

livelihoods

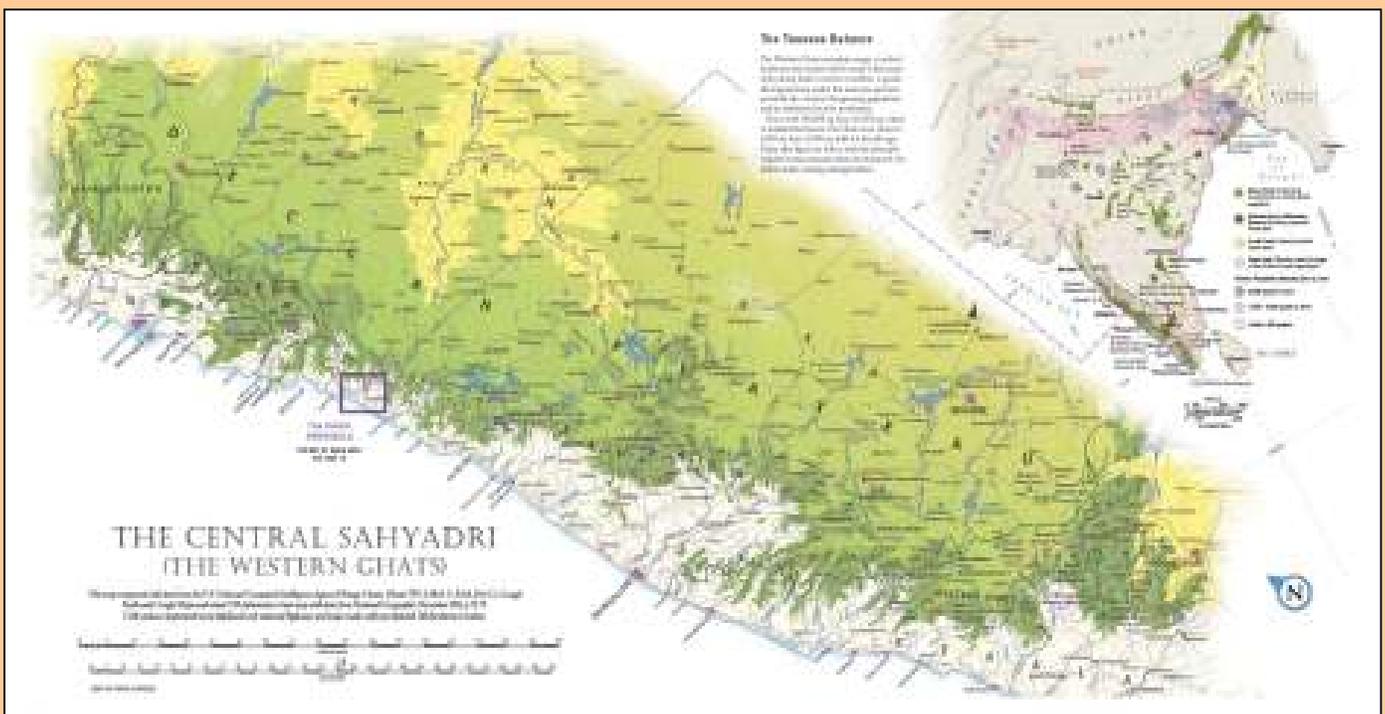
today and tomorrow

June 2017

‘Kshetram’

