

# Magical Melghat

Melghat is a land of mystery, marvel and mother nature. A unique tiger landscape which is a mosaic of hills, valleys, ravines and plateaus. A land that is prehistoric in nature, finds mention in mythology, ancient literary epics and modern science journals. It is home to tribal people, wildlife and a destination for ravenous tourists. This is Magical Melghat.

Melghat. A mere mention of the name evokes sweet memories, stirs-up myriad of experiences while the mind autoplays montage of its captivating vistas, fascinating wildlife and spectacular waterfalls. That's what Melghat is for all its habitué. Those who are uninitiated and have never been to Melghat, here is a prelude to this mystical land.

Melghat. In simple colloquial Marathi lingo, "Mel" ( $\dot{H} \overline{\varpi}$  in Marathi) means confluence while "ghat" stands for "hills". Visually, this spectacle called Melghat is a confluence of emerald hills clad in lush foliage and trees punctuated by streams of water. But in spirit, it symbolises confluence of complex landscapes. A landscape that is a mosaic of merry meadows, gorges wrapped in wavy grasses while spontaneous flat woodlands springing up once in a while in otherwise gorgeous expanses of ghats.

Such a panoramic view becomes even more romantic thanks to its bountiful water nexus of rivers, streams and magical waterfalls. All this makes Melghat a momentous sanctuary for the wildlife. What makes Melghat a special child of nature is its unique geographic prominence, especially for the tiger conservation. Melghat is an integral part of global priority tiger conservation landscape called Satpuda Maikal range. This not only confers Melghat a wildlife sanctuary status but also a tiger reserve status. Established in 1973-1974, Melghat is one of the first nine tiger reserves in India under Project Tiger initiative by the Government of India. Spanning over a huge area of 2768 sq. kms. including 1500 sq. kms. of critical tiger habitat and 1268 sq. kms. of buffer area, Melghat is one of the largest and oldest tiger reserves in India.

It is not a surprise that Melghat is the



Facing page: A typical view of Melghat landscape depicting the harmony between man and nature.



largest tiger reserve in the Maharashtra. Geographically, Melghat is nestled in Satpuda hill ranges spanning across three districts of Vidarbha region - Amravati, Akola and Buldhana. The reserve forms an important green corridor between protected and forests areas of Madhya Pradesh and Maharashtra ensuring a safe passage of animals and contiguity of forests in Satpudas. Further, the recent camera trap census has revealed that Melghat Tiger Reserve is home to more than 44 tigers (2016-17 estimation) along with multitude of other fauna including few of the listed critically endangered species. Melghat is one of the last homelands to very rare Forest Owlet, an endemic species to India, which was believed to be extinct for over 100 years before it was rediscovered in the valleys of Melghat in 1997! Melghat boasts of exquisite flora variety, quite a few of which are laden with fruits and stunning flowers throwing a party for milieu of animals, bees and gorgeous butterflies. The fascinating waterfalls usher in your hearts serenity and a rush of commotion, all at once.

While the green picturesque grandeur and varied wildlife here beckons the nature lover in you, its heritage of the past era forts and its existing tribal culture will awaken the explorer in you. Even more, the history of forts is predated by the reference of Melghat in epic like Mahabharata, the surviving tribes like Korkus, Nihals and Gawlis fascinate you with their wisdom of ancient ethno-botanical knowledge to cure various ailments including modern day issues like hair loss and diabetes. Then there is more in the store as you jaunt on the serpentine ghat roads where the remains of British structures lends a vintage touch to the whole journey. This is today's Magical Melghat.

However, the Melghat of 70's when it was declared a tiger reserve was a stark contrast from what it is today. It was a ravaged piece of green land, overtly exploited through rampant tree felling for timber, cattle overgrazing and illegal hunting. Melghat Tiger Reserve as you see today is a long journey. It's a long walk of quest in providing protection to its forests, wildlife and people as well as salvaging its heritage. The resurrection of Melghat Tiger Reserve to its current glory is an outcome of diligent conservation efforts by Forest Department and a few dedicated NGOs. This book is an ode to Melghat Tiger Reserve, a montage of that journey to its current glory.



# Top: A colourful denizen in the green country side nestled between the valleys of Melghat.

Facing page: Wire-tailed swallow (*Hirundo smithii*) a small bird found in open country near water and human habitation.

Peninsular rock agama (Psammophilus dorsalis)

Green vine snake (Oxybelis fulgidus)



# Making of Melghat Tiger Reserve – A Time-Lapse of its Journey

The massive geographic expanse of Melghat Tiger Reserve lies in the Maikal ranges of Satpuda hills, right in the heart of Melghat forests that stretches across Amravati, Akola and Buldhana districts of Vidarbha region of Maharashtra, bordering Madhya Pradesh in the North and East.



Misty mountains for the city dweller's sore eyes, meandering roads for the drive, cheerful birds dotting the skies and the mesmerizing waterfalls to stop by for a quick dive - this is the regular sight at Melghat. Make a quick pit stop to ask the locals for directions and you realise that these locals are different from the rest of the tiger reserve locals of Vidarbha. A closer look and you realise they are not the people of Gond tribes. They are Korku adivasis! Melghat holds such delights and surprises all along the way as you keep exploring it more and more. As you traverse further and come across a vintage guest house or cross over a stone bridge, you are immediately reminded of the colonial history of India. However, the history of Melghat predates it by eras.

The earliest humans to roam these luxuriant forests must be tribal hunters owing to its rugged terrain of valleys rife with beasts of all kinds. This area was associated with demons and beasts. The first reference of this land, as an integral part of Dandakaranya forests, has been made in the ancient Indian epic Ramayana. Dandakaranya forests are the site of many of the Lord Rama's adventures in exile. Melghat also finds mention in another ancient epic Mahabharata, the most prominent being the Keechak vadh or killing of Keechak demon by Bheema. Today, we identify that gory mythological event with the Bheemkund falls of Chikhaldara, which is an iconic tourism spot. Melghat finds more such references in various Indian mythologies and ancient texts like the Puranas and other poetic epics of ancient India.

Melghat, by itself or as an integral part of Vidarbha, marks its presence mentioned in ancient and medieval history. The Amravati Gazette indicates that Vidarbha region was under

Facing page: The Gadga river meanders its way down the rocky beds of the Melghat terrain.



Tatya Tope, a strong Maratha leader of the Indian mutiny of 1857, forced his way through the forests of Melghat in October, 1858. In November, he attacked Sohagpur with 2,500 men and plundering the city, he marched to Mota in the Satpuda ranges, north of Melghat, in December. He plundered Multai but hearing that the British army was headed towards Nagpur, he turned eastward and raised the Gonds, Bhils and Korku tribes against the British. Meadows Taylor who was the Deputy Commissioner during this time, however, praised the loyalty of the Melghat Rajas in repelling emissaries sent by the rebels to raise the Deccan. The Nizam received several advantages in return for his loyalty to the British in the war of independence.

When the Central Province first fell into the hands of the East India Company it was divided into two districts, South Berar (the Balaghat) with its headquarters at Hingoli and North Berar with headquarters at Buldhana. The North Berar district included the whole Payanghat valley, the present Amravati district, the northern half of Akola and of Buldhana. Later, Hingoli with the neighbouring country was restored to the Nizam, and the province reconstituted into East Berar with headquarters at Amravati, and West Berar with headquarters at Akola.

Top: Two sub-adult tigers playing in the meadows of Melghat.

Right: Celadine spider flower (Cleome chelidonii)

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various reigns starting from period under the powerful Mauryan Emperor Ashoka to being ruled under dynasties such as Satvahanas, Vakatakas, Guptas, Rashtrakutas and Cholas. All were native to the Indian subcontinent. Subsequently, invasion by the Mughals resulted in changing of regimes and bitter wars. There are passes in Melghat that invaders from the north traversed to reach Berar, where the Imad Shahi dynasty was founded in 1484. The Maratha Empire, under the leadership of Shivaji Maharaj rose to power by defeating the Mughals and extending their dominion to the northern and central parts of the Indian subcontinent. The East India Company's incursion in India and defeat of the Marathas in the third Anglo Maratha war resulted in the British taking control of the Maratha states (Vidarbha was annexed in Central Province and Berar) and ruling India.

Thus began an era of exploitation of the Indian jungles. British were prudent in implementing administration plans for the forested areas and controlled the unplanned felling of trees. The forests were now systematically exploited for timber production, largely to meet the British demand within India and in the Britain as well as for the trade outside India. After taking control of Melghat forests in 1853, British administration curtailed the unplanned felling of trees by resident Korku tribes but they themselves indulged in mass production of timber. Further, introduction of gun-power resulted in a massive scale game hunting of the wild animals, especially tigers. Melghat was one of the worst affected forests owing to its diverse game availability and for its high quality timber produce capacity.

In the post-Independence era, Melghat owes its historical prominence to being identified as one of the first 9 Tiger Reserves of Project Tiger, declared in 1973. While Project Tiger was launched with a focus on conservation of one single species, its intent was far more profound. Tigers represent the umbrella species of the forest. It being apex of the food chain of the entire forest in a direct as well

#### The important management interventions & landmarks since the constitution of Melghat Tiger Reserve in 1974

- **1974** First Management Plan for the tiger reserve area (1571.74Km.) under the Project Tiger was prepared by Sheikh and Sawarkar for the period 1973-1978.
- 1985 Declaration of Melghat Sanctuary.
- **1987** The commercial harvesting of timber was stopped.
- 1987 Visit of Shri Kailash Sankhala, First Director of Project Tiger to Melghat.
- **1987** Declaration of Gugamal National Park.
- 1988 Second Management Plan was prepared by Shri M.G. Gogate for the period 1988-1998.
- 1988 Nature Interpretation Centre at Semadoh established.
- 1991 Zoological Survey of India surveyed Melghat.
- 1992 The collection of Tendu Leaves was stopped.
- **1994** Declaration of Multiple Use Area.
- 1995 The lease of bamboo harvesting by Ballarpur paper mills terminated.
- 1995 Shri P.J. Thosare prepared a plan of Multiple Use Area for the period 1995-2004.
- 1997 Declaration of Wan, Ambabarwa, Narnala Sanctuaries.
- **1999** Entire area of the Reserve including the Ambabarwa and Narnala WLS with three divisions namely Sipna Wildlife Division, Gugamal Wildlife Division, Melghat and Akot Wildlife Division, Akot put under the Project Tiger Directorate, through the Govt. of Maharashtra order dated 26th April 1999 for unified control.
- 2000 Subsequent changes in the area of Melghat Sanctuary, Gugamal National Parkand Multiple Use Area, Government issued a final notification declaring the area of National Park and Melghat Sanctuary.
- 2001-03 Bori, Koha and Kund villages from Melghat Sanctuary rehabilitated at Rajurgirwapur in Akot Tehsil of Akola District.
- 2002 Management plan for the period 2004-05 to 2013-14 sanctioned by Principal Chief Conservator of Forests (Wildlife) Maharashtra State.
- 2007 Nature Interpretation Centre, Semadoh renovated.
- 2007 Declaration of Critical Tiger Habitat in Melghat Tiger Reserve (1500.49 sq.km.).
- 2009 Registration of "Melghat Tiger Reserve Conservation Foundation".
- **2010** Notification of buffer zone (area 1268.03 sq.km).





as indirect manner, its conservation ensures conservation of the whole ecological unit. This also means that tiger protection should ensure that its co-predators, prey base as well as vegetation must be protected from human intervention and anthropogenic pressures such as cattle crazing, tree felling, mining, etc.

Today, Melghat Tiger Reserve is a protected area spread over 2768.52 sq. kms. that brings contiguity to forests in the Satpuda ranges in Madhya Pradesh and Maharashtra. Melghat harbours a rich diversity of wildlife including large carnivores such as the leopard, dhole, sloth bear and hyena and large herbivores such as sambar, chital and gaurs. Melghat is rich in a variety of flora species, insects and bird species. It is also considered as one of the last havens for the critically endangered Forest owlet species.

Melghat boasts of 1500.49 sq. km. of Core Area or Critical Tiger Habitat. The past 10 years of Melghat have been promising with major impetus given by Forest Department towards habitat improvement works for the long term sustainability of the wildlife and its ecological resources. Water is the lifeline of jungles. Highest efforts were put to improve the water resources through desiltation and repairs of all the water reservoirs, natural as well as artificial. Parallel to this, soil conservation works were carried out to arrest soil erosion, induce optimum water conservation and moisture retention. Further, grassland maintenance and removal of obnoxious weeds like lantana was also focused upon to ensure health grazing lands for the herbivores. In addition to this, rigorous fire protection works and planning was done to avoid untoward calamities. All these efforts go long way towards the enhancement of the bio-diversity and the healthy gene pool availability in the forests.

The biggest challenge in the past 10 years has been that of protection. The tough valley terrain, full of ravines makes much of the landscape inaccessible for the patrolling vehicles. Given the massive expanse of the park, foot patrolling is very difficult, manpower intensive and time consuming activity. Not to forget the risks of coming across a wild animal on a terrain where running to a safe distance is not easy. Over the years, Forest Department has built a reliable surveillance system through check gates management, patrolling drives and by establishment of protection camps at the strategic locations. This has resulted in ample of protection against illegal hunting and poaching. The use of latest technology like satellite imaging analysis, drone surveillance and population estimation researches have further aided in non-intrusive surveillance for the benefit of wildlife. These modern tools have aided in bringing downbiotic pressure of the forested area, which otherwise was severely affected by uncontrolled grazing, tree felling and illegal encroachment activities of the villagers. Forest Department has also launched major initiatives such as ecodevelopment, livelihood training and supplying LPG gases to reduce man-animal conflict and exploitation of jungle resources.

