GEOGRAPHICAL ANALYSIS

RESEARCH ARTICLE

Mapping and analysis of topography of Bangalore metropolitan region

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Abstract

Bangalore built by Magadi kempegowda at 1537. Bangalore ruled by various kingdom in 1758- Hyder Ali, in 1799- British overthrew Tippu sultan, in 1881- Mysore wodeyar, After the independence, Bangalore was designed as the capital of Mysore state in 1956, Bangalore Metropolitan Region comprises Bangalore urban district, Bangalore rural district & Ramanagara district. The Bangalore Metropolitan Region lies towards the south-east in the south Indian state of Karnataka. The Bangalore Metropolitan Region situated between ***12° 14' 16" to 13° 30' 26"*** *north latitude &* ***77° 2' 51" to 77° 57' 45"*** *east longitude. The total geographical area of Bangalore Metropolitan Region is 8005 sq. Km. The main aim of the paper are To Know Topography of Bangalore Metropolitan Region. To Mapping Topography of Bangalore Metropolitan Region. To reach set goals first literature collected from various works and to prepare maps for topography of Bangalore metropolitan region remote sensing data and GIS techniques are used. Bangalore is fast growing metropolitan city hence to know and mapping of the topography is required.*

Keywords: Topography; Lithology; soil; remote sensing

Introduction

Bangalore built by Magadi Kempegowda at 1537. Bangalore ruled by various kingdom in 1758- Hyder Ali, in 1799- British overthrew Tippu sultan, in 1881- Mysore wodeyar, After the independence, Bangalore was designed as the capital of Mysore state in 1956, Bangalore Metropolitan Region comprises Bangalore urban district, Bangalore rural district & Ramanagara district. Each of them again divided into taluks for administration. Bangalore urban comprises of four taluks namely, Anekal, Bangalore east, Bangalore north and Bangalore South. The Bangalore rual district comprises of four talukas namely Devanahalli, Doddaballapura, Hoskote & Nelamangala. The Ramanagara district comprises of four talukas namely Channapatna, Magadi, Kanakapura & Ramanagara. The total Bangalore Metropolitan Region was under 3 administrative bodies, 1. Bangalore Development authority (BDA). 2. Bruhat Bengaluru Mahanagara Palike (BBMP) 3. Bangalore Metropolitan Regioion Development Authority (BMRDA).

Bangalore, the capital of Karnataka, is the fifth largest metropolitan city in the country. The swift growth of Bangalore that stands as Silicon Valley of India in today's computer ramp has grown on the

extent of valuable and productive agricultural land. Bangalore is well-known nationally and internationally as a destination of choice for high technology industries, particularly in the IT/BT sectors. The Bangalore city also named as garden city with the green and beautiful maintained Lalbagh and Cubbon parks in the heart of the city.

Objectives

- To Know Topography of Bangalore Metropolitan Region.
- To Mapping Topography of Bangalore Metropolitan Region.

Methodology

To reach set goals first literature collected from various works and to prepare maps for topography of Bangalore metropolitan region remote sensing data and GIS techniques are used.

Study area

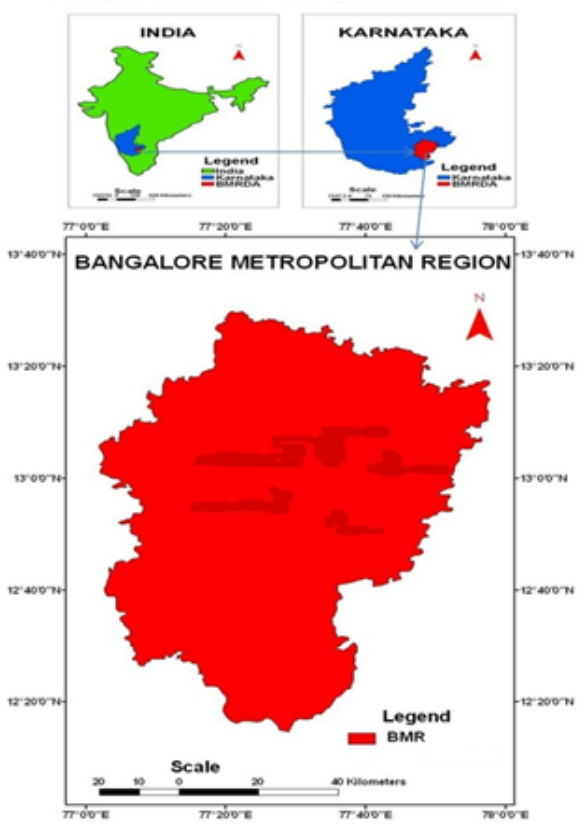

Fig. 1. Location Map

The study region lies in the southern maiden region of the state and is by and large an open country which is lacking in natural barriers. Bangalore metropolitan region bounded on the north by Chikkaballapura district; on the east Tumukur & Mandya district; on the south Mandya & Chamarajanagara district; on the west Kolar & Tamil Nadu states; The Bangalore Metropolitan Region lies towards the south-east in the south Indian state of Karnataka**.** The Bangalore Metropolitan Region situated between **12° 14' 16" to 13° 30' 26"** north latitude & **77° 2' 51" to 77° 57' 45"** east longitude. The total geographical area of Bangalore Metropolitan Region is 8005 sq Km.

