“In Pursuit of Technical Excellence”

Kolhapur Case Study

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Abstract

This case study investigates the intricate dynamics between topography, geographical location, and water resources within the Kolhapur watershed. The study explores the unique topographical attributes of the region, including its diverse terrain, soil composition, and land use patterns, and analyzes their influence on the availability, quality, and distribution of water resources. Additionally, the research examines the geographic location of Kolhapur concerning neighboring areas, climate patterns, and hydrological networks, offering a comprehensive understanding of the watershed's hydrological system. Utilizing advanced geospatial technologies, field surveys, and hydrological modeling, the study provides detailed insights into the interactions between topography, location, and water resources. Through the integration of satellite imagery, Geographic Information Systems (GIS) data, and ground observations, the research delineates the watershed boundaries, identifies vulnerable areas prone to erosion, and assesses the water quality parameters.

CERTIFICATE

This is to certify that the case study of Kolhapur is being submitted here for the award of the Degree of Bachelor Engineering in 'Information Technology' of Government College of Engineering, Sambhajinagar. This is the result of the original research work and under my supervision and guidance. The work embodied in this case study has not been formed earlier for the basis of the award of any degree or compatible certificate or similar title of this for any other diploma/examining body or university to the best of my knowledge and belief.

Prof Rashami Purshottam

Place :

Date:

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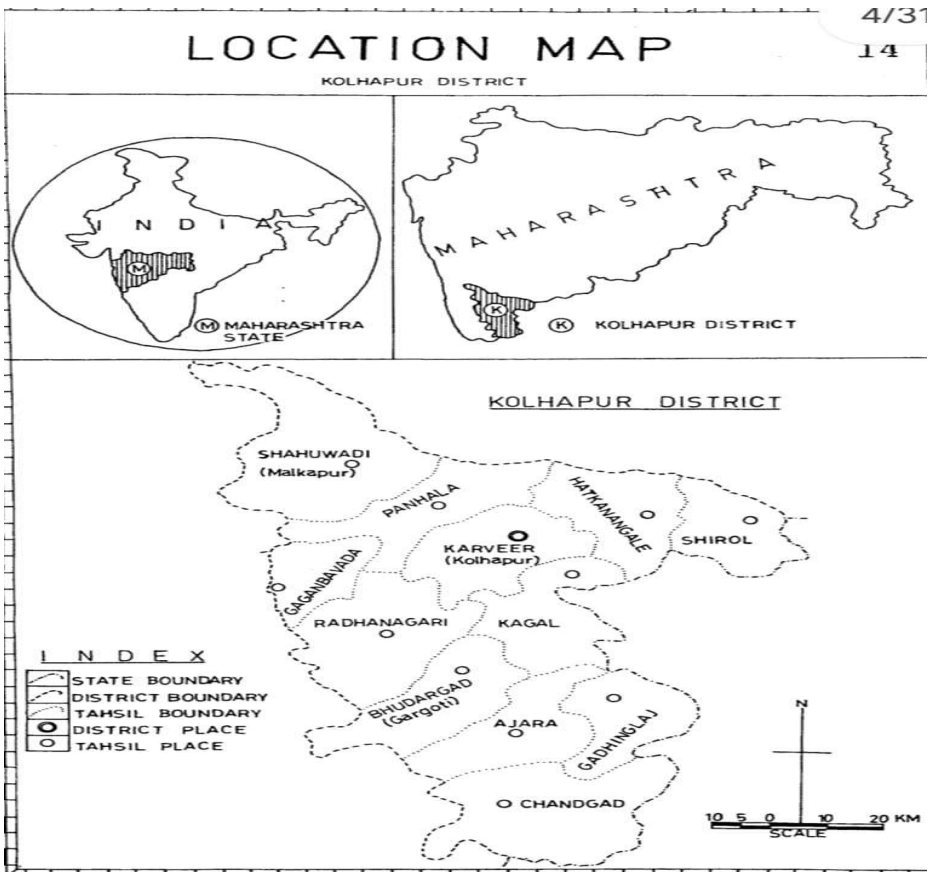
1. Introduction

The Kolhapur district is one of the prosperous districts of Maharashtra State. The district has several resources. The district is famous for its scenic beauty, and attraction centers. It has several tourists It has a lot of tourism potential. It's latent. the capacity of tourism can support regional development. The urban and rural people should take advantage of tourism development. Kolhapur district is a region of contrast. There is a variety of geographical, industrial, and cultural characteristics.

Topographically, the region has a large diversity. Surface features of the region are varied. There are two parts of the district, eastern and western, distinct in physiography of the region. The western part of the region is a hilly part of the Sahyadri. In contrast, the eastern part is the plain region.



