

From the Sky

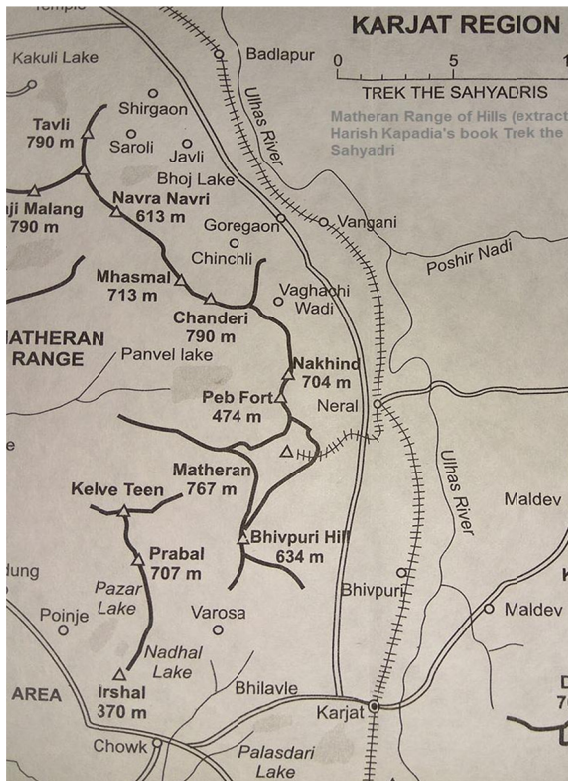
Relating topographical maps to the geography around you is an interesting exercise. The topographical base could be a physical map or a digital map. Add a layer of trekking & this exercise becomes more participatory with variable point of views. Add another layer of aviation and it ups the stakes. This blog tries to loosely document this journey of mine for the past two decades.

My trekking journey began in the monsoon of 1992, parallel to my architectural training. The Sahyadri mountain range around Mumbai was our playground. This was pre Google era when limited physical maps were our only source of studying the geography around us. Survey of India's meticulously prepared maps was available but it was only for a trained eye. For an average trekker there were very few books, mostly in Marathi which made a limited attempt to make such topographical information understandable and available. In 1979 Harish Kapadia published 'Trek the Sahyadri' in English. Many contributed towards its content and information. This was one of the few available books in English then which tried to document these topographical data into maps readable by all. Moreover it identified the goals (hill tops with elevations in this case) and made it relatable to the surrounding hill tops/ geographical features/ goals in a visually understandable way. I bought the fourth edition of this book as my first guidebook, also my first theoretical introduction to the field of mountaineering. It had minimalistic monochromatic hand drawn maps of the various hills of Maharashtra s Western Ghats as per various regions which I could easily relate to while trekking.

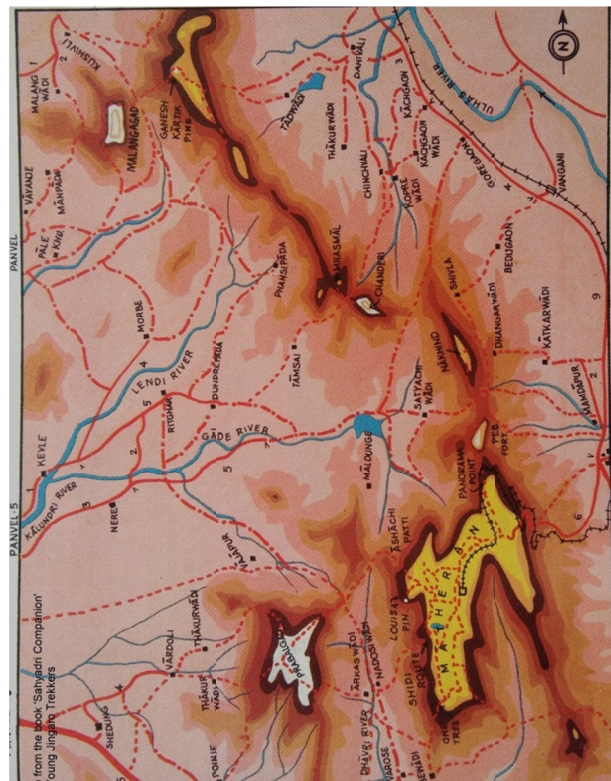
In 1995 came 'Sahyadri Companion' by Young Zingaro Trekkers. It was compiled by a group of enthusiastic trekkers who went to great lengths to 'upgrade' the then available mountaineering literature for Maharashtra, especially their maps with colour coded topography. Stepper slopes were dark coloured, milder slopes were lighter shades of same colour, plateaus/ plains were uniformly coloured. Water bodies, roads, foot tracks, human settlements enroute was also represented in complementary colour coding. In the Survey of India maps same features were represented in monochrome. Contour lines were in splines. Denser splines indicated stepper slopes and spaced out splines indicated gradual slopes or plains. Studying the colourful maps was obviously more fun and was easier to understand the geography. 'Sahyadri Companion' was immediately popular in the trekking circles. And there were those various self 'I don't believe it' moments when I came back exhausted from one of such many gruelling treks and browsed through the maps to study the distance and altitudes we had just covered.

