location and Event Data (ACLED) is used. A Stochastic Partial Differential Equation (SPDE) is used to analyze the point level armed conflict during the electioneering period, where the continuous Gaussian field is represented as discrete indexed Gaussian Random Markov Field (GRMF). Integrated Laplace approximation (INLA) is used to estimate the marginal posterior distribution of the model parameters. In all the electioneering periods of 1997,2002,2007,2013 and 2017 there was a similar pattern of armed conflict relative risk. The relative risk was low
at day 180 before the election and continuously increased at day 90 with its peak at the election date. At day 90 after the election, the relative risk is lower than at the election date and lowest at day 180 after the election. Nyanza, Central Rift Valley, Nairobi and Mombasa regions are having the highest relative of armed conflict during the electioneering period. Armed conflict during the election period follows the same pattern in all electioneering periods, with the relative risk being highest at the period near the election date and lowest at periods that are far away from the election dates. Also, some parts of Kenya have a high relative risk of armed conflict in all the electioneering periods. The study offers insights at spatial dynamics of armed conflict in Kenya during the electioneering periods which is important for policy formulation aiming at reducing armed conflict in Kenya.

Keywords: Armed Conflict; INLA; SPDE; Electioneering period.