Melghat is a complex diaspora of animals and people. The human element of the Melghat landscape includes over 200 villages, most of them lying in the buffer area and on the fringes of the Melghat, while 18 villages are still inside the core area yet to be relocated outside the park. These villages largely comprise of forest dwelling communities, dominant being Korku tibals who are by and large agrarians. Korkus have an intimate connection with the forest and its creatures. The connection is reflected in their culture, religion, traditions. For instance, the gotras (clan lineage) of Korkus are seen to have been named after trees e.g. Jamunkar, Semalkar,



Top: Wildlife Management uses both modern technology and traditional methods. Facing Page: One of the Streams and Nallahs forming a microclimate for wildlife.



etc. which goes to prove the integration of their culture with nature. Korkus display a deep understanding of flora for their day-to-day life management as well as for medicinal remedies. You will be amazed if you were told that there are studies that have been published on how Korku tribes concoct medicines for hair loss, acne, joint pains, jaundice and even diabetes! There are other communities in Melghat such as the Gawli, Gond and several smaller tribal communities. While the tribals go about their usual way of life, the concept of modernization and progress is skewing the bond between man and the nature. The villagers, unintentionally or intentionally exploit the resources of jungles through cattle grazing, fishing, illegal trading of flora and fauna along with introducing inorganic wastes in the form of plastic and chemicals in the forest lands of Melghat.

Today, Melghat stands at the crossroad of transformation. Its continuous state of flux from the pristine jungles of ancient India to the ravaged woodlands of pre-independence era to its current protected yet fragile state is something to ponder on. Melghat has shown tremendous turnaround after human protection and isolation. However, every day is a new challenge for its protectors. In today's world, "people" aspect cannot be ignored while addressing the concerns of wildlife conservation. The human demand for progress at the cost of exploitation of 'Mother Nature' is a big debate in which we all must participate and contribute. People can make a difference. Responsible and sustainable development will ensure that we hand over to the coming generations, the baton of a Melghat which is protected and restored in its erstwhile glorious form and frame. This time for perpetuity - without running the risk of being defiled and degraded due to human intervention.



Top: A wind mill at Chikhaldara plateau silhouetted against the setting sun depicts the power of unconventional energy which is the source of lifeline for forest areas.

Facing page: A typical day for the young generation of Melghat villagers.



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Melghat Tiger Reserve is integral to the Satpuda-Maikal conservation landscape. Satpuda Maikal landscape, a global priority tiger conservation landscape, sprawls across 19 districts in the states of Madhya Pradesh, Maharashtra and Chhattisgarh covering a total area of 1,43,551 sq. km. Out of this, roughly 40,837 sq. km. is under forest cover, with some of the country's most famous tiger reserves and protected areas.

#### Melghat Tiger Reserve - Geographically!

Satpuda Maikal division of Melghat Tiger Reserve is located in 6 E central Highlands Biotic province of "6 Deccan Peninsula" Bio-geographic zone.

Altitude: 312 M to 1178 M above MSL.

Highest point: Vairat at Chikhaldara at 1178 metres above M.S.L.

Forest Type: Southern Tropical Dry Deciduous Forests

**Climate:** Tropical

Minimum temperature: 5° C, December is the coldest month.

Maximum temperature: 47° C, May is the hottest month.

Due to the variation in altitude and aspect, the climate in Melghat is varying and distinct seasons are experienced during the year. Except for monsoon season, the air is generally dry.

River Network: Melghat forms a very important catchment to Tapi and Purna river systems with important tributaries like Dolar, Khandu, Sipna, Gadga, Khapra and Wan river. The river Chandrabhaga which originates from Chikhaldara has its watershed in the reserve.

#### **Melghat Tiger Reserve - Dimensions**

Sr. No.	Particulars	Reserve Forest (sq. km.)	Total Area (sq. km.)
1	Melghat WLS	767.36	788.75
2	Gugamal National Park	361.28	361.28
3	Wan WLS	205.86	211.00
4	Ambabarwa WLS	102.10	127.11
5	Narnala WLS	12.35	12.35
	Total 1448.95		1500.49

Total Area includes Reserve Forest as well as Protected Forest and Non Forest Area.

For the purpose of control and management, the area of the Critical Tiger Habitat is included in three Wildlife divisions, namely:

- Sipna Wildlife Division, Paratwada
- Gugamal Wildlife Division, Paratwada
- Akot Wildlife Division, Akot

Monitor Lizard (Varanus varius)

Common krait (Bungarus caeruleus)

Second State



# Melghat Mosaic – A walk through the wild jungles of Melghat

Melghat is a typical representative of Central Indian Highland forming a part of the Biogeographic Zone '6 E-Deccan Peninsula'– the largest of all bio-geographic zones of India having one of the biologically richest forests. It holds one of the most viable populations of tigers.



#### Nature's Favourite Child

Melghat has been Mother Nature's favourite prodigious child. This claim is innate, rather primordial to an extent, which goes beyond the beauty of its stunning undulating landscape, misty valleys and exotic flora and fauna. As it is for any landscape, Melghat's identity and character is defined by its geology. It is here that its story begins, geologically! The area of Melghat Tiger Reserve nestles in the Deccan trap. For starters, India's Deccan Traps - one of the largest volcanic features on the Earth - may have formed due to eruptions from two distinct formations, according to a 2017 study. The University of Quebec in Canada created a computer simulation to depict events that occurred here over 60 million years ago and extrapolated the amount of lava involved. The amount of lava was huge-colossal in fact; colossal enough to contribute in the extinction of the dinosaurs. World over, volcanic

eruption theory is increasingly gaining wider acceptance over meteoric explosion theory as a causal event for the dinosaur extinction.

Melghat owes its inheritance of scenic hills and valleys to the cooling of that colossal lava. The geology of this terrain has shaped its beautiful climate, lush vegetation and the diversity of its wildlife. The forests that emerged here today are classified as "Dry Deciduous Forests" and fall under the sub-group "Southern Tropical Dry Deciduous Forests." However, the bio-diversity that Melghat supports is unique from rest of the dry deciduous forests. This has to do with the soil found here. The weathering of Deccan trap rocks over the millions of years led to the formation of soil, dispersed uniquely thanks to its undulating terrain. It is the combined impact of terrain, soil, rains and the alluvial deposit of rivers that has shaped the bio-diversity of Melghat, especially its fundamental life form-flora.

Geologically the area of Melghat Tiger Reserve is the Deccan trap and underlying rock is basalt in one form or another. Thus, most of the area has the soil of trap origin. These soils are rich in mineral and have a high water holding capacity. They have a high rate of exchangeable calcium and pH varying from 6.5 to 7.5 thus supporting the best form of teak.

Facing page: The 'pudas' that form the peaks and valleys across the Melghat landscape.



#### Melghat Tiger Reserve: A mosaic of protected area

Melghat consists of succession of hills and valleys, which are extension of main series of Satpuda range. In this tract, the main ridge of Gavilgadh hills runs east to west. The area of Project Tiger lies to the North of this ridge. The reserve forms an important corridor between forest areas of Madhya Pradesh and Maharashtra ensuring contiguity of forests in Satpuda.

Numerous spurs, branch from this ridge towards the north where these have flat tops locally known as "ballas" (plateau) of considerable size. The ridges usually have abrupt slopes and form narrow valleys below locally known as "*Khoras*". The area is drained by Khandu, Khapra, Sipna, Gadga and Dolar rivers which are tributaries of Tapi. The main ridge of Gavilgadh hills forms a divide between Tapi and Purna rivers.

The vast track of Melghat Wildlife Sanctuary and Gugamal National Park with a combined area of 1150.03 sq. kms. was declared as the Critical Tiger Habitat of Melghat Tiger Reserve on 22<sup>nd</sup> February 1974.

Subsequently, The National Tiger Conservation Authority requested the Government of Maharashtra to declare the "Critical Tiger Habitats" in the Tiger Reserves under section 38(V) of the Wildlife (Protection) Act, 1972 through their letter dated 16th November 2007.

Accordingly, Govt. of Maharashtra notified the Critical Tiger Habitat on 27<sup>th</sup> December 2007 declaring 1500.49 sq. kms. of "Critical Tiger Habitat" comprising of Narnala WLS, Ambabarwa WLS and Wan WLS apart from Gugamal National Park and Melghat WLS, which already belonged to the initially declared Melghat Tiger Reserve.

The buffer area of 1268.03 sq. km. from adjoining territorial divisions of Akola, Buldhana, East and West Melghat was identified and declared by the State Government vide the notification on 29th September 2010.

WLS - Wildlife Sanctuary

#### How to Reach Semadoh:



Melghat Tiger Reserve is approachable by air, railways as well as by roads. Semadoh is the most well-known, centrally located village and tourist center of the Melghat Tiger Reserve. Semadoh can be reached as under:

Air: The nearest and the most well-connected airport is at Nagpur, which is about 255 kms away.

Rail: The nearest major railway stations are Amaravati, Badnera and Akola in the central railway zone. Semadoh is about 100 kms from Amaravati, 110 kms from Badnera and about 126 kms from Akola.

Road: Nearest bus stand is at Paratwada, 55 kms away. Semadoh is well connected through a state highway- the Paratwada-Dharni road leading to Khandwa and Indore.

> Facing page: The forest reflects in the pristine waters of the Wan river establishing it's identity with the jungle which is its source.

## The story of 3 sisters - The Wan-Narnala-Ambabarwa Wildlife Sanctuary

The Wan, Narnala and Ambabarawa Wildlife Sanctuaries play an important role in providing protection and continuity to the tiger habitat across Melghat Tiger Reserve. Further, these three sanctuaries are connected to the Yawal Sanctuary in Jalgaon district through the forests of Buldhana district, Khaknar (Burhanpur) and Jalgaon-Khandwa district. The importance of these three sanctuaries in maintaining the connectivity from Aner Dam-Yawal to Kanha-Achanakmar, resulted in bringing this cluster under the Melghat Tiger Reserve.

#### The Wan Wildlife Sanctuary

#### Established: July 29, 1997

Area: 211 sq. km.

Entry: From Akot by road. Akot is 45 km. away from Akola railway station on the Mumbai-Howrah rail route.

Wan Wildlife Sanctuary includes outer slopes of Satpuda with all its floral and faunal attributes and acts as an extension of the Melghat Tiger Reserve and provides an important corridor between Akola, Amravati and Buldhana districts. Situated on the southern side, it connects the Melghat Wildlife Sanctuary with Narnala Wildlife



Sanctuary and Ambabarwa Wildlife Sanctuary, forming an important continuous tiger habitat of the Melghat Tiger Reserve. Relatively smaller in size, this sanctuary supports sizeable tiger and leopard population in addition to other mammals and birds. The terrain is rife with good hideout locations, riverine patches and fruit-bearing trees making it an ideal home for the sloth bears. There has been a significant increase in the aquatic life forms after the commissioning of the Wan Dam.

Wan shares the same dry deciduous forest, like that of Melghat. However, there are noticeable differences in its constituents. Here, Salai trees (Boswellia serrata) dominate the landscape while teak are not as rampant compared to the northern forests of Melghat Tiger Reserve. Wan also has open patches of grasslands and beautiful Gloriosa superba, commonly known as Flame lily or Fire lily. The sap from its leaf tip is used for curing pimples and skin eruptions by tribal.

The area has a large number of unique geological and religious features. The Mahadev Cave Temple at Dhargad is a unique geological structure that has assumed religious importance over the years. It is the scene of a massive pilgrimage during the Hindu holy month of Shrawan maas.

#### Narnala Wildlife Sanctuary

#### Established: 1997

Area: 12.35 sq. kms.

Entry: The entry gate at Shahnur is 15 kms away from Akot. Akot is 45 kms

away from Akola railway station on Mumbai-Howrah rail route.

Accommodation: You can stay at Shahnur Eco-tourism complex which has comfortable eco-huts and eco-tents. Jungle safari, machaan stay, night safari & adventure activities present at Shahnur.

This is the one of the most exciting wildlife sanctuaries. Narnala is a pocket-sized wildlife sanctuary capturing less than one percent of Melghat's area. It is a mere 12.35 sq. kms. notified protected area cosily surrounded by the Wan Wildlife Sanctuary. Narnala is a continuation of Gavilgadh range of Satpuda hills and acts as a corridor between the Melghat Wildlife Sanctuary and Wan Wildlife Sanctuary. In fact, it is a gateway to Melghat from the southern side. The entry point to Narnala is the Shahnur gate.

Narnala sanctuary's prized possession is its forts. Narnala was once a strong hold of Central India. As you meander on the picturesque roads from the Shahnur gate, a 30 minutes drive takes you to the Narnala Fort. This 600-year-old structure with 22 gates and over 30 towers covers 392 acres of land with a 36 kms long perimeter (now either crumbling at places or conquered by wild vegetation). The fort has excellent rain water harvesting system of the bygone era and was dotted by reservoirs. Narnala fort is home to a resident tiger, while most of the major mammals are sighted in Narnala along with abundance of raptors nesting on the crags and cliffs.