During my treks these maps were always at the back of mind so I could experience geography unfolded in front of my eyes. Identifying/ observing the hill profiles from various angles and altitudes while on the trek had to be routinely complimented with this study. An important point to remember here is that identifying the hill tops or peak profiles is an easier task in the Sahyadri than the Himalayas due to their distinctive features. In the Himalayas most of the peaks are variations of the pyramids hence a bit tricky to identify. Identifying peaks, geographical features also helps us navigate correctly especially when you get lost. Here I draw a parallel with the aviation industry. In aviation before the advent of GPS (Global Positioning System) pilots flew by what is known as VFR (Visual Flight Rules). The pilot must know the geographical features around the air fields and enroute to know where he is flying. VFR is obsolete today for commercial services but still applicable for training and many helicopter flights.

As an aviation enthusiast my first saving was promptly spent on buying Microsoft Flight Simulator 1998 which cost a modest Rs.3000 then. I was going to 'e' fly. During many of my treks in the hills around Mumbai (especially the Matheran range of hills) I had always observed aircrafts flying low over the hills around Mumbai. Their low altitude sounds in the valleys was distinctly different from the continuous drone of an aircraft flying at high altitudes. Now that I 'flew' I knew that most of these low flying aircrafts heading west were lining up for the final approach into Mumbai, eventually to land on runway 27.



Matheran Hill Range Map from Harish Kapadia's book 'Trek the Sahyadri'



Matheran Hill Range Map from the book 'Sahyadri Companion' by Young Zingaro Trekkers

Flight simulator and trekking made me observant and 'aware' of the inter relation between topography and aviation. I often wondered how fascinating it would be to observe these hills from the aircraft. Quiet interestingly as my professional role expanded so did my domestic air travel and thus was swapped my point of view.

I remember the joy of observing these hills for the first time from the air, like observing a good old friend from a distance. Most of the pics shared here is an attempt to share this joy for I know 'they' are friends to many others.

Matheran Hill Range

Most of the aircraft come in for a landing into Mumbai from the east. Average altitudes of most of such aircrafts are around 5000 feet within a radius of approx. 20 Nautical miles (ie; 37 kms). The Matheran Hill Range falls just outside this radius, with most hills just over 2000 feet but not beyond 3000 feet. Mumbai's Chatrapati Shivaji Maharaj International Airport has two runways. 27-09 is the main East West longer runway used during normal operations. This hill range is the most visible from the aircraft when it comes in from the east.