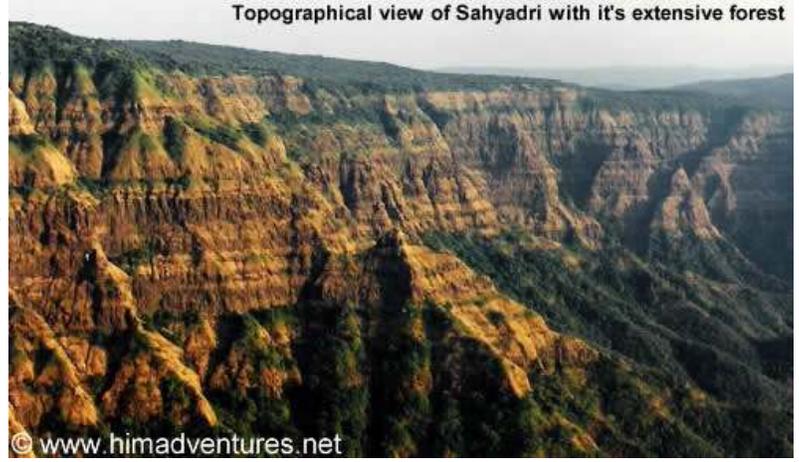
Sahyadri

The Benevolent Mountains! Sahyadri, in Western Ghats, are mountain ranges running parallel to western coast of Indian peninsula. Designated as a UNESCO World Heritage Site, the range is one of the eight “hottest hot-spots” of biological diversity in world. It is also called as “Great Escarpment of India.” The range runs north to south along western edge of Deccan Plateau, and separates the plateau from a narrow coastal plain, known as Konkan, along the Arabian sea. It starts near the border of Gujarat and Maharashtra, south of Tapti river and runs approximately 1,600 km (990 miles) through states of Maharashtra, Goa, Karnataka, Kerala and Tamil Nadu, ending at Kanyakumari, the southern most tip of India.



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as Konkan, along the Arabian sea. It starts near the border of Gujarat and Maharashtra, south of Tapi river and runs approximately 1,600 km (990 miles) through states of Maharashtra, Goa, Karnataka, Kerala and Tamil Nadu, ending at Kanyakumari, the southernmost tip of India. The hills, which cover an area of 160,000 km² (62,000 sq miles), form the catchment area for complex riverine drainage systems, which drain almost 40% of India. The average elevation of the range is around 1,200 m; in fact, the range blocks the southwest monsoon winds from reaching the Deccan Plateau. Western Ghats extend from Satpura Range in north, stretching from Gujarat to Tamil Nadu, it traverses south past states of Maharashtra, Goa, Karnataka and Kerala.

The range has a major gap, known as Goa gap between Maharashtra, Karnataka sections and Palghat Gap on Tamil Nadu & Kerala border lies in between Niligiri & Anaimalai hills. The range was formed around 150 million years ago. Basalt is the predominant rock reaching a thickness of 3 km (2 miles). Other rock types found are charnockites, granite gneiss, khondalities, leptynites and metamorphic gneisses with detached occurrences of crystalline limestone, iron ore, dolerites and anorthosites. The area is one among world’s top ten “Hottest biodiversity hotspots” and has a wide variety of flora and fauna. The Western Ghats region has over 7,402 species of flowering plants, 1,814 species of non-flowering plants, 139 mammal species, 508 bird species, 179 amphibian species, 6,000 insects species, 290 freshwater fish species and also at least 325 globally threatened species. Western Ghats form one of the four watersheds of India, and feed perennial rivers of India. They also serve as important wildlife corridors, form an important part of Project Elephant (PE) and Project Tiger (PT) reserves. The largest population of tigers outside Sundarbansi is found in Western Ghats, and the endemic Nilgiri thar, which is on the brink of extinction, has recovered and an estimated 3,122 individuals are in the wild here. Critically Endangered endemic Malabar large-spotted civet is estimated to number fewer than 250 mature individuals, with no sub-population greater than 50 individuals. About 3500 lion-tailed macaques live scattered over several areas in Western Ghats. Major rivers like Godavari, Kaveri, Krishna, Thamiraparani and Tungabhadra originate in Western Ghats and during monsoon months, they carry a large volume of water. Other major tributaries are Kali, Bhadra, Bhavani, Bhima, Ghataprabha, Hemavathi, Malaprabha, Kabini, Periyar, Barathappuzha, Sharavathi, Mandovi, Zuari and Netravati. There are many hydroelectric stations on the above-mentioned rivers, and 50 major dams along the length of Western Ghats. Most notable of these projects are Koyna in Maharashtra, Linganmakki and Sivasamudram in Karnataka, Mettur a Pykara in Tamil Nadu, Parambikulam and Idukki in Kerala. Climate in the region varies with altitudinal gradation and also distance from equator. While it is humid and tropical in lower reaches, which is tempered by proximity to sea, it is cooler in upper areas. Average annual temperature is around 15°C (59 °F) and in a few parts frost is common. During winter months, temperatures touch freezing point. Mean temperatures range from 20°C (68 °F) in the

