

A Geomatic Approach for Mapping the Endemicity of Some Diseases in Parts of Hyderabad, India.

Vijaya Thatiparthi, Kiran Kesireddy, Mareddy Anjireddy, Sreedhar, Sreelatha Reddy, Perni Venkateswarlu

JAWAHARLAL NEHRU TECHNOLOGICAL UNIVERSITY

tatiparti@yahoo.com

Abstract

GIS facilitates in faster and improved health mapping and analysis than any conventional methods of monitoring and management of epidemics.
Hyderabad city is the 5th largest metropolitan city of India. The city is administered by municipal corporation (MCH) through 11 planning zones. The present study area falls in Zone VII and Zone IX.
The objectives of the study are to find out geographical distribution and variation of diseases, analyzing spatial and temporal trends, mapping of population at risk and to publish health information using maps for decision support system to aid in better health assistance to the people.
The methodology adopted for the present study includes creation of spatial database and attribute database followed by integrated study in ARC / INFO GIS environment. Spatial database consists of generation of thematic maps like base map, drainage map, and land use land cover map for the study area. Attribute database consists of climatic conditions, environmental conditions sanitation, socioeconomic and literacy data, census data and epidemiological statistics. Integrated study is performed using ARC /INFO GIS by overlay analysis, buffer analysis, network and statistical analysis to understand association between prevalence of certain diseases, and geographical location. Proximity (buffer) analysis to map the impact of zones of vector breeding sites where control measures needs to be strengthened.
Maps showing temporal and spatial distribution of disease prevalence, possible factors responsible for the diseases based on land use –land cover analysis, areas having water borne diseases, and appropriate sites for location of primary health centers, sub centers and other services were prepared for the present study area. It is can be said that integration of GIS, GPS, and remote Sensing (Geomatics) provides a concrete platform for developing an integrated health information systems.