Lithology

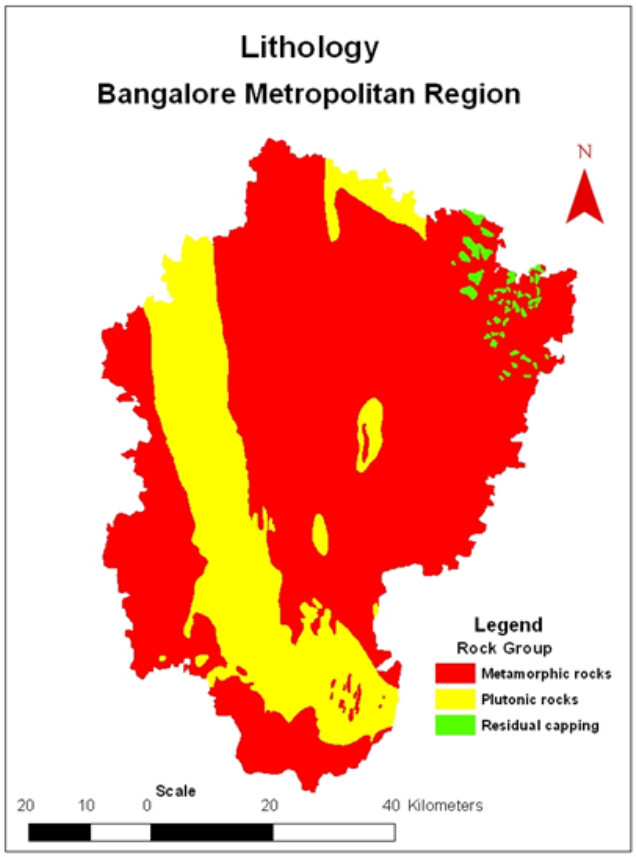

Fig. 2. Lithology of Bangalore Metropolitan Region

The Granite rocks are the most prevalent rocks of Bangalore Metropolitan Region and the same displays as outcrops in places like Lalbagh, Savanadurga and other places. The Savanadurga Betta is an enormous mass of granite which stands on a base of about 12 km in circumference and rises to a height of 1,207 meters above MSL. The hill consists of two peaks, one called Bilibetta another Karibetta. The Geomorphology of Bangalore is flat except for a ridge in the middle.

The highest point in Bangalore Metropolitan Region is Shivaganga hill, rises to a height of about 1,380 meters above the MSL.

Soil

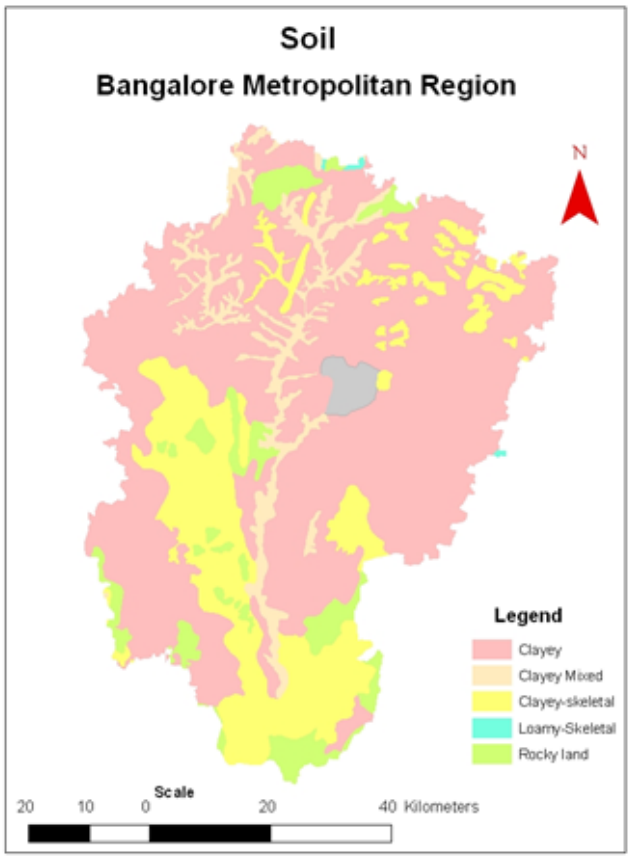

Fig. 3. Soil of Bangalore metropolitan region

The central part of Bangalore is covered by loamy skeletal soil sandy soil in combination. Towards south the soil is more coarse loamy and coarse loamy silt. Toward the southernmost it is more sandy skeletal. Pokey land is found in the south, south-east and east. Towards east, hilly ranges are present. More of clayey and clayey loamy soil is found here. Clayey soil is found in a scattered pattern in central and northern part of Bangalore. Fine loamy and coarse soil is found towards the north-east. Bangalore soil is favourable for agriculture except the few rugged terrains in the east and south-east.

Conclusion

The topography of Bangalore is flat excluding a central ridge running from North, North-East (NNE) to South, South-East (SSE). The highest point measured is Doddabettahalli, which is 962 m (3,156 ft) and lies above this ridge. Bangalore is situated on a ridge which delineating four watersheds, viz. Hebbal, Koramangala, Challaghatta and Vrishabhavathi watersheds. Major rivers run through the area, is Arkavathi and South Pennar cross paths at the Nandi Hills, 60 km to the north. River Vrishabhavathi, a small tributary of Arkavathi, arises within the city at Basavanagudi which flows through the city. Both the rivers, Arkavathi and Vrishabhavathi carry most of Bangalore's sewage. The undulating terrain in the region has facilitated creation of a large number of tanks providing for the traditional uses of irrigation, drinking, fishing and washing. Their creation is mainly attributed to the vision of Kempe Gowda and of the Wodeyar dynasty. This led to Bangalore having hundreds of such water bodies through the centuries. Even in early second half of 20th century, in 1961, the number of lakes and tanks in the city stood at 262. These, and open spaces generally, were seriously affected however with the enhanced demand for real estate and infrastructure consequent to urbanisation. Official figures for the current number of lakes and tanks vary from 117 to 8135 but recent satellite imagery (dated 2003) gives a different picture altogether, showing only 33 lakes visible36 out of which only about 18 are clearly delineated.

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