south to 24°C (75 °F) in the north. It has also been observed that the coldest periods in the south Western Ghats coincide with the wettest region. Rainfall in this region averages to 300 centimeters (120 inches) to 400 centimeters (160 inches) with localized extremes touching 900 centimeters (350 inches). The eastern region of Western Ghats lies in the rain shadow, and receive less rainfall of about 100 centimeters (39 inches) resulting in an average rainfall of 250 centimeters (98 inches) across regions. The regions which are closer to equator receive less annual rainfall and have rain spells that last for several months in a year. Western Ghats eco-region has the largest Indian elephant population in wild, with an estimated 11,000 individuals across eight distinct populations. Sahyadri region, comprises of five districts in Maharashtra and they are Dhule, Nandurbar, Jalgaon, Nashik and Thane. Dhule district, in western region, is predominantly inhabited by tribal population. The local population speaks Ahirani; a dialect of Marathi and around 26.11% of population resides in urban areas. The district was once part of Khandesh and for administrative purposes, and has now been clubbed to Nashik Division. As per 2011 census, the district has a population of 20,48,781 and a population density of 285 inhabitants per square kilometer. It has a sex ratio of 941 females for every 1000 males and literacy rate of 74.61%; average annual rain fall in the district is 674.0mm, with July being the wettest months. It is also one of the country’s 250 most backward districts, out of a total of 640; and had been receiving funds from the Backward Regions Grant Fund Programme (BRGF). Nandurbar is another district in northwest corner, which was carved out of Dhule district on 1 July 1998. The district occupies an area of 5035 km and has a population of 1,646,177 (2011 census), with a population density of 276 inhabitants per square kilometer. The district population growth rate over the decade of 2001-2011 was 25.5%. Sex ratio is 972 females for every 1000 males and literacy rate is 64.38%, and the main languages spoken are Ahirani dialect, Marathi and Bhil. The district is well connected, having 90 km of railway line and 44 km of National Highway (NH). It also has various industries including cooperative sugar factories, spinning mills, Primary Agricultural Credit Societies (PACS), Cooperative mil societies. The district had been declared as one of the country’s most backward districts in 2006; out of a total of 640 and also received BRGF. Climatic conditions in the district are harsh; summer temperature touches up to 45°C and average rain is 767 mm. Jalgaon is another district of Maharashtra in the Western Ghat region, which was known as East Khandesh until 21 October 1960. It has an area of 11,765 km² and with population of 42,24,442 (2011 census). It is the 46th most populous of India’s 640 districts, having a population density is 359 inhabitants per square km. The sex ratio is 922 females for every 1000 males and with 79.73% literacy rate. The District receives an average annual rainfall of 77 cm. Nashik district is the third largest district in Maharashtra. It occupies an area of 15,582 square kilometres.