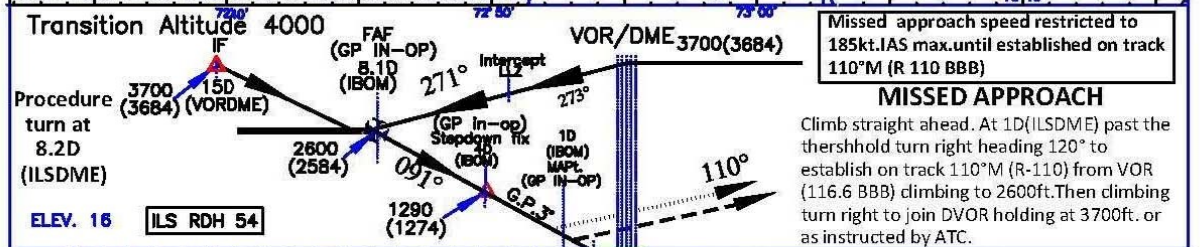
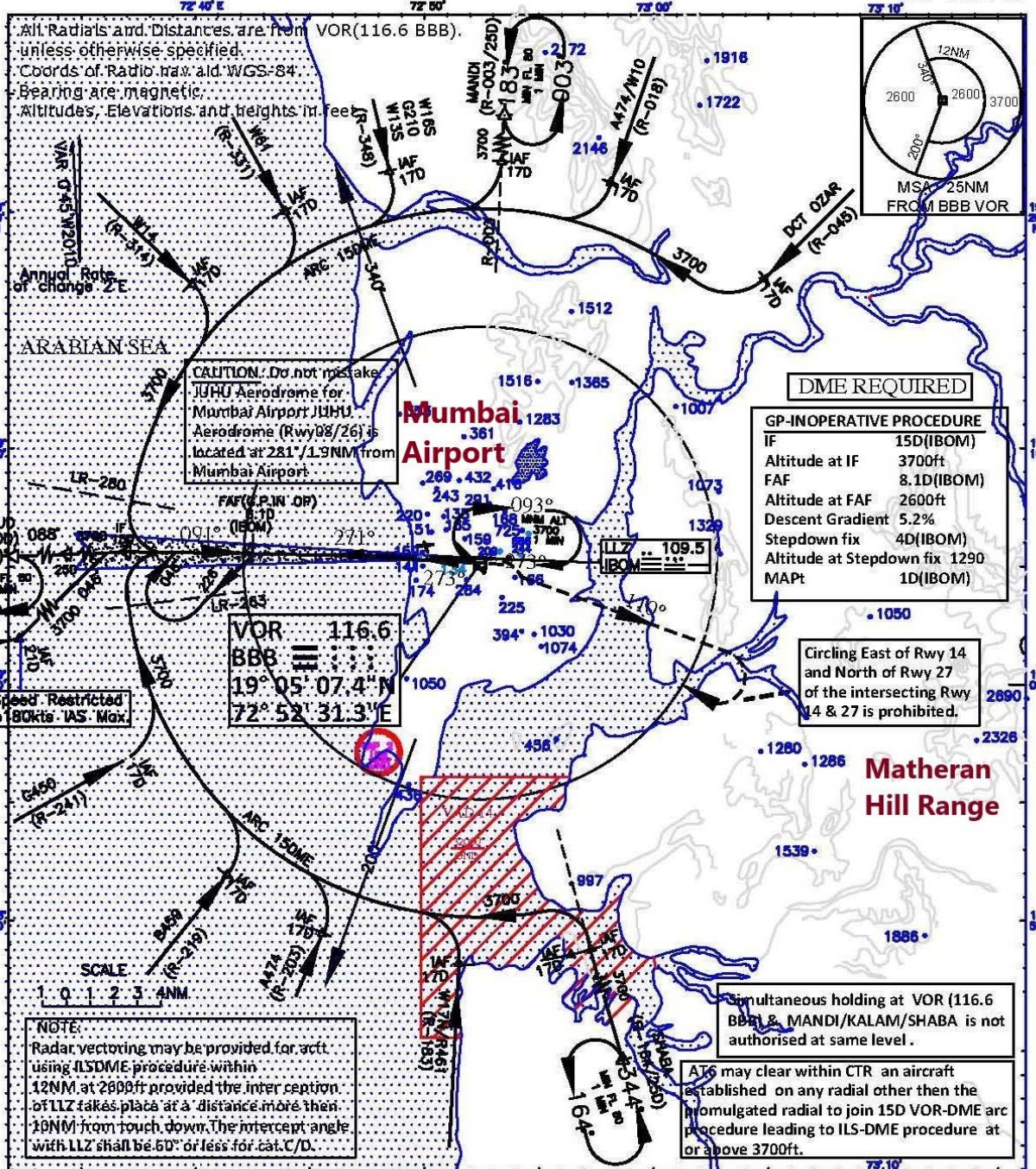
The Matheran Hill Range is a crescent shaped hill range oriented approximately along a North South axis. Prabal and Irshal form the southern flanks of this hill range. The big spread of Matheran with a connecting ridge to Peb - Nakhind is in the centre along with Chanderi - Mhasmal. This continues north as a narrow serrated ridge with a group of pinnacles called Navra Navri pinnacles. This ridge joins up with Tavli and Badlapur hill forming the northern flank of this hill range along with Malangad slight isolated from the main chain to the North West