## Ambabarwa Wildlife Sanctuary

## Established: 1997

Area: 127.11 sq. km.

Entry: The entry gate of Wasali lie

Akola railway station on Mumbai-Howrah rail route.



Accommodation: New accommodations are being constructed at Wasali.

The Ambabarwa Wildlife Sanctuary it falls under Buldhana district. The sanctuary was handed over to the Akot Wildlife Division on 1<sup>st</sup> May 1999.

Ambabarwa Wildlife Sanctuary nestles in the foothills of the Satpuda ranges and has all the flora and fauna typical of the central highlands. It serves as an important corridor between forests of Maharashtra and Madhya Pardesh. The species composition of Ambabarwa Wildlife Sanctuary is similar to that of Wan Wildlife Sanctuary. Its valleys are rich in vegetation providing home to big carnivores like tiger, leopard and wild dogs. Most of the floral species found in Melghat are also seen in Ambabarwa Wildlife Sanctuary with the only difference being in their abundance. The main species is teak and its associates. It has a large number of plants with important medicinal values and thus this area needs to be preserved for its valuable gene pool.

The Ambabarwa Wildlife Sanctuary is very sensitive area from the protection point of view owing to its proximity to the Madhya Pradesh. Additionally the large number of villages on the southern side results in very high biotic pressure on the sanctuary.



#### The Flora Cosmos of Melghat

Today, Melghat is known for its flora diversity that includes exotic and rare species including few of the Himalayan species! The floristic diversity shows species from Western Ghats and Satpuda along with many endemic species. More than 769 naturalized species are listed in the flora of Melghat belonging to about 400 genera representing 97 families. It includes 90 tree species, 66 shrub species, 316 herb species, 56 climbers, 23 sedges and 99 grass species. Quite surprisingly, there are enough evidences of presence of species in Melghat that are found in East and North East India, Himalayas, Jammu, Kashmir and Hills of Uttar Pradesh!

The rare plant list of Melghat includes *Convolvulus flavus, Utricularia striatula, Drosera indica* along with many species of orchids like *Vanda tesselata* and *Aerides maculosum*.

Species with extremely restricted distribution, *Achyranthes coynei* or the species *Ceropegia oculata* which is endemic to Maharashtra and is also endangered are testimony to the rich and varied habitat this reserve provides to a variety of plant species.

The forests also provide niche to insectivorous



plant species like *Drosera indica*, rare species like *Sruithia bigemia*, medicinally important plants like *Habenaria* and *Senecio spp*. Top: *Careya arborea*, also known as Kumbhi in Hindi and Slow Match Tree in English is found in Melghat. Facing page: A Banyan tree inside the fort of Narnala on a foggy day.



Teak (Tectona grandis) is a dominant species of Melghat. Teak has long growth season and needs good moisture and nutrients for its good growth. The nutrient rich soil of along with higher rainfall along the plateaus and northern gentle slopes of main Gavilgadh ridge supports good teak forests. The alluvial deposits along Tapti in Rangubeli and Dhakna area support good teak forests along with bamboos. The places with inclined slopes, where the moisture condition deteriorates, teak trees are soon replaced by Salai (*Boswellias errata*) and Tiwas (Ougeinia oogeinensis) and other timber species like Bija, Haldu, Saja, Dhawda, Ain, Lendia etc. Other important tree species are Moha, Tendu, Achar, Amla, Behada, Bhilawa, Bor, Mango, Khair, Jamun, Apta, Bel, Kulu etc. Weeds like Tarota, Achyranthus, Rantulsi, Lantana etc. form thick undergrowth, fighting for space and sucking up nutrients from soil thus become detrimental to the tree regeneration.

The most interesting of all is the ethno botanical species that are found here and regularly used by the tribals here. A study conducted in Melghat by Khaire and Giri (1992) has recorded information of 215 plants being used as medicine by local people. These contain 64 trees, 27 shrubs, 29 climbers, 2 grasses and one bamboo. A further

#### Ceropegia odorata

Common name: Fragrant Ceropegia Marathi: Sulatya Kand Botanical name: Ceropegia odorata Family: Asclepiadaceae (Milkweed family)

The fragrant Ceropegia species plant was first discovered in 1839, near Salsette Island close by to Mumbai. In 1977, it was found by plant expert named Ansari, in the Tarubanda forest area of Melghat. It is also the rarest Ceropegia; a critically endangered species, as it is known only from four localities in 165 years since its first reporting. So far, it has been found only in four places across the whole world and that too only in the Western Maharashtra within India.

Ceropegia odorata has disappeared from most of the areas across the globe due to human interventions. It can only be found in areas which are almost or completely

inaccessible for humans. The flowers are of a light colour in the lower part, sometimes a bit beige or pinkish, the united petals are yellow as corn. Fragrant Ceropegia is probably the only Ceropegia, whose flowers have a strong fragrance, hence the species name odorata. The flowers bloom only for some days and exhale a very strong jasmine scent. Tribals use this plant as medicines. The leaves are chewed to cure stomach pains while the juice from the tubers is used as eye medicine. Furthermore the tubers are also eaten as vegetable.

study over the period has resulted in addition of over 100 species to the list.

Facing page: A typical landscape of Melghat near Harisal lined with dominant species teak (*Tectona grandis*).











#### Ethnobotanical Species: The Medicinal Miracles of Melghat

The modern curative therapies, medicines and diagnostics equipment are the luxuries we live with in today's world. However, for the tribals of Melghat these are far too costly options, beyond their physical reach and largely unheard of. So how do they survive in the jungles and cure the complex ailments such as diabetes? Well, mother nature has blessed her prodigal child with bounties. Apart their inherent tough immunity, the locals and tribals here rely on the herbal remedies through medicinal trees and plants that the forests here provide them with. You will be surprised that these tribals through the ancient wisdom and knowledge passed on to them have treatmentsfor many of the aliments. Their medicines are largely oral or locally applicable along with concoctions, which form their regular dietary supplements. The medicines are made of fruits, leaves, seeds and roots of the plants. For example, the cure for diabetesinvolves the use of *bel, sitaphal* or *bouganvilla* leaves or seeds, the bark and fruit of *jamun* or even the whole plant of *sadafully* is used as cure. The other disorders covered are hair loss and other hair ailments. Imagine such cheap naturopathy curatives versus modern world's medicines with side-effects or costly patch work of hair transplants. Melghat, its forests and its people never ceases to surprise you!

#### Some of the important medicinal plants are given below :

Sr. No.	Scientific Name	Local Name	Туре	Ethnomedico Use
1	Abrus precatoriua	Gunj	Climber	Roots- cough, sunstroke
2	Acacia farnesiana	Guababul	Shrub	Leaves- sperm concentration
3	Celastrus peniculata	Malkangani	Climber	Seeds- brain tonic paralysis- rheumatism, Leaves- menstrual disorder, Root- snake bite
4	Gloriosa superba	Kal lawi	Climber	Root- activates delivery, seed cancer, Leaves- lice control
5	Holarrhena pubescens	Kalakuda	Tree	Bark- dysentrey, stomachache, piles, chest ache, etc.
6	Hymenodictylon excelsum	Bhavarsal	Tree	Inner bark- antipyretic- discongestant, appetiser, etc.
7	Litsea glutionosa	Maidalakadi	Small Tree	Leaves- nutritious diabetes, kidney stone, Seed oil extract- sprains
8	Radermachera xylocarpa	Khadshinga	Tree	Oil- dermothereptic, Seed against snake bite
9	Terminalia chebula	Hirda	Tree	Fruits- improved digestion, teeth strengthening



Top: Cuckoopint (Arum maculatum)

Facing page (clockwise): Ghost Tree (Sterculia urens), Tendu Tree (Diospyros melannoxylon), Mahua (Mahua longifolia), Devil-pepper (Rauvolfia tetraphylla)



However, unlike galactic cosmos, flora cosmos of Melghat is not expanding. Rather it is shrinking due to direct and indirect human activities. The unprecedented timber production in the past, the rampant cattle grazing, fire and illegal trading of forest produce has implications not only the floral world. There is an inherent need to protect this floral bio-diversity for the sustenance of the food chain across all levels, including that of apex species like Tiger. Forest Department has major efforts going on in habitat management, water management, village rehabilitation as well as protection to safeguard this cosmos. Nonetheless, there is a need for bigger support from tourists and individuals to make it a complete success. We humans need to exercise caution and practices that will protect this cosmos for the sustenance of our own future. The onus of expanding this cosmos lies with us now.



Top: Flower of Indian Screw Tree (*Helicteres isora*) Facing page: Miniature Melghat. Early morning due drops on a blade of grass resembles pearls of nature.



#### Melghat - A unique habitat harbouring rare and endangered wildlife

Melghat Tiger Reserve forms an important extension of the Satpuda Hills into the west with its typical geological formations. It harbours a viable population of tigers (*Panthera tigris*) and of the endangered gaur (*Bos gaurus*). It also harbours a number of other faunal species some of which figure in the IUCN Red Data List. These include wild dogs (*Cuon alpinus*), the jackal (*Vulpes bengalensis*), sloth bear (*Melursus ursinus*), leopard (*Panthera pardus*), caracal (*Felis caracal*) and honey badger (*Mellivora capensis*).



Melghat is also home to exotic species like flying squirrels, tree shrew and thick-tailed pangolin. There are 37 species of mammals and several species of reptiles recorded in Melghat.

The reserve is also very rich in avifauna with 265 species of birds including the recently rediscovered forest owlet (*Heteroglaux blewitti*). Because of the role this area plays in their conservation, Melghat is categorized prominently under Global Important Bird Area (IBA). Species like lesser kestrel, forest owlet, green munia, white-backed vulture and long-billed vulture are reported from here. The congregative bird species include blossom-headed parakeet, rose-ringed parakeet, crimson-fronted barbet, and malabar whistling thrush.

cliffs and crevices of these hills form an ideal habitat for the raptors, providing them a vantage to observe and track the prey from those heights. Melghat is known for its raptor population and

Facing page: Indian Gaur (*Bos gaurus*) forms one of the main preys of the big cats.

#### The Animalia World of Melghat

Like the flora-diversity of Meghat, the Animalia world here too is defined by its geology. However, its nature and distribution is defined by the forest cover and the extent of plant species. The food chain is set in motion by the plant species, the terrain and the water nexus. The wild herbivores chose their abode on the basis the availability of their favourite plants as food and even as shelter. Gaur, a shy animal by nature, largely chooses its habitat depending on the distribution of Heteropogon ritchie, due to the shelter it provides owing to its height and thick growth. Nilgai are grazers and about 40% of their diet comes from grasses and shrubs. Thus, they prefer open grasslands and are often found near human habitats and their fields. Additionally, open landscapes provide them safety from the ambush predators like tigers.

Animals also choose their habitat in keeping with the terrain, exploiting the different altitudinal zones within the forests for food and safety. The upper hills provide a inhospitable habitat for the wildlife. These altitudes comprise of grassy balds (Ballas) with sparse tree growth, flanked by steep slopes and scanty water supply. However, the









places like Narnala are popular sighting spots for the raptors like crested serpent eagle and brown fish owls. Sambar, gaur, barking deer, wild pigs and chausingha normally remain confined to the middle hills, which offers rich floral diversity and adequate forage to the wild herbivores. Chital avoid hilly terrain and thicker forests as these obscure fleeing at the maximum speed. Hence in the Melghat landscape, chital are usually found in the lower hill zones.

However, the most preferred regions are gentle slopes that facilitate free movement of animals without exhaustion. Additionally, the area acts as a catchment for the rain waters drained down from hills and valleys, filling the reservoirs for the dry summer days.

The factors that govern the herbivore distribution in turn govern the carnivore habitat and its distribution. Each predator choses its habitat depending on its prey dynamics – ease of availability, ample density and meat portion size. Tiger prefers sambar and gaur owing to their size as these animals contribute 70% of its diet in terms of biomass. A single kill of sambar or gaur takes care of meat ration for a week or 10 days. Leopard prefers chital and langur owing to their



Top: Crested Serpent Eagle (Spilornis cheela). Facing page (clockwise): Sloth Bear (Melursus ursinus), Rhesus Macaque (Macaca mulatta), Common Kestrel (Falco tinnunculus), Indian Gaur (Bos gaurus).



Top: Indian Softshell Turtle (*Nilssonia gangetica*) found near fresh water sources in Melghat.

manageable prey size for hunt and ease of availability. Ferocious wild dogs can pounce on prey of any size but they prefer hunting chital. Apart their abundant number, chitals preference of flat and open lands for dwelling is conducive for their pack hunting dynamics; a team work that requires visibility of its partner and high level of coordination that can be easily done on flat lands. The abundance of the prey base and its varied distribution across the terrain has made Melghat an ideal habitat for the carnivores. The popular hunting grounds for tiger are around Narnala, Mandikua, Dolaram, Rabangnala to Keli, Semadoh - Raipur, Kuwapati, Adhao-Dakna, Raksha etc. Leopards are found in fair number, especially around Marita, Jarida, Khatkali and Rangubeli. Wild dogs occur in fair numbers particularly around Chunkhadi, Raipur, Koha, Koktu, Gobiya etc. Scavengers like striped hyena and jackals are also observed in fair number and range widely across the reserve.