The Sahyadri range stretches from north to south across the western portion of the district. In 2011, Nashik district had a population of 6,109,052, with a population density of 393 inhabitants per square kilometer and a sex ratio of 931 females for every 1000 males. Literacy rate in the district is 80.96%. In 2007 year, the district has 75.64% of its population in urban areas. Thane district is the most populated district in the nation with 11,060,148 inhabitants; later, the district was split into two; with a new Palghar district; that left Thane district with a population of 8,070,032 (2011 census). The district is the most industrialized district in the state of Maharashtra. Climate in the district is of two distinct types. The climate on the western coastal plains of Thane, Vasai, Palghar and Dahanu talukas is tropical, very humid and warm. The climate on the plains at the foot of the slopes (Kalyan, Bhiwandi, Vada, Ulhasnagar, Ambarnath and Talasari talukas) and on the eastern slopes of Sahyadri (Murbad, Shahapur, Jawhar, Vikramgad and Mokhada talukas) is comparatively less humid. The temperature variation is more in the

eastern part of the district compared to the western coastal areas. The average annual rainfall in the district is 229.3 cm. The rainfall in the district increases from the coastal areas to the interior. The rainfall varies from 173 cm at Mahim on the coast to 258.8 cm at Shahapur in the interior.

Economy of the region, though diversified, is largely based on agriculture and its allied activities. Apart from agriculture and its allied activities, there are other key sectors which include manufacturing, services, cottage industries and industrial work forces. Agriculture is the back bone of the region. Industry-wise, Thane is the third most industrialized district, as close to 1548 large and medium scale and 18,480 small scale industries. The main products of these industries are Drugs, Textiles, Adhesives, Plastics, Rubber, Steel, Pharmaceuticals, Engineering, Fertilizers, Electronics, Chemicals and Iron & Steel. The Thane-Belapur-Kalyan industrial belt is the centre of highly sophisticated modern industries. There are nearly 4000 industries in Ulhasnagar, Ambarnath, Bhiwandi, Badlapur, Tarapur, Palghar, Vasai and Murbad areas which contribute towards industrialization of the district.

Livelihoods in the region are centered on agriculture and its allied activities. In Jalgoan district, major crops cultivated include banana (it is the top banana producer) followed by cotton, sorghum, wheat, millet, sweet lime, peanut and sugarcane. Though agriculture is a livelihood-provider in Dhule district, most parts are not under irrigation; thus, cultivation of crops is heavily dependent on regular monsoon or rain water. The main commercial crops are wheat, bajra, jowar, onion and cotton. Though a drought prone and backward region, the district is famous for production of milk, as cattle is fed with cotton pen, which in turn produces rich quality milk. The region of Dondaicha is famous for production of glucose, sugar and other products from maize. It is also famous for production and market of chillies the district was once part of Khandesh and for administrative purposes, is now clubbed to Nashik division. In Nandurbar district, which is predominantly a tribal region, the economy is dependent on agriculture. The various agriculture crops grown are jowar, wheat, rice, pulses, groundnuts, chillies, sugarcane and cotton. The region also has many farmers cultivating fruits such as mango, custard apple, banana, papaya, etc. The other allied activities are livestock rearing, poultry, raising small ruminants and migration. Thane district is the most industrialized district in Maharashtra. Various crops grown here are paddy, pulses and millets. Dahanu taluka is famous for fruits. Chikoos are grown on a large scale at Gholwad; apart from fruits and crops, vegetables such as eggplants are also widely grown. Floriculture; rose gardens are raised in Dahanu. In Nashik district, onions are majorly grown, followed by other crops such as grapes, sugarcane, jowar, cotton, banana, chillies, wheat, rice and pomegranate. The total area under irrigation in Nashik district is 8,060 Km². In Thane, industries provide livelihoods to many families, who work on daily wage basis and a few on contract basis.

As the Sahyadri region has a long coastline, fishing is another important livelihood activity for many locals. Daniels (2001) has listed 218 fish species from the Western Ghats of which 114 (52%) are endemic to Western Ghats. Cottage industry is another sector, where many families are engaged in. With growing industrialization and urbanization in tribal belts of Sahyadri, local tribal populations are migrating to nearby towns in search of other unskilled livelihoods. The changing face of livelihoods from subsistence to market economy is mainly due to the region's rapid transformation and its impact on local livelihoods. Deforestation rate has accelerated and forests are rapidly being converted into agriculture and monoculture plantations. Various hydroelectric projects, mining and extraction of forests products are altering the landscape at a faster pace. Rise in pastoralism, in the region has brought about significant