INSTRUMENT APPROACH CHART

AERODROME ELEV. 39Ft
HEIGHT RELATED TO THR RWY 09 - ELEV. 16Ft

APP 127.9
TWR 118.1

MUMBAI INDIA
ILS RWY 09



O C A (H)				Distance (ILS-DME)/Altitude information for G.P. inoperative procedure							
CAT. OF AIRCRAFT	A/B	C	D	Distance(NM)	8.1D	7D	6D	5D	4D(SDF)	3D	2D
STRAIGHT-IN	260(244)	270(254)	270(254)	Distance(NM)	2600	2250	1930	1610	1290	970	650
CIRCLING	1380(1341)	1480(1441)	1700(1661)	Altitude (ft.)							
G.P. in Operative Procedure:				Rate of Descent /Ground speed information							
STRAIGHT-IN	440(424)	440(424)	440(424)	Ground speed (kt.)	80	100	120	140	160	180	
CIRCLING	1380(1341)	1480(1441)	1700(1661)	Rate of Descent	420	525	630	735	845	950	

DRG. NO. AAI/-IALC/04/01-05-2016



Matheran Hill Range - Irshalgad to Chanderi



Matheran Hill Range - Chanderi to Badlapur Hill/ Tavli

Malangad

Malangad, located near Kalyan/ Badlapur has an altitude of 2000 feet. It forms the northern most tip of the Matheran Hill Range and is just off the centreline of the main runway 27-09 by about 2 kms. This hill is the most prominent amongst the Matheran Hill Range due to its peculiar shape when we come in for a landing into Mumbai.



Malangad in Monsoon



Malangad in winter haze



Mahuli

32 Nm (58 kms) to the North East of Mumbai airport (at heading 42 degrees from Mumbai) is this hill fort of Mahuli with a sprawling plateau averaging around 2800 feet. Generally observed enroute from Delhi (flights coming in from North of Mumbai). I was lucky to get this amazingly clear shot with the late afternoon light falling on this small hill range with no clouds around.