The water world of Melghat gives a lease of life to a multitude of species that co-exist and create a diverse ecosystem. In addition to providing relief to the parched throats of mammals and birds, the reservoirs of Melghat are excellent breeding grounds for aquatic birds, insects, amphibians,

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#### Asian Palm Civet Cat



Common Name- Asian Palm Civet Scientific Name- *Paradoxurus hermaphroditus* Family - Viverridae

The Asian Palm Civet is a small cat-like native to South Asia. Asian palm civet is an omnivore. It feeds only at night because of its nocturnal attitudes. It is arboreal and its activity habits are determined by the availability of the food and the activities of its feared predators.

Asian palm civet has big eyes, long, pointed muzzle, small ears, stocky body and long tail. It can reach 21 inches in length (not including the tail that is 19 inches long) and 3 to 10 pounds in weight. It is covered with dark grey, coarse fur. It has black markings on the feet, ears, muzzle and white markings on the face. Unlike other species of civet, Asian palm civet does not have rings on the tail.

Do you know? 'Kopi Luwak' is a type of coffee made of coffee beans that passed through digestive system of Asian palm civet (extracted from its faeces). With a price of 100 dollars per pound, Kopi Luwak is one of the most expensive types of coffee in the world. Sadly, this has led to their illegal trade to meet the growing demand of Kopi Luwak.

#### Indian Giant Flying Squirrel



Common Name: Indian Giant Flying Squirrel Scientific Name: *Petaurista philippensis* Family: Sciuridae

The Indian giant flying squirrel, also called the large brown flying squirrel or the common giant flying squirrel, is a species of rodent in the Sciuridae family. It has a rufous coat, grey underparts, and large round eyes. It is found in mainland Southeast and South Asia, and Southern and Central China.

They don't actually 'fly' as their common name may suggest ... they 'glide'! Their flying membrane extends from their wrists to their ankles, which enables them to glide from tree to tree. Even with amazing gliding abilities, they prefer short gliding distances because longer distances require broader landing platforms, which are not always available and the density of the forest may also prohibit lengthy glides.

Even though these species just glide, they are experts at it. They can glide over a distance of around 20 - 40 meters with ease, which makes it appear as if they are flying, and therefore, they are called flying squirrels.





and aquatic mammals like otters or reptiles like crocodiles. One of the most diverse species on Earth - the fishes - plays a crucial role in sustaining this eco-system. Melghat harbours close to 100 species of fishes including the *masheer*. The miniature insect worldof the Melghat is vivid and most active of all its life forms. Not only do they churn the soil and mix minerals to create lifegiving compost for the flora, they also bring about a balance in the ecosystem by infecting and killing trees as well as animals, thus making them food for the hungry others. Their humongous abundance and vast diversity forms the central link to the jungle's instinct of preservation. Melghat is home to a wide range of insects as well as major species of arachnids, including *tarantula*! Together with the parasites and the fungi, the insects set in motion a food chain right from flowers pollinating and becoming meals for a multiplicity of birds and animals. Many more miniature life forms are hidden in the Melghat Tiger Reserve, waiting to be discovered.



#### Poecilotheria Chaoji

In 2013 a naturalist Anirudh Chaoji while visiting Melghat chanced upon a new spider species. The spider instantly caught his attention on account of its different appearance. On further research at Natural History Museum in London it was found that the species was different from other known species due to the unique patterns of its leg bands.

Although the spiders of this new species are similar to other known genus of the family such as P Tigrinawesseli and P Formosa, the spider species found by Chaoji differs in the unique black and white alternative bands on the underside of its legs and has three thorn-like tubercles near its mouth.



Top: Indian Chameleon (*Chamaeleo zeylanicus*) bestowed with the power of camouflaging. Facing page Top : A beautiful caterpillar representing the one of the stages of metamorphosis. Bottom: Termite Hill Gecko (*Hemidactylus triedrus*)

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#### The Teak Tale: A Snapshot of Changing Landscape of Melghat



Historically, Melghat has always been described as an area with rich, teak-dominated forests, a plethora of fauna and flora, and a terrain with hills, valleys, gorges and rivers. The tribals living here were known to be sensitive to the ecological balance of their land, thanks to their pro-nature customs and traditions.

The large-scale exploitation of the forest resources of Melghat started in 1853 with the British. Recognizing the real value of this extensive tract of teak forests, they made in-roads into this region to harvest this timber. They also formulated an administrative plan for the effective resource management of this timberland. Sadly, in all the working plans for Melghat, no emphasis was laid on this adverse impact of teak plantations on the wildlife. The practise involved a highly selective conservation of best teak patches in the forests by not allowing those to be felled by the local population. These selected areas were further supplemented by planting as much teak as possible. The problem with this was that there was increasingly less space available for the development of the patches with grasses for the grazing herbivore

population. This not only affected their distribution and population but also had a direct impact on the carnivore population, particularly that of the tigers in these areas.

During the pre-British era, Melghat with its hilly terrain was inaccessible for a large scale illicit cutting or commercial poaching. The lack of a road network was a huge preventive factor in this case. However, for the transportation of forest produce towards the plains of Berar, the British established two major road networks – one at Seremban on Paratwada-Dharni road and the other at Rajdeobaba on Harisal-Akot road. Today, these two roads have been converted into state highways and are the busiest roads entering and leaving Melghat.

With passage of time, more roads were made within Melghat following the conversion of forest villages to revenue-earning villages in 1969. This led to the construction of even more roads and bridges. Subsequently, most remote villages of Melghat were connected when nightmare of malnutrition loomed over the villagers. The two state highways and tar roads that connected various villages and towns turned places like Dharni, Paratwada, Akot, Chikhaldara and Semadoh into market places.

Today, however, these very roads are a very serious threat to wildlife in the Protected Areas. The speeding vehicles on the two highways and also on the internal network kill several wild animals crossing them. Neighbouring villages in Madhya Pradesh have been found making attempts to gain access to places like Raipur, Bhutrum, Belkund,



Dhargad, Bori, Ambabarwa etc. through these internal roads.

However, the Forest Department has taken full control of the area and has put a stringent system in place to check the vehicular movement along these roads. With regular security, the department keeps its eyes peeled for people and vehicles indulging in any illegal activities like poaching, fishing and trading of forest resources.

Today, all important entry points having regular traffic movements are being manned for 24 hours to ensure proper checking. Check gates are operational for controlling heavy traffic on the highways passing through the core area. On the other entry points in the reserve, where traffic is not heavy, forest staff is posted as per necessity. Road barriers have been erected in some cases.

Right: The monsoon covers the bark of trees with moss like this Mango tree (*Mangifera indica*) near Chikhaldara.



The scenic beauty from 'High Point' during monsoon on the way from Akot to Harisal.

# The Spirit of Melghat



Rise

of a

Phoenix -

**Forest Owlet** 



#### **Rise of a Phoenix-Forest Owlet**

Scientific Name: *Heteroglaux blewitti* Common Name: Forest Owlet Vernacular Name : Duda

This is not an ordinary owl. Don't judge it based on its size (24 cm). This small owlet is among the top seventeen birds in the world that are in the endangered category. Endemic to India and with an estimated population of less than 250, the Forest Owlet is marked as critically endangered in the IUCN Red List.

Its story of extinction and rediscovery is extraordinary. Forest Owlets were believed to be extinct for over 100 years. The first specimen of this bird was collected in December 1872 in Madhya Pradesh by F.R. Blewitt. This new kind of bird was named *Athene blewitti* after Mr. Blewitt. After the first discovery, six more Forest Owlet specimens were collected from the India between 1872 and 1884, four of which came from Mr. James Davidson, who had found them in Central India. Subsequently there were many sightings of Forest Owlets reported all over India, but all of them were quantified as mistaken identity cases because of how similar the Spotted and the Forest Owlets looked. Like that of the Holy Grail, the trail went dead and Forest Owlet was considered extinct. A plot-twist arrived by the name of Richard Meinertzhagen in 1961. Mr Meinertzhagen claimed he had rediscovered the bird, and declared that he had collected the specimen way back in 1914 from Mandvi in Gujarat. This led to a wild goose chase for the discovery of the Forest Owlet. It was Pamela Rasmussen, an American ornithologist, who solved the mystery during her research on Forest Owlets - Richard Meinertzhagen had stolen Mr. Davidson's specimen from the museum and had resubmitted it as his own! Nonetheless, Pamela Rasmussen went on a rediscovery quest in 1997 to a few of the old described sites and finally spotted one bird in the Satpuda foothills. The forests of Melghat have also

since then reported a few of these Forest Owlets. A forest guard 'Faltu' was the one who first identified the bird and its location in Melghat. Faltu mentioned spotting this rare bird since his childhood and knew it as *Duda* (meaning owlet in Korku language).

One question, however, remains- why was it so difficult for ornithologists to trace this bird before 1997? Apart from its rarity, perhaps the Forest



Owlet's peculiar diurnal activity might have thrown the quest off-track. After all, owls are always recognised as nocturnal and most of the search operations were carried out at night. Furthermore, at first glance, Forest Owlets look very much like Spotted Owlets (*Athene brama*). The differences come to notice after a more careful look: Forest Owlets have an unspotted crown, full throat collar, and thickly feathered legs. They also have a lateral tail flicking habit and undulating flight. Recognizing its unique characteristics, taxonomists created a unique genus, *Heteroglaux*, for this single species. Truly, it is a story very much like that of the rise of a phoenix!



Hairy

Heirs of

Melghat -

**Sloth Bear** 



### Hairy Heirs of Melghat-Sloth Bear

Scientific Name: *Melursus ursinus* Common Name: Sloth Bear Marathi Name: Aswal

The sloth bear, also known as the labiated bear, is an insectivorous bear species native to the Indian subcontinent. If you have read Rudyard Kipling's *The Jungle Book* or watched the Disney adaptation, you would have fallen in love with its pivotal funny character called Baloo the bear. The name Baloo comes from the Hindi word for bear *– bhalu*. However, Disney' was inaccurate in their depiction of Baloo, for its size and looks were more like a grey bear.

The sloth bear is more compact in size. It dons a shabby long black coat, which waves in an unkempt fashion as it ambles in its usual absent-minded trance. It has a distinctive pale and short-haired muzzle, which acts as a warning for you to not go rushing for a big bear hug. Standing up to 7 feet tall on its hind legs when provoked, this shy insectivorous weighs roughly between 100 and 200 kg (females weigh upto 100 kg and males upto 200 kg) and is armed with sharp teeth and

disproportionately long curved claws. An otherwise peace-loving creature, it uses long claws to extract termites and ants while its elongated muzzle has a specifically adapted lower lip and palate which it puts to best use to suck out these insects. A creamcolored or white V or Y shape usually marks their chests. The reason for this characteristic is unknown but it is considered that sloth bears use it as a threat display, especially for tigers. Although an insectivore, their size and aggression makes them a formidable challenge for tigers.

Another very interesting fact is that sloth bears may supplement their diet with fruit and plant matter. In March and April, they eat the fallen petals of *mahua* trees and are partial to mangoes, sugarcane, jackfruit, and the pods of the golden shower tree. When feeding their cubs, sloth bears are known to regurgitate a mixture of half-digested jackfruit, wood apples, and pieces of honeycombs. Sloth bear is the only known species of bear that carries its cubs on its back.

Sloth bear is one of the flagship species of Melghat and is found in good numbers across all the ranges. Melghat, with its distinct terrain and ample food supplies, is one of the few protected refuges for the sloth bear.



## The fateful bear attack of Jarida - 2010

Jarida was witness to a gory bear attack in August 2010. On the fateful evening the bear entered the village

wounding and killing 4 people including a teacher, a student and a forest guard Mr. Abhijeet Wakode on his first day of duty at Jarida. The bear was neutralised within 2 days as the attack shook the inhabitants of Melghat. It brought out the dangers of man animal conflict to fore. It led to more awareness campaigns in the villages and also proper protection measures for forest camps.







## Covert Dominion of the Eluding Tigers of Melghat

Species: *Panthera tigris* - Tiger Sub species: *Panthera tigris tigris* - Bengal Tiger

As per the National Tiger Conservation Authority and Wildlife Institute of India studies in the Central Indian landscape, the tiger population is distributed in 17 populations. The Central Indian Landscape complex consists of 11 separate landscapes out of which 4 have potential to sustain meta-population of tiger. Melghat landscape is one of these four. Melghat is an integral part of the Satpuda-Maikal landscape (SML). SML is one of the most important regions of the world for wild tigers. This Tiger Conservation Landscape (TCL) is home to 12% of India's tiger population and comprises 13% of the suitable tiger habitat in the country. It is classified as a global-priority TCL due to its potential for providing sufficient habitat, genetic diversity and spill over population dispersal that will allow the long-term sustenance of tigers.