Several wildlife sanctuaries, National Parks and Project Tiger (PT) reserves have been created in Maharashtra, with aim of conserving the rich bio-diversity of the region. As of May 2004, India has 92 National Parks, of which six are located in Maharashtra. There are 4 PT areas in Maharashtra., viz, Tadoba-Andhari, Melghat, Sahyadri and Pench. A large percentage of Maharashtra's forests and wildlife lie along the Western Ghats or Western Maharashtra and Eastern Vidarbha.

- Navegaon National Park, located near Gondia in the eastern region of Vidarbha is home to birds, deer, bears and leopards.
- Nagzira wildlife sanctuary lies in Tirora Range of Bhandara Forest Division, in Gondia district of Vidarbha region. The sanctuary consists of a range of hills with small lakes within its boundary. These lakes guarantee a source of water to wildlife throughout the year, and heighten the beauty of the landscape.
- Tadoba-Andhari Tiger Project, a prominent tiger reserve near Chandrapur in Vidarbha is 40 km from Chandrapur.
- Pench National Park, in Nagpur district, extends into Madhya Pradesh as well. It has now been upgraded into a Tiger project.
- Bor Wildlife Sanctuary is located in Wardha district of Eastern Vidarbha. Due to large number of tigers along with other wild animals, Bor Wildlife Sanctuary has been declared Special Tiger Zone by Govt. of Maharashtra in 2012.
- Chandoli National Park, located in Sangli district has a variety of flora and fauna. The Prachitgad Fort and Chandoli dam and scenic waterfalls can be found around the park.
- Gugamal National Park, also known as Melghat Tiger Reserve is located in Amravati district. It is 80 km from Amravati.
- Sanjay Gandhi National Park, also known as Borivali National Park is located in Mumbai and is the world's largest national park within city limits.
- Sagarshwar Wildlife Sanctuary is a man made wildlife sanctuary situated 30 km from Sangli. Ancient temples of Lord Shiva and Jain Temple of Parshwanath are located in Sagarshwar are an attraction.
- Maldhok Sanctuary is situated in Solapur district. Some parts of it are also located in Ahmednagar district. The sanctuary is famous for the Great Indian Bustard.
- Tansa wildlife Sanctuary is situated in Thane district and along the Tansa and Vaitarnariver. The major water supplying dams Tansa, Modaksagar and lower Vaitarna are located in the Sanctuary. The fauna include Leopard, Barking deer, Hyena, Flying squirrel and Wild boar. There are four forest ranges in the sanctuary- Tansa, Vaitarna, Khardi and Parli. The wildlife division's headquarters is at Thane.
- Thane Creek Flamingo Sanctuary includes 896 ha mangrove cover along the western side of the creek (in Mulund ,Vikhroli, Bhandup, Kanjurmarg and Mandala areas plus 795 ha of creek area which is partly exposed during low tide. This is the area used by thousands of flamingos for resting during high tide. The Forest Department, Government of Maharashtra, declared an area of 1,691 hectares (16.9 sq km) as Thane Creek Flamingo Sanctuary on August 6, 2015. The sanctuary was declared especially to protect the habitat of flamingos visiting the creek in thousands.
- Bhimashankar wildlife Sanctuary is situated in the Western Ghats and is famous for the Malabar Giant squirrel. The sanctuary is located in Thane, Raigad and Pune district of Maharashtra.

ecological changes. The region has been witnessing fragmentation, loss and isolation of natural habitats, due to various factors such as; construction of dams across the rivers, conversion of wetlands into other forms of land uses and destruction of vegetation. In recent decades, the region has also seen rise in large-scale mining activities and land use changes in catchment areas. Given the fragile state of the region's pristine nature and its vegetation, the region has to take to conservation measures to conserve nature; people and their livelihoods. ❖