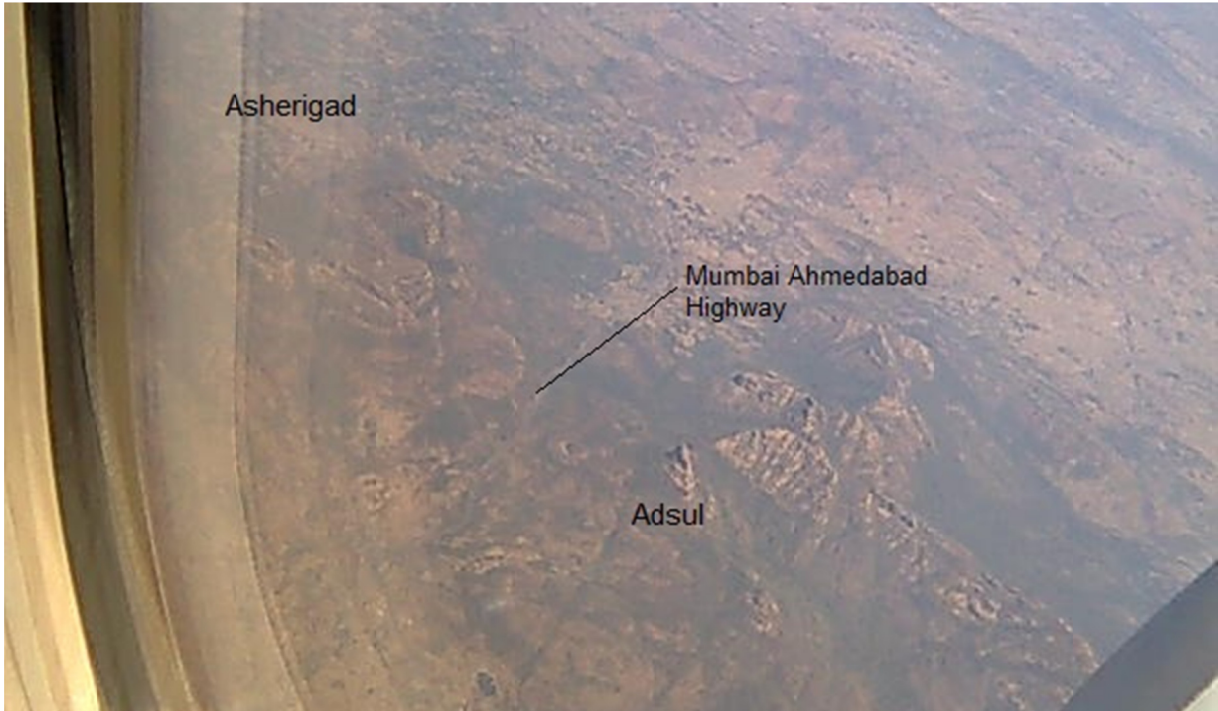
Mahuli from the Air



Mahuli– Google Earth 3D Image

Asherigad - Adsul

43 Nm (80kms) to the North of Mumbai airport (at heading 5 degrees from Mumbai) is this isolated group of hills near Palghar. Asherigad and Adsul pinnacle. Mumbai Ahmedabad highway snakes its way between these hills. 20 mins after take-off from Mumbai as the plane climbed north to head to Delhi I spotted these hills from starboard of the aircraft