Tigers have been an integral part of Indian religion and history. A tiger has appeared as a vehicle of Goddess Durga and on a seal found in the



excavations of Indus Valley Civilization. In modern times, it has become a national symbol for the country. The first pictorial evidence of tigers among

Top: Caves and crevasses offers a perfect shelter for the big cats. A tigress peaks out of one such lair deep in the forests of Melghat.





humans exists as 10,000-year-old paintings in the caves of Bhimbetka in Madhya Pradesh. Tigers were integral part of Indian landscape and dominated every forest of this subcontinent. However, once numbered over 1,00,000 in 1800s, the tiger population of India dropped to mere 1800 in number by 1972, due to incessant poaching for tiger products and game hunting. This led to the launch of biggest ever conservation program for a single species – Project Tiger.

Today Melghat is home to over 50 tigers. Their dominion extends across the entirety of the protected areas and the buffer zone. However, the tigers of Melghat are extremely elusive. To best describe their stealth and innate ability to disappear into thin air, we need to read the famous paragraph by Jim Corbett from his book Man Eaters of Kumaon:

> Minutes passed, each pulling my hopes down a little lower from the heights to which they had soared, and then, when tension on my nerves and the weight of the heavy rifle were becoming unbearable, I heard a stick snap at the upper end of the thicket. Here was an example of how a tiger can move through the jungle. From the sound she had made I knew her exact position, had

kept my eyes fixed on the spot, and yet she had come, seen me, stayed some time watching me, and then gone away without my having seen a leaf or a blade of grass move.

Tigers of Melghat are extremely shy. Perhaps this has lot to do with the human interface in the form of many villages present in and around Melghat. Long ago there used to be a shooting block system in the Melghat, established during the British. Blocks of reserve forest with abundant wildlife were opened for shooting. Evidently, Melghat was a much sought-after game reserve and the tiger the most sought-after trophy. However, the trend continued even after the British left India. In fact, one of the records shows that during the post-Independence era, as many as 53 permits alone were issued in the year 1955-56. It was much later, through the Wildlife (Protection) Act of 1972, all shooting blocks in Melghat were declared closed for shooting. The ban, which came into effect on 1<sup>st</sup> June, 1973, was later extended to include all other wildlife.

Today, these tigers roam every inch of the landscape and exert their dominion on all the subjects. The camera trap records are the testimony for the same. Narnala fort is ruled by a resident tiger who is kind enough to reveal his presence to lucky few. The



conservation efforts of the Forest Department towards protection of these royal animals are full of challenges owing to tricky terrain and presence of villages within the sanctuary. Yet, the department is doing its best using all possible methods and leaving no stone unturned. The testament to this effort is the unique Tiger Cub Experiment.

Top: The famous camera trap photo of tiger in the Vairat plateau near Chikhaldara.

Facing page: Camera Trap photos of the tiger family including two cubs and the mother who have made the Jaffrabad lake on Narnala fort their home.



Unique

Tiger Cub

Experiment



#### Unique Tiger Cub Experiment:

This is a story of an orphaned cub and its survival under the intense protection of forest department. It is a story of faith, dedication and honest intent to protect and conserve the nature. A tigress was found dead on 27th May 2016 in one of the isolated caves of the Chikhaldara Range, Gugamal Wildlife Division of Melghat. After forest department performed the cremation of the carcass of the tigress in the vicinity, the returning last party spotted a tiger cub nearby. However due to the difficult terrain and onset of night hours, further search operation was abandoned. Nonetheless, Forest Department thoroughly searched the area for coming three days through foot patrolling and by deploying camera traps at the cave. All this was carried out to rescue the cub and ensure its survival against various life forms and forces of nature. In addition, forest department came up with an innovative idea for experimentation. The experiment aimed at protecting and rearing tiger at the site in its natural surrounding rather than relocating it into human facilities.

Forest Department appointed a dedicated team of 4-5 forest guards for this experiment, which was



closely monitored by senior officials. Experiment started with keeping small chunks of boneless chicken in the cave from the evening of 28th May 2016 and began monitoring it regularly through visits and camera traps. For the initial days, department found only pug marks of the cub. However, the team was ecstatic when they obtained the first set of camera trap photos of the cub on 1st June 2016. Forest Department decided to further pursue this experiment by regularly providing food and monitoring the cub's activity. Chicken pieces were put every day. They were up for a big surprise!

Top: The treacherous landscape which was home to the tiger cub, the subject of the unique experiment. Facing page: Food like chicken was hung from a height inside the cave which was the home of the cub.



Camera trap and on-site indirect evidences revealed that the chicken was shared by various animals. Civet cats were the regular visitors. So were the treepie, mongoose, porcupine and langur who feasted on the chicken chunks. A random sloth bear also visited the cave but of course did not eat chicken.

The chicken actually became a problem because of its sly shareholders. Department toyed with various ideas. It included hanging dressed chicken at a height to reduce raids by civet and mongoose. Variation was also tested by putting an undressed chicken to reduce the raids of civet in particular. As the camera pictures revealed, our little tiger cub had to wait till the civet took its small share before leaving behind the major portion.

Attempts were made to trap the civet by putting traps. But it resulted in making tiger cub cautious and it stopped visiting its regular dining spot due to the addition of new foreign object. Finally trap was removed and civet cat continued to enjoy its sneaky snacks. Not for long though. As the tiger cub grew, it started displaying its natural instinct for dominance and chased the intruder. The civet cat would still sneak in but not with the same elan as it used to earlier. There is a funny camera trap records of civet getting chased by the tiger cub.



Forest Department increased the quantity by putting two chickens to satiate the appetite of growing cub. While option of putting meat of goat or other animals was tried couple of times, it was avoided to reduce the chances of inviting other adult tigers. There were anxious moments when bigger mammals like sloth bear, leopards or a chance adult tiger were spotted on the camera. Nonetheless, tiger cub visits were regular and it consumed chicken with a gap of one or two days and sometimes the gap extended to 5-6 days.

Top: Camera trap captures the tiger cub and the palm civet which was trying to steal a morsel from the chicken. Facing page (clockwise): One of the first photos of the cub. Guards regularly trekked the steep terrain to place food for the cub. The grown up tiger is recaptured in the cameras in the same place one year later again with his fellow inmates, the civet cat and a mongoose.



Top: A camera trap photo of the grown up cub captured in a different location away from his home. Right: Camera trap captures the sloth bear which must have injured the forest guard Suresh Kasdekar. However, after 15th November 2016, the tiger cub was not spotted at the site. A thorough search operation was launched in the vicinity without much success. Even the indirect evidences like scats were not found, making it difficult to locate its resting place and range of movement. The search continued till the 17th December 2016. However, there was a recent sighting of the cub grown to its adolescence on 4th January 2017.

This unique experiment has given tremendous learning to the Forest Department:

- Immediate camera monitoring is vital and best not interfering procedure
- Involvement of whole department, especially of senior officials, ensured rigorous monitoring and collective wisdom for the improvisation as per the changing situation
- Risk of monitoring in difficult terrain and wilderness areas never cease to exist as was seen in the case of forest guard Suresh Kasdekar.

The most important learning was - nature needs minimum human intervention for its survival. Tiger cub survived all on its own but for little help of food supplies and protection from human disturbances.

We hope our little tiger is out somewhere roaming in the picturesque landscape of Melghat and will soon announce its dominion by carving out its own territory.



5/31/2016 3:03 PM



During one of the patrolling efforts of the tiger cub experiment, on 21st November 2016 forest guard Suresh Kasdekar (STPF or Special task protection force) was badly injured in a sloth bear attack. The attack was gory as the bear had mauled his face completely, fracturing his cheek bones and eye orbits. Suresh was almost blinded as his eyes were gnawed.



Suresh was carried from the spot single handedly on foot by his follow forest guard Ravi Ewnate to the nearest village 5 kms away. Deputy Conservator of Forest of Gugamal and Amravati Division were promptly informed of the situation and they swung into immediate action. They ensured that Suresh would get fastest and the best available medical assistance and treatments.

Suresh was offered first aid in rural hospital at Chikhaldara followed by blood transfusion and stitches at Civil Hospital in Amravati. Later, he was rushed to Nagpur for advanced surgeries from a team of specialists that included plastic, eyes and ENT surgeons.

Today, Suresh has recovered eyesight of both his eyes while plastic surgery of cheek bones and eye orbits has been carried out. Plastic surgery of nose will be done soon. Complete treatment will take many months. Suresh has recovered from most of his major injuries, except for the face disfigurement. The dedication and valour of such foot soldiers and the other protectors of the forest is indispensable.



## Tribals

of

Melghat



#### **Tribals of Melghat**

India has the largest concentration of the tribals in the world after Africa, contributing about 8 per cent of the total population. Over half of the tribal population is concentrated in five states viz. Madhya Pradesh, Bihar, Odisha, Maharashtra and Andhra Pradesh and almost extinct tribes in Andamans. In Maharashtra the tribes predominantly found are the Madia Gond, Mandas, Korkus, Kolams, Pradhans and Andhs-Pardhis.

While you are exploring the picturesque Melghat and its wildlife bounties, you will be amazed to discover its rich tribal and cultural heritage. Often while crossing a village of Melghat, you will find painted logs rising from the ground outside the village. Don't take them for a decoration piece or sign post - those are the 'Mundas' i.e. structures erected by the Korkus in remembrance of the dead. If you are somewhere near Chikhaldara or Gavilgadh you can get the best dried whole milk (Khoa) made in most households. As you explore more of Melghat and its people you will find that it is a flourishing home for the tribals.

The inhabitants of Melghat are predominantly scheduled tribes. These include Korku, Gond and Nihal. The remaining population is made up of Gawli and other small tribals. While Gond is one of the most dominant tribes of India, its population is sparse in Melghat. You will be surprised to know that majority of the tribals residing within the Melghat are Korkus. They are almost 80% ! Other than the mentioned 3 tribes, there are Gawlis and Balai. Gawlis are traditionally cattle rearing community with their majority of livelihood coming from selling milk and milk products as well as producing farmyard manure. They largely throng areas around Chikhaldara. Gawlis uphold their ancestry to Krishna of Mahabharata era. Balai, who are settled in the villages, located in the sanctuary have been following agricultural practices, though traditionally they used to scavenge in the villages.

Nihals, the original inhabitants or the aborigines of the Melghat region are surprisingly very low in numbers today. This can be owed to their subjugation by Korkus who first came from the Berar. Gradually the latter caste lost their power and became the village drudges of the former, fast losing their language also with the younger generation speak Korku or Marathi. The research on languages then indicated that in Amravati, Korku language speaking population was more than the actual population of Korku. Deep diving in the studies indicated that another tribe, Nihals have also started



Tribal have been an integral part of Indian culture and mythology. In fact in vernacular language, '*adivasi*' implies original inhabitants and is designated as indigenous people. There reference has been made in the epics such as *Ramayana, Mahabharata* and *Puranas* (folklore). There reference was usually made as hill tribes or as a warring faction in the form of devils and beasts.

Few of the eminent historians have concluded in their researches that Ravana and his clan were an aboriginal tribe, most probably the Gond and the Vanaras, like Hanuman in the epic, belonged to the Savara and Korku tribes whose descendants still inhabit the central Indian forest belt. Even today, the Gond and even Korku hold Ravana in high esteem as a chief and worship him.

Facing page: Korku tribals celebrating during festivals around the tall pole machan type structure which they call Meghnad.



speaking in Korku. Similarly it was found that the other major tribe of the region, Gonds too have started speaking in Korku. Korku language influence can be seen in Melghat through the names given to quite a few regions, including the name for river-Sipna.

#### Korkus of Melghat

Korku literally means an assembly of humans - 'Kor' means human while 'ku' means plural of 'Kor'. They can be identified easily by their physical features and the use of Korku dialect. Dark complexion, black eyes, flat nose, thick lips, round face, well built body, curly hair distinguish them from another large tribal group the 'Gonds'.

The distribution of Korku tribe is largely in Mahadeo hills of Madhya Pradesh and Tapi valley in Melghat. Melghat is the flourishing home for the tribals, especially for the second generation of Korku tribals. Unlike other aborigine populations on decline with few almost on the verge of extinction such as that of Andamans, the population of Korku tribal in Melghat has grown from 1,07,015 in 1880 to 1,37,911 in 1990. They are largely residing in Amravati alone (1,13,800 Korkus).

Korkus are deeply connected to the nature through



their religious beliefs, customs and traditions. Korkus worship the sun and moon whom they regard as male and female deities. As a religious practice, Korkus don't have temple structures. They may smear a red or orange vermilion with oil on certain stones in and around the village as well as along the adjacent forest, and endow them with the names of their divinities. They refer to god as *Gomaj*. Thus, the sun is called *Diya Gomaj* and moon *Rato-Gomaj*. Thus *Dongar gomaj stands for the* god of the hills and forests, *Kulla gomaj* god of the tiger, *Mutua Gomaj* special village god or household god and so on. Korkus also are *Ravana* worshippers, who was known as the biggest worshipper of Lord Shiva. Thus, Shiva holds a place in various forms and shapes in their religious beliefs. Today, Korku religious practices have lot of Hindu influence as a 1911 study revealed that Korku have started worshipping Hindu gods, including Rama. Korku are known to have ancestral wisdom of astronomy and also of ethanomedicinal plants. Korkus prepare medicines for ailments like common cold to complex metabolism problems like diabetes using diverse flora species found in Melghat. The Korkus have a strong bond with the nature. So much so that their sub castes and family names are based on objects and trees of forests! One of their lore mentions of a story where god had assembled Korku people for a war and it was there that to each was assigned the name of the animal, tree or whatever it might be near which a Korku took up his position. The tribe is divided in 4 main groups and 36 clans with the name of each clan based on object of the nature. few e.g.