Map (2.1)

2. Location

Geographically Kolhapur district extends from 15°43' to 17 10 North latitude and from 73°40 to 74 42' East longitude. It is located in the south Sahyadrian hill ranges of Maharashtra State. The district is enclosed on the north by Sangli district, on the south and east by Belgaum district of Karnataka State, and the west by Ratnagiri and Sindhudurg districts.

The district's total area is 8,059 sq. km. which consists of 2.62 percent of the area of the Maharashtra State (Map 2.1).

3. Topography

The topography of the district is influenced by geological complexities and the topography influences economic activities. The district comprises the Western Ghats. ranges that spread towards the east or stretch in the north-easterly direction. The western ghat of Kolhapur district has several Ghats (pass).

These are Amba, Anuskura, Bhui Bavada, Karul, Phonda, Hanmanta, Amboli, Ram and Kodali. very attractive. The landscape looks very nice. The ghats are The deep valleys and the Konkan landscape towards the west is a great wonder. has several buttes, cuestas and messas. These messes have historical importance. The messas (Garh-Fort) like, Vishalgarh, Shivgarh, Ranganagarh, Manohargarh, and Pargarh are the gifts given by nature to this region.

The Sahyadrian off-shoots divide the tableland into numerous valleys of different widths and depths, rendering much of the land undulating, uninhabitable, and uncultivable. The top basaltic foundation is marked by occasional terraces and the plateaus which extend over the off-shoots of eastern ranges upto 45 km, reaching up to Panhalgarh and Jotiba hill near Kolhapur city

Hill Ranges

The Sahyadri range and its off-shoots is only main system of hills. Kolhapur district is divided into four different heads as, 1) Sahyadrian Scarp 11) Northern ranges iii) Central ranges and iv) Southern ranges

1) **Sahyadrian Scarp range of hills.** The Sahyadrian scarp is not a continuous It is broken in several places by stream erosion on both the flanks. The watershed between eastern and western

2) **Northern Ranges** : Out of the several ranges extending towards east from the main Sahyadrian crest, the Vishalgarh-Panhalgarh range is the northern most. The range maintains a fairly uniform level at a height of over 1,000 M upto a distance of a 50 km and extend for another 30 km at a comparatively lower level, abutting Krishna basin in the east.

Central Ranges : In the central part of the district the hill ranges assume the same height as that of Panhalgarh range but differ from the latter into two respects. The central ranges have a south-west to north-east trend and they extend only upto a length of 25 kilometer. The central ranges include the range separating Kumbhi Valley from Dhamani Valley, Tulsi. Valley from Bhogawati Valley. Phonda-Sangaon range extend: stream of 55 km right upto Sangaon village. A branch of Pho.. Sangaon range extends upto the city of Kolhapur. The summit plateaus of these ranges are not uniformly developed. A number of saddles are created in the ranges due to greater erosion. These are useful for transport.

Southern Ranges : The Kagal range and Bhudargarh range are the important southern ranges. There is sparse vegetative cover. Lower terraces are utilized for cultivation and settlements.

4. Climate

The district is divided into two zones marked by broad climatic differences (a) Western mountainous track caused by - the Sahyadri with its spurs with small valleys running in between these spurs and (b) the main eastern plain with little broken. range hills. The height above mean sea level in the western region ranges from 654 M in the valleys to 914 M on the crest of the Sahyadri. The elevation in the eastern plain varies from 500 M to 580 M.

The climate of the district is mild and temperate. The range of temperature between the minimum and maximum is comparatively small. In the hilly west, with large forest areas and heavy rainfall, the weather is always humid during the rainy season and cool in summer. The hill traps tamper the hot winds prevalent in April, May and June, and maintain a pleasant climate.

5. Water Resources

The rivers of the district are the main water resources. There are six large rivers in the district. These are the Krishna, the Panchganga, the Vedganga, the Warana, the Dudhganga, and Hiranyakeshi. These rivers with their tributaries flow through and drain the district, facilitating extensive irrigation of lands, about 13.95% (1980) of irrigation of the district

The Krishna is one of the biggest rivers that drains. almost the western Maharashtra, rising at Mahabaleshwar in Satara district. It enters the Kolhapur district at the east of Kanwad village and then southwest up to Nrisinhwadi. The rivers Warana, Panchganga, Dudhganga, and Vedganga merge into the Krishna before it leaves the district. The Krishna has gifted Kolhapur district, a big alluvial plain of Shirol and Ichalkaranji. The length of this river in the district is about 65 km.