A GIS Based Approach for Identifying a Suitable Location for Residence in the Ratnapura Municipal Council Area

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When considering Sri Lanka, with the developments in the country, the infrastructure of the urban city areas is being developed year by year. As a result of these conditions, people in rural villages are moving to cities for a better future. With the increasing demand for urban areas, countries are facing the problem of finding the best place to live in urban areas. Available lands in urban areas are limited. Accordingly, the government of Sri Lanka has faced some problems in finding enough spaces for all citizens for establishing their residential places. . This study focuses to develop a method from GIS (Geographical Information Science) providing some facilities for finding suitable locations for the new residential areas with respect to the criteria people desire. The integrating with the GIS data layers of the real world and the criteria of the people, the GIS can be defined as better solutions for finding suitable locations for new residential areas. In this research, the Ratnapura Municipal Council (MC) area was selected as the study area and distance from the roads, water features, religious places, service buildings, new town, and the police station have been selected as criteria for integrating with GIS. To identify the new residential locations, the reclassify and weighted overlay functions of Arc GIS software were used. 0.25% area has been established as new residential places in the Ratnapura MC Area. The digital data layers used in this study were 1:10000. If it was scaled up to 1:1000 data layers, the accuracy of the result may be high. Further, the results accuracy too would be satisfiable as suitable areas were inside the existing high residential zone.

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