Clan	Totem
Atkom	Egg
Kasda	Earth
Jhara	Grass
Jambu jo	Jamun fruit
Totamaka	Corn field
Silu	Crab
Dhikar	Small fish
Dhapadi	Bank of river
Bhusum	Bel tree
Bachhan	Name of a bullock

Top: A Korku worshipping place in the forest.

Facing page: A Korku male working in the fields during the wet season.











If you are visiting Melghat during the autumn, you must take out time to see the Korku culture in its full glory. The month of autumn or Ashwin (as per lunar calendar), a period overlapping September and October, is of major festivities for Korkus. They assemble together by night, dressed up traditionally and celebrate by singing Korku songs or by dancing to the beats of a drum called dholki and melody of a pipe called pungi. You can even join the celebrations and dance with the tribals!

This page: The Korku art and culture is depicted in their jewelleries as well as in their foot tapping dance. Facing page: Various aspects of religion and culture of the tribals are visible all across the landscape of Magical Melghat as they try to match their lifestyle with the modern world.

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# Harisal:

India's First

Ideal

Digital Village





energy to reduce reliance on generators. E-market place has been provided to get fair price of the crop produce. Various other services are being provided to improve the access to basic facilities. Finding a modern functional bank inside a forest is some sight to behold !

The village is already an ideal candidate for the Prime Minister's Award for Excellence in Public Administration. However, the hall-of-fame honour for Harisal will be achieved when 54 villages around Harisal and many more such villages across India replicate it's the success story.

#### **Courage Under Fire**



In extinguishing the fire, the forest staff has to brave adverse odds and sometimes put their lives in danger. It is worth mentioning that a stone memorial is erected at Harisal bus stand in memory of Forest Ranger Nazir Mohammed who served for twenty years in Melghat Forest Division and who was severely burnt while extinguishing forest fire on date 15/02/1935 and died on 23/02/1935 in Amravati hospital, reminding others of his courage and devotion to duty. His tale of courage and sacrifice is a source of inspiration to all foresters.

Facing page: India's first digital village Harisal is equipped with free wifi for its people as well as services.

In search of water - Chowrakund

The Famous 'Chungroo Bazaar' at Hatru



# Rehabilitation: Where Man has made way for the Jungles.

"The greatness of a nation and its moral progress can be judged by the way its animals are treated."

- Mahatma Gandhi

Human is the single most dominant species on Earth. The existence of most other species on this planet in an outcome of the actions of us humans in our efforts to survive and dominate the world. Yet world over there has been instances where humankind has taken that extra step to make way for the animals and birds which also incidentally are fighting a difficult battle to coexist in this era of modernisation.

Previous to the turn of this century the deep forests of Melghat was inhabited by over 30000 people making their homes in over 33 villages. The people who were mostly tribals depended heavily on the forests nearby for their sources of livelihood. As the generations of these inhabitants evolved and the shadow of modern technology and its accompanying luxuries began making its presence felt to these inhabitants they realised that by staying in the remote villages they were constantly fighting a battle for survival on many fronts. Basic amenities like water and electricity was difficult to reach them. Their crops which they cultivated was eaten away by herbivores like chitals, sambars and nilgais. There was a short come when it came to infrastructural development like roads, hospitals and schools which was necessary for their well-being. Modes of transport was few and unpredictable. Being a tiger reserve no industry could be set up in and around the forest area. Communication with the outside world was painstakingly slow. Their lives were in constant threat of attack from wild animals like the sloth bear.

Rehabilitation to places where such amenities were readily available and the world seemed on your doorstep was the only solution. Making a new home is a very difficult process. Added to it was the pain of the fact that they would be moving



Top: Shree Praveen Pardeshi & Mr. M. S. Reddy explaining the various schemes of voluntary rehabilitation to the villagers of Nagartas.

Facing page: Lush green meadows stand today at the place which was earlier inhabited by residents of Nagartas village.







away from a place which they had familiarised over past many generations. Yet good sense prevailed. A win-win situation was the need of the hour. Rehabilitation was a voluntary decision to be taken by the people and the pro-active policies of the Maharashtra Government went a long way to ensure that the decision was made easy. Melghat became a pioneer in rehabilitation work from forested areas and in the due course a vast area of land was made free from the influence of humans and today tigers and other animals roam these stretches of land. Jungle has taken no time to reclaim what was its own but was exploited by the humans for its survival. Nature is gradually regaining its long lost glorious form in these places.

Bori was the first village to be rehabilitated in 2001-2002 followed by the rehabilitation of villages of Koha and Kund in 2002- 2003. These three villages were relocated at Rajurgirwapur Tehsil, Akot Dist. to ensure that they did not move very far away from their roots.

In the second phase of rehabilitations villages near Chikhaldara viz. Vairat and Churni were rehabilitated around the year 2011-12. Around the same time villages in Akot division viz. Barukheda, Amona and Nagartas were rehabilitated. Post that almost one or two villages were rehabilitated every year and till date 16 villages have been relocated successfully from the Critical Tiger Habitat of Melghat Tiger Reserve.

Any rehabilitation work requires a lot of monetary provisions as compensation for each eligible family member of the effected village. Along with money there has to be intricate paper work to record even the minutest of details so that there are no loopholes left for the future. The dedicated staff of Melghat and the willing villagers have together rewritten the history of conservation and changed the geography of the region. The tigers are roaring again and the forests are looking green. This is the power of raw nature and the effect of us willing humans to co-exist with our fellow passengers on this space-ship named Earth.

Name of Rehabilitated	Rehabilitat-	Number of
Villages	ed in Year	Families
Bori	2001-02	20
Koha	2001-02	41
Kund	2001-02	33
Churni	2011-12	68
Vairat	2011-12	55
Amona	2010-11	141
Nagartas	2010-11	412
Barukheda	2011-12	158
Dhargadh	2011-12	298
Gullarghat	2012-13	232
Somthana (b)	2013-14	66
Somthana (k)	2014-15	241
Kelpaani	2014-15	82
Chunkhadi	2015-16	203
Ambabarwa	2015-16	269
Rohinkhidki	2016-17	594

Top: List of villages rehabilitated year wise from within Melghat with total family number. Facing page (clockwise): Gullarghat before rehabilitation and after rehabilitation. The inviolate Vairat meadows standing testimony to the fact that nature takes no time to reclaim what belonged to it before man ruled.
Landscape before rehabilitation in 2011

Dhargadh meadows after rehabilitation in 2013





## Chikhaldara - A Jewel of Vidarbha

Best time to visit: July to September for magical monsoons & October to January for its most pleasant cool weather

Elevation: Highest point Vairat is at 1188 mts.

Temperature: max at 40.6°C and min at 1.7°C

Average annual rainfall: 1905.60 mm

How to reach: Chikhaldara is well connected with good road network. Paratwada is 30 kms away. Amravati is at a distance of 85 kms by road and is also its closest railway station. The distance from its nearest well connected airport of Nagpur is about 250 kms.

Chikhaldara it is the crowning glory of Melghat and the only hill station in the Vidarbha region. How often would you come across a hill station, which was part of the ancient as well as modern history and now a part of tiger reserve! Chikhaldara is a cool retreat from the burning heat of the plains during the summer. Monsoons are magical here; rains are heavy but the rain soaked beauty is boundless. This time of the year, valleys are emerald green, sun is bright but not harsh, there is a nip in the air and the pristine white clouds wrap the hills all around.

There is an interesting history to Chikhaldara. As per the ancient legend of Mahabharata, its present name comes from the corruption of the name of its valley *Keechaklara*. This valley lies east of the Gavilgadh fort. It is believed that Keechak demon was killed here by Bhima during the Adnyata Vas (living incognito) of the Pandavas. The village Vairat lying 10 kms to the west of Chikhaldara is considered as erstwhile Viratanagari where Pandavas had sojourned in disguise for one year during the period of their exile.

Another theory for the name Chikhaldara comes from the modern history. In 1803, British General Wellsley attacked and captured the Gavilgadh fort in the possession of Bhosale (Marathas). The people of the fort went out and temporarily moved to some distance, the muddy section of earth giving the colloquial name Chikhaldar-'chikhal' for mud and 'dar' for home.

Vairat is the highest point of Melghat and also of Vidarbha. There are two extremely large forts called Gavilgadh and Narnala near Chikhaldara. Gavilgadh is situated right next to it while Narnala is at a distance of about four hours. This makes Chikhaldara one of the most multifarious



Top: The famous Bhimkund waterfall in all its might during monsoon.

Facing page: The picturesque road winding up from Paratwada to Chikhaldara.



holiday destinations – It has a hill station, a coffee plantation, a tiger reserve and forts with archaeological and architectural importance.

In modern times, Chikhaldara was discovered by Captain Robinson of the Hyderabad Contingent in A.D. 1823. The region reminded him of England, especially during the autumn months of September and October. Upon rediscovery it became an instant hit amongst the English for its weather and as a summer retreat.

Chikhaldara has many attractions to fall in love with. It houses the only coffee plantation of Maharashtra. Chikhaldara plateau, which houses the hill station, is surrounded by many deep valley glades offering stunning scenery of hills and the lush green forests of Melghat Tiger Reserve. There are many sightseeing points around it; few popular are listed below:

### Bhimkund-Keechakdara:

This is the most popular spot owing to its association to the mythology, where Bhima killed Keechak demon and threw his body into the 3500ft deep valley, named Keechakdara. Bhimkund is the place, where Bhima took bath after killing Keechak.

### Hurricane point:

It overlooks the valleys, offering a fine view of the Gavilgadh fortand the serpentine course of the river Chandrabhaga.

### The Monkey Point:

Offers a picturesque view of the deep and dark valley glades with dense forests.

### The Echo Point:

Also called Panchabol point, if one shouts here the voice echos for the 5 times.

### The Long point:

It commands a view of the rich and widely spread forests of the Melghat along with that of river Sipna.

### Vairat point:

The highest of all the points of Chikhaldara, it throws a grand view of the entire Satpuda range in Melghat withthat of Chandrabhaga river, which rises just below the Vairat plateau.

### **Devil's Point:**

Also known as Andhera Khora colloquially (the Valley of Darkness), it's a fascinating deep cavity circled by the wall of cliffs ranging 60 to 90 metres in height, that also sports a waterfall during rains. Tourists are not allowed to visit this point due to its dangerous terrain.



Top: One of the tourist points of Chikhaldara over looking the deep ravines between the mountains of Melghat.

Facing page: Nature forms its natural 'table cloth' when clouds spread over the plateaus of Chikhaldara.



# Forts of Melghat- A History Frozen in Stones



## Gavilgadh Fort

In Ain-I-Akabari Abul Fazal calls Gavilgadh a fortress that is impenetrable. This more than 300 years old fort takes its name from the Gawlis – a cattle rearing community, who were rulers of the shepherd community in the 12th/13th century. The fort was built by them, largely made of mud, which later fell into the hands of Gond community till the time they were defeated by the Mughals. The fortification of the mud for was done by the Mughals in 14<sup>th</sup> century. The fort later was conquered by Marathas till they were defeated by British in 1803 in the 2<sup>nd</sup> Anglo-Maratha war. In the 1998 published historical novel Sharpe's Fortress by Bernard Cornwell, besiege of Gavilgadh forms the background of the plot.

The magnificent Gavilgadh fort is one of the prized possessions of the Melghat Tiger Reserve. Gavilgadh was a well-fortified mountain stronghold of the Maratha Empire. At that time, the fort was considered unassailable due to its defensive structure that had one outer and one inner fortress. Today the fort area is under the administration of the forest department and its structure under the protection of Archaeological Survey of India.

Gavilgadh Fort walls are adorned with beautiful carved idols along with the Elephants, bulls,



Top: The beauty and wilderness of Melghat is visible from the looming walls of the Gavilgadh fort. Facing page: The main entrance of Gavilgadh fort which is one of the sought after tourist destinations of Melghat.







tigers and lions. Hindi, Urdu and Arabic script carvings can be seen on the walls of the fort. Idols of Lord Hanuman and Lord Shankar are also seen in the fort. Apart this, 10 cannons made of iron, copper and brass are also there inside the fort. The Gavilgadh houses excellent water reservoir system which even today can be seen in the form of two tanks - Devatalav and Khantalav. Owing to its elevation, the fort offers excellent view from those heights overlooking the Melghat Tiger Reserve landscape.



Top: The entrance to Gavilgadh fort. Facing page (clockwise): The rains transforms the fort into an extension of the Melghat forests. The fortified walls of Gavilgadh. An aerial view of Gavilgadh fort.



### Narnala Fort

The fort is believed to have been constructed by the Gonds. Along with the Gavilgadh Fort and the Asirgarh Fort (Burhanpur district of M.P.), Narnala was considered a stronghold in Central India.When Ahmed Shah Bahamani (year 1425) constructed Gavilgadh Fort, with a view to obstruct invaders from the north frontiers of his kingdom, he also repaired the fort at Narnala. The fort has been under the rule of various dynasties, including Bahamani (1347-1527), Nizamshahi (1490-1636), Mughals (1526-1707), Marathas (1674-1818), and the Nizam of Hyderabad (1724). Eventually it was taken over by the East India Company in 1818.

