

Identification of School Clusters in Sabaragamuwa Province Using Geographic Information System

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The education sector in Sri Lanka has planned to make major structural changes in the school system under education reforms. Therefore, it is very important to analyse the data on education management to make better decisions. The Sabaragamuwa education management information system has analyzed the spatial and statistical data to form a suitable school cluster system. School clustering is a process to identify core schools and their feeder schools. This study describes how core schools and feeder schools in Sabaragamuwa Province have been identified using the Geographical Information System (GIS) in order to make an efficient school cluster system and to minimise students' movement between clusters. There are 1121 schools in Sabaragamuwa Province where 126 schools have been selected as core schools using statistical and spatial data analysis. The feeder schools have been identified based on the core schools. The area enclosed by a cluster can be considered as the catchment areas of these core schools. The cluster validation was done in consultation with divisional directors using web maps and static maps of the clusters. Clustering was done separately for Sinhala medium and Tamil medium schools. The results show that the identified school clusters are the best catchment areas for student flow. They also reveal that students who reside in the catchment areas can access core schools. The study concludes that the application of GIS is very efficient in clustering schools and defining their catchment areas. Further, the methodology can be replicated in other provinces to make better clusters to facilitate a structural change in the school system.

Keywords: Education reforms, School cluster, Education management information system, Geographic information system, Catchment boundary