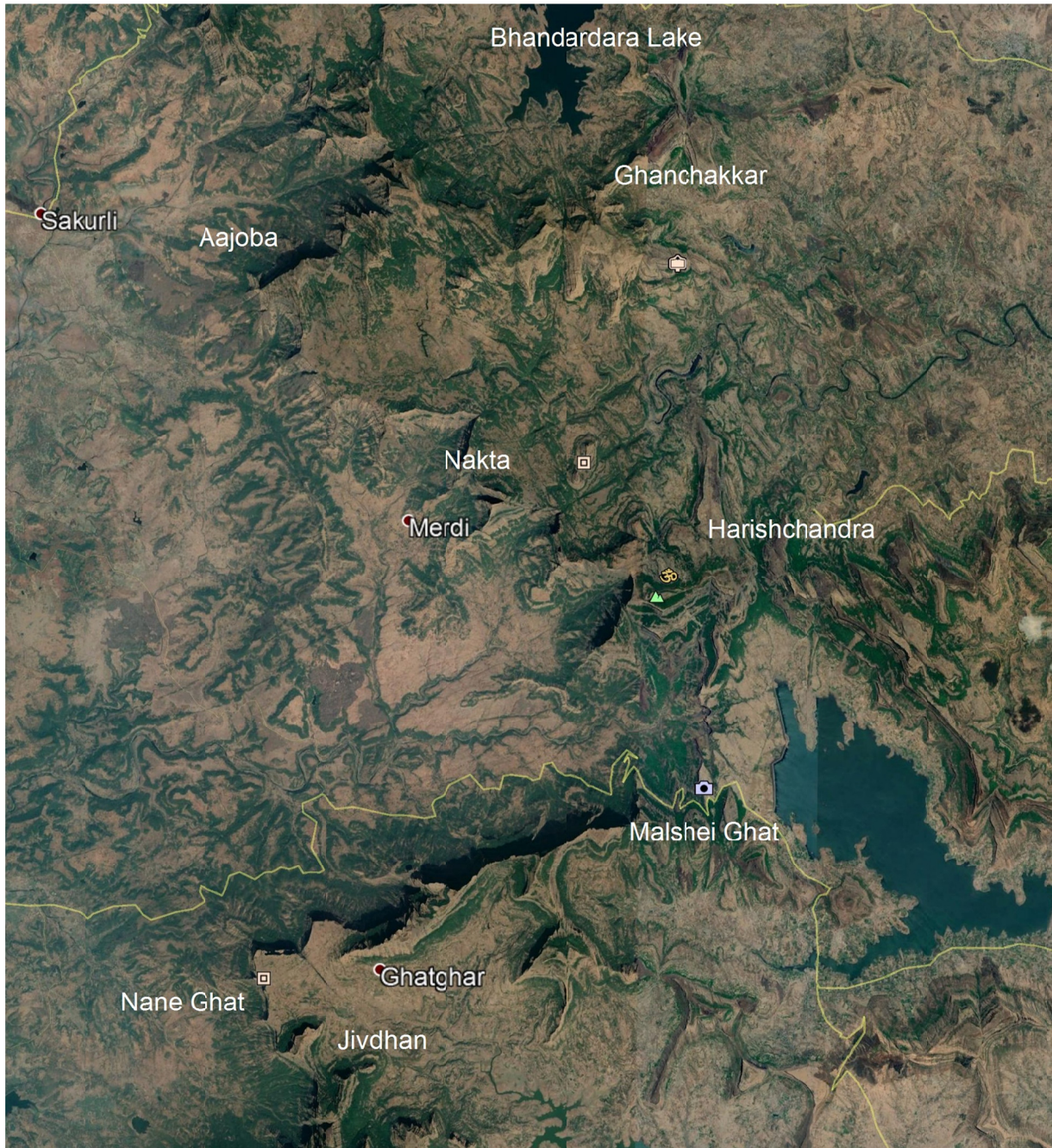


Asherigad - Adsul Google Earth 3D Image

Malshej Ghat Region

54 Nm (100 kms) to the North East of Mumbai airport (at heading 78 degrees from Mumbai) is the spectacular region of Malshej Ghat which is a part of the Sahyadri mountain range. Peaks ranging from 2200 to 4800 feet are located here. Kalsubai, Maharashtra's highest point of 5400 feet is just to the north of this Ghat. This region is mostly observed enroute to North East while heading to Nagpur, Ranchi, Kolkata or Bhubaneswar.

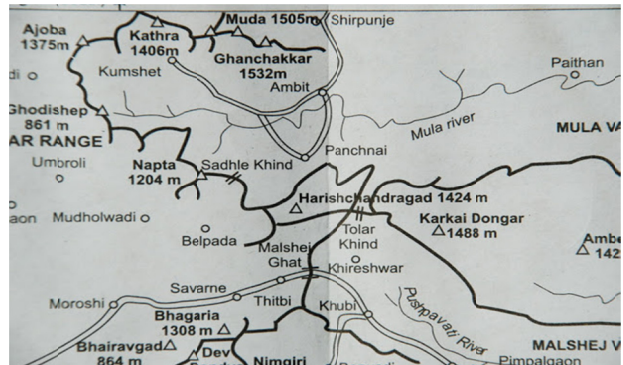
Once while heading east to Bhubaneswar I was lucky to capture the hills around the Malshej Ghat. With stalwarts like Harishchandra, Nane Ghat, Aajoba and the twin hills of Ghanchakkar.



Nane Ghat to Aajoba - Ghanchakkar



Map of Malshej Ghat Region from the book Sahyadri Companion by Young Zingaro Trekkers

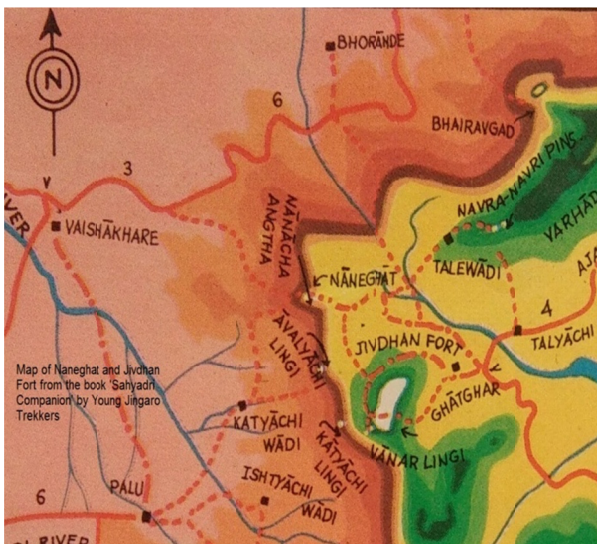


Map of Malshej Ghat/ Harishchandragad from Harish Kapdia's book Trek the Sahyadri