This is a fort that wields its charisma like no other forts of Melghat Tiger Reserve. The fort owes it to its history of continuous change of ownership. Every ruler of Narnala has left his indelible mark through the architecture. You will find here the classic Bahamani gateways, tall Mughal arches, Maratha-style gardens and leisure towers and many more edifices. Its architectural finesse is contrasted by the triple fortification walls extending 38 kms, encircling an area of 392 acres, which originally had 22 gates and 360 bastions. In fact Narnala fort consists of 3 separate fortresses -Jaffrabad in the East, Narnala in the centre and Telyagarh in the west. Their unique location and



Top: A birds eye view of Narnala Fort with its tanks which carry water all throughout the year. Facing page: The stable for horses at Narnala Fort.

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mountainous terrain meant that the rulers of these forts held dominion over the entire region. Some of the cannons found in the fort, and in particular the Navgaj cannon, are notable for their size and manufacturing technique. The fort boasted of an advanced water management in the form of 22 water bodies including dams, reservoirs, and artificial lakes. Today only 6 of those hold perennial water source and are dotted with aquatic birds. There is a unique shrine in the fort, one near Shakkar Talao, which is dedicated to dogs and believed to cure the bite of dogs, jackals, and rats.

Not long ago, the fort had fallen to human excesses and was a home to anti-social elements or used as a pilgrim centre during festive periods causing a major annoyance to the wildlife. A notification in 1997 rescued the fort as Forest department took over the charge and stopped all illegal activities in and around the sanctuary. Today Narnala is a roaring success story of how nature quickly takes over if left alone. A resident tiger has often been seen at the Jaffrabad tank within the ramparts of the fort. The regular sighting of tiger and also of ungulates drives home the point of how much our forest needs protection from humans to thrive.



Top: A resident tiger drinking water at one of the lakes present inside the Narnala fort.

Facing page: The 'Mahakali darwaza', 'Naugaj top', the tomb of 'Hazrat Shahbuddin', a religious message scripted on the 'Mahakali darwaza' in Arabic.



## Amner Fort

The fort of Amner is nestled atop a hillock overlooking the beautiful confluence of the river Gadga and the Tapi. This compact quadrangular fort, enclosing an acre of land, was once a strategic fort for its location at the vantage point. There is only one entrance to the fort, from the north-west along the left bank of the Tapi. This track is entirely made of earth and quite steep. The west side is occupied by a mosque, which, with its minarets towering above the rest of the fort, presenting a rather picturesque view of the river. Today the fort is amidst ruins and the walls are crumbling down. However, it still holds the charm as a relic of the past in the ruins. Its picturesque view from the river frontis mesmerizing, especially in the evenings when the setting sun throws its golden rays, lighting up the walls and bringing sparkles to the river water.



Top: The Tapi river forms the boundary between Madhya Pradesh and Maharashtra and also forms the northern boundary of the Melghat landscape.

Facing page: The Zilpi Amner Fort situated at the confluence of River Gadga and Tapi.

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## Water World of Melghat

Melghat owes its magical landscape of rich vegetation and wildlife to its water world - a complex system of rivers, waterfalls and watershed areas. While Melghat gets high rainfall, however owing to its rocky terra and the run down steep hills, water doesn't percolate the land easily and it quickly runs down the valleys. Thus, water scarcity in witnessed in summer in the upper reaches of the reserve and few of the lower reaches, affecting distribution of wildlife and thereby ubiquitous habitat utilization. However, come monsoons and the autumn and this place transforms into a mosaic of water falls, streaming rivulets overrunning the roads and catchment areas full of natural reservoirs. The Gugamal National Park and Melghat WLS area is well drained by many rivers. Most of the rivers are seasonal and flowing water remains there till February only. The tract has five major river streams Khandu, Khapra, Sipna, Gadga and Dolar forming important tributaries of Tapi river which is a perennial river and flows along the western boundary of the reserve between Kund and Rangubeli for about 6 kms. Numerous depressions in river beds have accumulated water at places locally called as *dohs* that form perineal water holes for the wildlife. There are small



Tapti River, also called as Tapi, rises in the Gavilgadh Hills in the south-central Madhya Pradesh state. The river is supposedly named after the goddess Tapti, daughter of the Sun god Surya, who according to legend founded the Kuru Dynasty when she married King Samvarna.

Tapti flows westward through the Satpura Range in Maharashtra state, traversing Melghat region and then through the plains of Surat in Gujarat state and draining into the Arabian Sea. During its course, it flows for 700 km and drains a massive 65,300 sq. kms. area into the Gulf of Khambhat. The Tapti flows roughly parallel to the Narmada River to the north, from which it is separated by the main part of the Satpuda Range. The two river valleys and the intervening range forms the natural barrier between northern and peninsular India.

Sipna River: Sipna river meanders through the dense woodland of Teak trees. Saag or Teak tree in Korku language is called as Sipna. It is from here it derives its name.

numbers of springs which are of perennial nature. In the Wan Wildlife Sanctuary, there is only one Facing page: Jawahar kund, Jatra doh, Chandni doh are few of the beautiful streams crisscrossing the forests of Melghat.



major river namely, Wan river that flows from east to west. Other important surface water body in the protected area is the Wan river reservoir at Wari. The presence of Wan dam, with its watershed acts as a good source of groundwater.

The Ambabarwa Wildlife Sanctuary has no major river draining the area. The presence of base flow in various nullah confirms the fact that it is a gaining area i.e. groundwater is being discharged here.

The tracts of Narnala Wildlife Sanctuary are a part of Gavilgadh range covered by the boulders and debris. Abundant supplies of fresh water are available at a depth of 3 to 5 meters from the surface. The old tanks on the plateau are important source of water.

The waterfalls of Melghat are its prime tourist attract during monsoons and in the autumn. There are massive waterfalls like impressive Keechakdara falls that plunges in 3500 ft deep valley. You will also find many beautiful falls across the reserve such as Jawharkund, Chichati, Sulayinala and Kalalkund to name a few.

The water with the changing seasons shapes the vegetation and wildlife pattern of the Melghat Tiger Reserve. The lifelines of the jungles, rivers





are the true water worlds of Melghat that defines its existence and its future.

Top: Bhimkund and Bakadari Waterfalls. Facing page: The Dam on the Wan river.

River Sipna

Clockwise: River Sipna near Semadoh, Bagadari fall, Kuvapati nallah



# Melghat Kaleidoscope

## **Photo Stories of Melghat**



Wan

Railway





### Wan Railway

The Wan Wildlife Sanctuary has a 17 kms railway line passing through the core area, which has been discontinued in 2017 for proposed gauge conversion. The railway station has a single track meter gauge line that was laid in 1960s to provide a route access from Jaipur to Hyderabad through the states of Madhya Pardesh and Maharashtra. The railway line traverses the forests and cuts through the hills via tunnels namely Talai and Wan. The Wan station was a strategic intervention on this railway route. The steam engines of that period required water access from the Wan river. The railways had even constructed a small dam here for the same purpose. The trains were discontinued from the line as it was proving to be a major hazard and disturbance for the wildlife. However, Railway Ministry plans to reopen the line by upgrading the existing meter gauge track to broad gauge, which would be disastrous for the ecology here. Apart destruction of the existing landscape and disturbance to wildlife, the train will provide direct access to poachers and illegal traders of wild flora and fauna. Forest Department is putting their best efforts to find a solution to this new arising problem.



Top: As the train loops around the Melghat forests it creates a figure of '8' in English which also resembles the number '4' in Marathi (Char cha aankda).

Facing page: The famous meter gauge train at the Wan station which is situated in the vicinity of the Wan tunnel and the old bridge of Britsh era on the Wan river.



Belkund

Bridge





### **Belkund Bridge**

Belkund bridge is one of the most fascinating manmade marvel of the mystical Meghat. This bridge is built with stone cobbled arches on the road at Belkund's Nala. There is an iron plate on the bridge stating it was built in 1886.



There is one more iron plate that has mention of its engineering team and company with details -R.W.Swinnerion, E.S.O. AMICE Engineer, Babu Deonath Sanaj Overseer.

The bridge is still in good condition even today! Everyday full size buses cross the Belkund nallah using this bridge. Without any repairs and operational for over 130 years, it is a testimony of its engineering marvel.



Top: Water flowing below the Belkund bridge shown in the previous page.

Facing page: The forest changes colour every fortnight. Summer and Monsoon presents a contrasting view of the same landscape clicked from the Belkund bridge for the beholder.



of

Melghat -

A Legacy







Dhakna Rest House Dhakna rest house was built by the British in 1908. The Gadga river flows through dark, stony caves in front. "Dakna" means an abuse hurled at the white officer by Korku forest labourers. Dakna is todays Dhakna. The structure of this rest house stands under the shadows of gigantic banyan and pipal. It has two suites, a dining hall and a dressing room.



Semadoh Rest House

This rest house is in possession of the PWD. The roads to Makhla, Raipur, Hathru lead from here. Five kilometers prior ro Semadoh is Jawaharkund waterfall to the left. During monsoon and winter its beauty is eye-catching. The rest house is over 100 years old.



Kolkas Rest House The British have built a rest house at the lower base of Kolkas which is todays Vasant Sankul. This other structure at the top was built in 1970 for the then Prime Minister, Smt. Indira Gandhi, who had visited Melghat. The river Sipna, which flows in front is a major tourist attraction.



Rangubeli Rest House Rangubeli forest rest house was built in the British era in 1871. The roof of the rest house is conspicuous by the presence of English tiles atop called Mangalori tiles. The Tapi flows about one and a half kilometre away from the rest house. The legendary hunter turned conservationist Jim Corbett has once said to have stayed here.



Chunkhadi Rest House Chunkhadi means a mine of lime stones. This rest house has two suites. The river Khapra enriches the bio-diversity here.

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Raipur Rest House Raipur is about 18 kms. from Semadoh. Raipur rest house was built around 1892 by British. It has two suites, a dining hall and a dressing room. It is called as rest house of Malabar Pied Hornbills due to the frequent sighting of this species here.



Jarida Rest House In 1860-61, the British built a rest house at Jarida which has two suites. Jarida is at the centre of Semadoh, Chunkhadi, Hathru, Raibiba, Bhaisdehi villages. The rest house is surrounded by thick forest. Sloth Bears are abundant in this region.



Belkund Rest House Built in 1891 the Belkund rest house is now renovated to its past glory. it was earlier know as the Dak Bunglow and is one such mesmerising wonder nestled in between the hills of Melghat. This Victorian style bunglow has many stories of it being haunted. It is situated close to the famous Belkund bridge.



Koktu Rest House Koktu is the prized possession of the Forest Department. Located in completely inviolate area in the interiors of the Melghat jungles with no human population within a radius of 50 kms, the rest house is named after river Koktu which flows nearby. The guest house is inaccessible most of the time during rainy season and it is not open for the tourists. Thus the area is undisturbed all the time and you can even sight a tiger during day time.



Tarubanda Rest House Built in the late 19th century, this rest house is located in the Tarubanda range surrounded by forests infested with animals like the sloth bear which visits the rest house regularly.



Wan Rest House Located at the picturesque location along the Wan river, this guesthouse provides expansive view of landscape with Wan river flowing 50 feet below. It is a beautiful place to see many birds and also animals which come to drink water.



Shahnur Rest House Located on foothills of Narnala fort, Shahnur is unique place offering blend of history, natural splendour and tribal culture. It has VIP rest house, eco huts, rest room and dormitories catering to all classes of people. Korku Tadka restaurant provides different varieties of local cuisine prepared by tribals of Shahnur at reasonable rates.



Top: Various adventure and fun activities can be availed in Shahnur including bicycle rides in the woods, night safari and machaan patrolling on full moon nights.



Meadows

of

Melghat



Habitat management in Melghat



### Meadows of Melghat - A New Lease of Life for the Wildlife

Melghat is constantly under the biotic pressure of the villages lying within the protected area or its buffer area as well as on the fringes of the reserve. Apart human disturbances to wildlife due to human activities, the other biggest impact is that of cattle grazing. The village cattle while grazing a forest patch, disturbs the herbivore wildlife out of that area. The grazing also bares the grass and shrub patches giving way to unwanted weeds. Thus the forest area is driven off of herbivores and in affect impacting the carnivores as they lose their hunting grounds and their prey-base.

Forest Department has been putting their best efforts to tackle this issue through village resettlement outside sensitive areas. Under such village rehabilitation initiatives, forest department has amicably rehabilitated quite a few villages after providing proper compensation and eco-development support.

The vacated areas within the forest were immediately put under habitat management by developing meadows. In following three years, under the protection and care of forest department natural regeneration process took over. The regular monitoring has shown these lands now is home to thriving population of herbivores and favourite hunting grounds of tiger.

Other than this, Forest Department regularly keeps on developing meadows through weed removal and plantation of patches with plant species that are beneficial for wildlife and ecosystem. In the forests, meadows are developed not just to provide fodder but there are many facets to it such as:

- Scientific management of grasslands.
- Continual removal of unpalatable grass species followed by planting of palatable species.
- Fruit trees for wild animals.
- Wild vignas (genus of plant) for fulfilling protein requirements of wild animals.
- Waterhole creation in meadows.
- Soil Moisture Conservation (SMC) works in meadows.
- Training of field staff for identification of grass species.



