

Preparation of Geodatabase for Urban Planning in Nepal

Punya Prasad Oli, Sumitra Shrestha and Ashim Babu Shrestha (Nepal)

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SUMMARY

Geographical Information System (GIS) is capable of integrating geospatial data with various sources of information necessary for effective decision making in urban planning and sustainable urban development. Geodatabase is the input to modelling and analysis programs together with data and other database for analysis and mapping. It has been used to information retrieve, development, control, mapping, site selection, urban planning, suitability analysis, monitoring and decision making.

The methodology of preparation of geodatabase from field survey and mapping (tabular data), Orthophoto generation from aerial photographs, satellite data from remote sensing and topography maps from aerial survey or field survey by total station. Geodatabase is an alternative way to store GIS information in one large file, which can contain multiple point, polyline, and polygon layers. Geodatabase is a collection of geographic datasets of various types of common file in single database.

Urban Planning is the one of the main application of GIS. Urban planner use the GIS as well as spatial database and analysis tool. GIS increasingly an important component of planning support system. Recent advances in the database of GIS with planning models, visualization, and the internet will make GIS more useful tool for urban planning. The rural municipalities and municipalities of Nepal lack proper base map. They are mostly dependent on 1:25,000 or 1:50,000 scale topographic maps, land resources maps or other available analogue maps which is not sufficient or too coarse to use for urban level planning. The available maps are also not much useful for proper decision making process of the urban development activities. The lacking of digital geographic information in Nepal, particularly large scale, has resulted ineffective and inefficient planning activities in urban development. Thus, the GIS database mostly important for urban

activities, decision making process, and urban planning.

Department of Urban Development and Building Construction (DUDBC) should expedite the digital database, maps creation of all municipalities of Nepal including the new ones and urbanized settlements for sustainable development of municipalities. It is also required the updating existing topographical maps and GIS database preparation of large scale maps of the whole country from high resolution satellite images. GIS database is an important aspect for sustainable urban development and urban planning. Geographic information science is mapping and spatial analysis for both spatial and attribute data to support decision making process and activities.