DEMAND BASED GIS FOR ANALYZING RECREATIONAL OPPORTUNITY IN PROTECTED AREAS IN SRI LANKA (WITH SPECIAL REFERENCE TO UDAWALAWE NATIONAL PARK)

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There has been a vast development of Information Technology among every country in the world than never before. Geographic Information System (GIS) has been recognized as a useful tool by wide range of disciplines to managing, storing, analyzing and visualizing the spatial and non spatial data. Tourism is one of the disciplines which can apply GIS technology to get maximum benefits. Tourism in Sri Lanka also helps to develop the economy of the country and it provides economic values to tourism resources as well. This study address to identify the recreational opportunity in protected areas in Sri Lanka by using GIS with special reference of Udawalawe National Park as one of the worth full protected areas for flora and fauna in Sri Lanka. The main objectives of the study are identify the potential areas for recreational activities in different degree and identify the quickest and the cheapest paths for achieve various destinations inside the study area. At the same time study analyze the socio economic changes in the study area due to the tourism industry as specific objectives. Both primary and secondary data used to achieve the specified objectives. 1:50,000 digital data and topographic data from the Department of Surveying used to create recreation related maps. Digitizing, topological applications, network analyzes, Geodatabase models, weighted overlay techniques, DEM, Proximity analysis were used to create and analyzed the spatial data using Arc GIS 9.3. In addition data gathered from Department of Wild Life Conservation and Tourist Board to identify the current situation of the study area. Primary data were collected through a questionnaire survey and observation. Randomly selected sample of 50 numbers of tourists and 100 of community members who are living around the study area were considered to collect data and analyze the socio economic changes due to the recreational activities around the area. Chi square used to analyze the primary data using SPSS 16.0. To present the spatial and non spatial data maps, charts, tables were used. Finally all tourism data were stored inside the Geodatabase using Transverse Mercator projection system. At the same time study identified the tourism potential areas in the study area including sight seen, adventure, and environmental sensitive areas. Study created a model based on the transport network system inside the park to identify the quickest and the cheapest paths to achieve various destinations for the tourists. At the same time study pointed out some strengthens weaknesses, and opportunities of recreational potentials in Udawalawe National Park, Sri Lanka.