

ANALYSIS AND INTERPRETATION OF SRI LANKAN PARLIAMENTARY
GENERAL ELECTION RESULTS IN RELATION TO MODIFIABLE SPATIAL
BOUNDARIES

By

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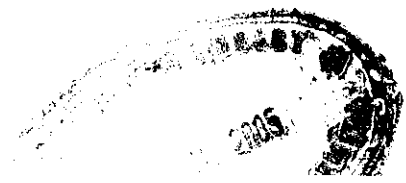
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Abstract

Spatial analysis of socioeconomic and health data often requires aggregation into arbitrary areal units for the protection of individual privacy in some cases and also for the computation of rates and averages of different measurements. For example, average income or percentage of low birth-weight babies cannot be determined, like temperature, at a given point. To be meaningful they must be obtained from aggregated data within a defined area. It is the selection of these artificial boundaries and their use in analysis that produce the Modifiable Areal Unit Problem (MAUP).

The MAUP, which is endemic to all spatially aggregated data, consists of two interrelated parts, the scale effect and the aggregation or zoning effect. The scale effect is the tendency, within a system of modifiable areal units, for different statistical results to be obtained from the same set of data when the information is grouped at different levels of spatial resolution. The aggregation or zoning effect is the variability in statistical results obtained within a set of modifiable units as a function of the various ways these units can be grouped at a given scale, and not as a result of the variation in the size of those areas.

In the interpretation of past parliamentary general election results of Sri Lanka, several areal units (Electorates, Electoral Districts and Polling Divisions) are found. These are artificial spatial units and not natural entities. Further, for confidentiality, the votes of individuals have been aggregated to spatial units. As such, an analysis is done focused on showing that the election results are affected by MAUP depending on the areal boundaries and spatial resolution used for interpretation.