

APPLICATION OF GIS FOR DEVELOPMENT OF RURAL ROAD INFORMATION SYSTEM

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Abstract

Goal: The goal of this research is to investigate the physical Features of rural area using graphical interference and visualbasic.net (vb.net) Environment for the improvement of planning socio Economic growth, traffic flow and management of district and rural road areas information. Design approach: The Rural Road Information System (RRIS) constitutes the information about the rural roads like habitation connectivity status, road inventory data, pavement details, existing cross drainage (CD) works details, photographs, videos depicting the condition of roads and demographic details of the habitations. For the present study, Geesugonda and Hasanparthy mandals of Warangal district in Andhra Pradesh have been taken as the study area. Road networks, administrative boundary of mandals and panchayat villages have been delineated using toposheets and maps prepared by Panchayat Raj Department. Findings: The spatial database has been created in Geographical Information Systems (GIS) environment. Non spatial data were fed using Microsoft Access 2007. The Rural Road Information System (RRIS) model has been prepared to display and query on spatial and non spatial data has been carried out using open source GIS software Map Win GIS ActiveX Control in VB. Net environment to provide an easy interface for the user. The developed RRIS will be useful for government authorities, policy makers, private organizations undertaking road development activities and general public to know the status of roads. Planning, management, monitoring, and maintenance of the rural road networks and traffic flow of AADT by use of GUI interference plotted graphs and it can be carried out easily with the developed RRIS. Further Scope: The present study is adapted to only one mandal, which can be extended to other mandals and upto district level to know the inter-connectivity of roads. Using any open source GIS package and technology the present database can be developed into a web-based rural road information system. The web-based rural road information system can be viewed from any place in the web which can be useful for the planners, engineers for the planning, management and maintenance of the roads and general public to know the status of the roads.

Keywords: Graphical User Interface; Open source GIS; Rural Road Information System, traffic flow