Top and Facing page: The management of the Forest Department of Melghat actively works for development of meadows especially in the rehabilitated village areas.



Few of the important meadow development efforts are as under:

Amona meadow- Developed on 120 ha land vacated by relocated Amona village (2010-11) it falls in Wan Wildlife Sanctuary of Amravati District.

Chiklam meadow- It falls in Melghat Sanctuary under jurisdiction of Sipna Wildlife Division, Melghat Tiger Reserve.

Bori meadow-One of the picturesque meadows in Dhargad range of Gugamal National Park, it extends to 100 ha. on empty land after village relocation of Bori (2000-01).

Kelpani meadow- It is a recently developed meadow in 2014 after relocation of Kelpani from Melghat Wildlife Sanctuary. Spread across 120ha, it provides feeding ground of herbivores adjacent to Gugamal Wildlife Division.

Chunkhadi meadow- It is part of Ambabarwa Wildlife Sanctuary, Taluka- Sangrampur, Buldhana due to voluntary relocation of Chunkhadi (2014). With an area of 150 ha it provide excellent feeding material of herbivores.

Vairat meadow- An oasis of grassland for wildlife in Chikahadara range of Gugamal National Park, it has been developed on vacated lands of Vairat village (2006-07).

Dhargad meadow- Situated in the heart of Melghat Tiger Reserve, it covers an area of 100 ha and is a heaven for herbivores. Herds of chital and gaur can be seen in this meadow raised on empty land after relocation of Dhargad village (2012-13). Barukheda meadow- One of the largest meadow in Melghat Tiger Reserve, it extends to 300 ha. in Wan Wildlife Sanctuary. The meadow is famous for herds of chital, gaur, blue bull (Nilgai) and frequent sightings of four horned antelope (Chausingha).



Top: Meadow development at Amona village site after relocation. Facing page: Meadows of Gullarghat.



## Protectors

of

Melghat



Khatkali Gate



Protectors of Melghat Melghat Tiger Reserve, owing to the numerous villages in and around its protected areas and the two state highways that pass through its jungles, is constantly under threat of human activities. However, today Melghat is one of the well protected forests of India. A lot of this has to do with the Forest Department's management policies, and the use of latest technology devices like drones, GPS monitoring and camera traps. Special mention needs to be there of its two major protection units-Special Tiger Protection Force (STPF) and Wildlife Crime Cell.

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### **Special Tiger Protection Force (STPF)**

National Tiger Conservation Authority (NTCA) has sanctioned Special Tiger Protection Force for effective protection of the tiger reserves. 112 post have been sanctioned for the STPF in Melghat Tiger Reserve. These include 91 Forest Guards, 27 Forest Watchers, 3 Range Officers and 1 Assistant Conservator of Forests. The recruitment was done in 2015 followed by rigorous six months training after which they were deployed in field. For first time in history, all staff recruited in STPF was from local tribal villages of Melghat.



Top: STPF regulating grazing in the park area. Melghat has four elephants that are utilized in protection work and patrolling of the forest area.

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## सरजू बावरिया वन विभागाच्या ताब्यात नरेंद्र जावरे = अमरावली

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वाघिणीची शिकार: विदर्भतील प्रकरणाचा पहिला निकाल



मान्याची माहिली आहे. जाज दोपा first gianth whethe servicensite fore suprose two most

### Wildlife Crime Cell

It was established in Melghat Tiger Reserve in 2013-2014 with the help of Police Department. Melghat Tiger Reserve Crime Cell has successfully arrested 41 offenders in tiger poaching cases from Delhi, Haryana, Andhra Pardesh, Karnataka & Maharashtra including recovery of sum of Rs. 53 Lakhs. The cell is providing cyber data and helps in analysis of information to the investigating officers of the state and also other tiger reserves and various law enforcement agencies of the country.



Top: Officers of the department undergoing various training as a part of law enforcement.

Facing page: A protection camp at Jambukuan, Harisal range.

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The Pantheon

of

Melghat -

**Temples & Shrines** 



Dhargad Yatra



### The Pantheon of Melghat - Temples & Shrines

Melghat has a large number of unique geological and religious features owing to its ancient history and tribal belief. The modern history with the invasion of various rules lent new hues to the pagan belief, bringing in Hindu as well as Islamic influence. Today the biggest religious celebration in Melghat takes place at Mahadev cave temple at Dhargad. It is the scene of a massive pilgrimage during the *Shrawan mas*.





Top (clockwise): Tiger deity worshipped by tribals. Deity of 'Genie Baba' on the way side where locals offer cigarette or 'beedi' for seeking blessings while traversing the tricky terrains of Melghat.

### A Shrine at Narnala.

Facing page: Mahadev Temple in Dhargad range.

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Top: Deities of the Kandri Baba Temple in Tarubanda range.

Facing page: Muktagiri Jain Temple 12 kms from Paratwada.

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## Melghat-

Α

Visitor's

## Homeland



Monsoon Trek at Bagadari


#### Melghat - A Visitor's Homeland

Melghat houses tourism friendly accomodations for its visitors, catering to all classes, with an objective to promote eco-tourism as well as empower the local tribals. Almost all guest houses are located at picturesque locations to showcase the natural splendour of Melghat. Adventure and fun activities are available at few places such as Shahnur, Semadoh, Harisal where zorbing, Burma bridge, kayaking and trekking are enjoyed by the tourists. Cycling facilities have also been provided for adventure lovers who like to get lost in wilderness.





Top: Various tourism activities and facilities.

Facing page: Kalal Kund waterfall in the buffer zone of Melghat is a famous trekking destination during the Monsoon.



There are nature interpretation centres also developed that hosts pictorial description of local faunal and floral species, local tribal customs and rituals, educative camera trap exercise for tiger estimation etc. A big hall with audio video facilities exhibits nature and wildlife documentaries regularly. This not only help understand the nature and wildlife without going in the field but it also helps in instilling the values of conservation in mind of tourists, especially children in a fun way.

Recently, nature trail walks have been started by the forest department. These adventurous trail walks take you right inside the jungles of Melghat under the protection of accompanying forest guards. The fun to explore jungles on foot, crossing rivers and bathing in waterfalls is a complete and immersive experience.



The starry skies of Melghat provide unique opportunity to unleashed the astronomer in you.

Facing page: Over the years monsoon treks have gained popularity in Melghat.



Bhopala nallah near Kolkas

A pristine forest stream at Dhargad



### The Road Ahead

#### A man's heart plans his way but the Lord directs his step.

- Proverb 16.9

Nearly 2500 km<sup>2</sup> of area, altitudes ranging from 1100 metres to almost 200 metres within a stone throw distance, cliff faces with sheer drops, numerous gorges and ravines dotted with caves and 'dohs', a few meadows often inhabited by more cattle than human and to top it all a good presence of wild animals led by the 'often visible at the corners when you are least expecting' sloth bear. That's Melghat. Area-wise Melghat is only the 3<sup>rd</sup> biggest tiger reserve in the country after Nagarjunsagar Srisailam and Manas tiger reserve, but considering the hostility offered due to the terrain it has to be up to 9 or near about on a scale of 10. So, put simply, Melghat is bigger in area than some 19 other countries of the world!

As most of the area is rugged and hilly protection of each and every corner of the forest is very challenging. Melghat has borders with Madhya Pradesh on the north and on some parts of its eastern boundary too. The landscape on the Madhya Pradesh side is flatter with numerous

villages living on the peripheries. Historically many villages and their inhabitants on the Madhya Pradesh side resort to illegally intruding into the forest in search of easy game for food. Threat to such poaching is huge and these poachers often carry easily made country weapons and operate clandestinely in very remote areas. Melghat Tiger Reserve has initiated the M-STrIPES protocol for patrolling and protection. This is increasing the effectiveness of foot patrolling to which there is no alternative especially in a tiger reserve like Melghat where roads are almost non-existent due to the terrain. Wild animals especially sloth bears are the most dangerous animals to encounter while on foot patrolling as there have been many cases of attacks on forest staff by this creature.

Melghat has around 118 villages falling in its jurisdiction (both core and buffer). Considering an average of 500 residents of each village the population mounts to a good 59000



Facing page: Innocent faces of Melghat.



approximately. That's not all....nearly 20-30% of them are youth in the age group of 18- 30 years. That is nearly 15000 young people seeking or trying to establish their livelihood. Barring a few industries in Amravati and some limited ones in Paratwada and Akola on the Maharashtra side and similarly a few towards Khandwa and Betul there is hardly any organisation providing a sizeable number of employment to these denizens. Forest Department is the major government entity which makes its presence in such remote areas of the country.

A typical landscape related challenge arises from the fact that due to unavailability of flat agricultural land masses the villagers tend to encroach upon the forest land. Recently a major encroachment removal drive undertaken as per the guidelines of the Hon'ble Courts of the land and as per the provisions in Wildlife Protection Act 1972, led to freeing of such illegally occupied forest habitats which should belong to the animals. The solution and its implementation is easier said than done. Even after rehabilitating 16 villages from the core area of the tiger reserve there are 17 more villages who are awaiting voluntary rehabilitation. The positive is that these villagers in the core area have realised that a better

future awaits them outside the forests and that more opportunities open up gradually. Their extractive dependence on the forests are reduced. Conflict is prevented. The challenge of such processes are the huge financial resources required as per the Government Rules of the state. For example to rehabilitate a village of 100 families over 10 crores of funds are required just for compensation to the families. Add to it the value of land and immovable property that has to be compensated. Yet the Maharashtra Government has been proactive in taking up such voluntary rehabilitations in a fast and proactive way. The freeing of such village lands for forest habitats will help increase the number of herbivores and prey base for carnivores but till then the administration is working pro actively to reintroduce herbivores from other areas in the meadows and other grasslands.

Korkus and Gawlis are the groups which form the major part of the population. From the days of the epic Mahabharata, Gawlis are associated with cattle rearing activities. Melghat is a tempting landscape for all types of cattle and especially during the monsoon months herds of cattle make their way up the innumerous 'ballas' or plateaus to feed on the lush green grass. This grass should



Top: Youth of Melghat seeking alternate livelihood options with the help of the Forest Department. Facing page: Happy People. Happy Forest. Korku dance as a part of an eco-tourism initiative to gain livelihood as well as maintain the traditional customs.



rightfully belong to the herbivores who form an important part of the forest food chain and subsequently the sign of any healthy eco system. Owing to the huge cattle population the forest is often trampled upon and a huge damage is dealt to the ground level bio diversity. Moreover, there are numerous instances of forest fires during the dry season lit by miscreants in order to have clear and fresh grazing grounds in the monsoon. Such illegal activities are being dealt with effectively yet in a humane manner and a permanent and long-lasting solution for such issues are a priority of all stakeholders as well as executors.

The administration of Melghat Tiger Reserve has aggressively ventured into providing alternatives to youths and those dependent on extractive livelihood. In the year 2017 nearly 400- 500 youths have been imparted various skill trainings in hospitality, motor mechanic, electrical, tailoring, refrigeration and air conditioner repairing trades and have been placed in cities and towns with better opportunities. Similarly, the women folk are being trained in making local artefacts like bangles which will provide them employment at their doorsteps. Poultry farming is being introduced scientifically in around 12 villages where layer farming and broiler farming is promoted. This mission tries to tackle the livelihood as well as malnutrition issue prevalent in certain sections of the society due to unhealthy living practices.

Eco-tourism is another very important tool of modern day conservation. Melghat is aggressively undertaking the process of making a paradigm shift in the conventional tiger tourism by initiating activities that complement the wilderness quotient of the region. Introduction of machaan patrolling and night safari in Harisal and Shahnur has given the tourism a new boost. Melghat has introduced kayaking at Harisal and adventure activities at Semadoh and Shahnur which are not only thrilling the tourists but also giving the local Inhabitants a source of livelihood. The beauty of Melghat is the pride of the state of Maharashtra and also the talking point of all its fans and well-wishers. The added interventions in protection, rehabilitation and herbivore reintroduction in the near future will enhance the ambience factors of this beautiful landscape and also provide long term solutions to the humans who are dependent mostly on Melghat for their livelihoods.



Top: Melghat youth undertaking Automotive training course conducted by PACE at Nagpur. Montfort Institute at Patansawangi has trained over

200 youths in 2017 in various trades.

Facing page: Over 150 boys and girls have undertaken Hospitality Management Training conducted by Pratham and are placed in top resorts and hotels of India.

Pug marks - The symbol of a prosperous forest.



## **Birds and Beasts**

of

Melghat















C











Giant Wood Spider

-

## Melghat Fanbook Page



## Melghat Fanbook Page

Green keelback juvenile (Macropisthodon plumbicolor)

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Shantanu Patil



Aerial view of Magical Melghat Landscape

A foot soldier of Melghat

Mud puddling - Small Grass Yellow and Emigrant Butterfly

# TIGER HANKS-VISIT AGAIN RESERVE

◆ अचलप्र अंबापाटी‰ ◆आसलवाडा धाराणगंव ↑ स्वटकाली ↑ अकोट

> ERIGIE THANK YOU • VISIT AGAIN •

Forest gate at Rajdeobaba

- Am

Various nuts and berries from Melghat at a market pl



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