Map of Malshej Ghat/ Harishchandragad from Survey of India Maps

Nane Ghat and Jivdhan Fort

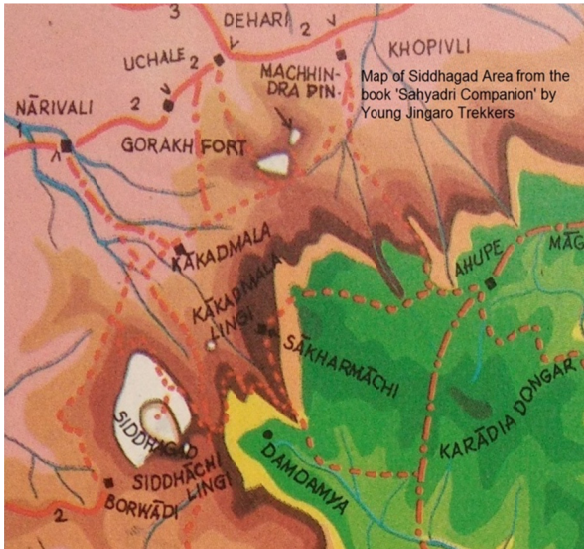
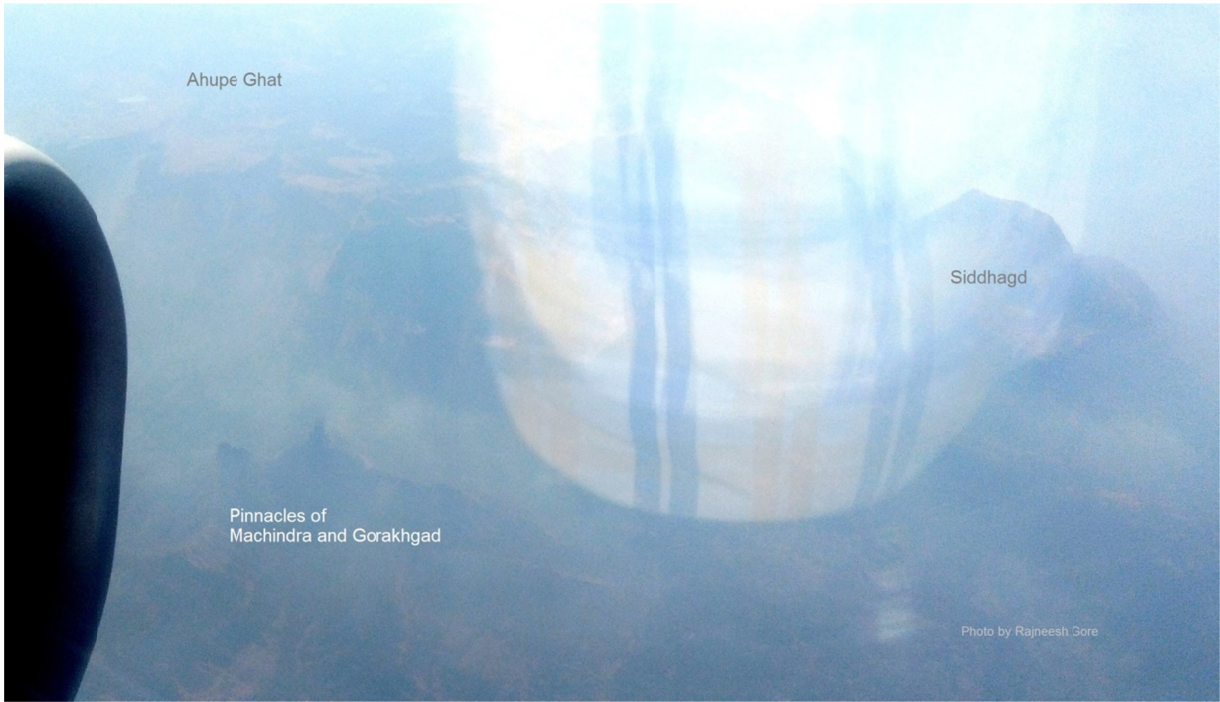


Map of Nane Ghat and Jivdhan from the book Sahyadri Companion by Young Zingaro Trekkers



Map of Nane Ghat and Jivdhan from Survey of India Maps

Siddhagad, Gorakh, Machindra, Ahupe Ghat and Padargad near Bhimashankar Region



Map of Siddhagad, Gorakhgad, Machindrgad from the book Sahyadri Companion by Young Zingaro Trekkers



Map of Siddhagad, Gorakhgad, Machindrgad from Survey of India



Siddhagad and Padargad (Bhimashankar Region)

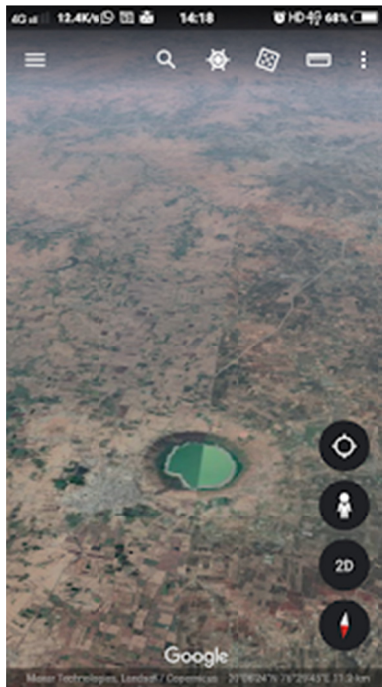


Siddhagad, Bhimashankar and Padargad (Bhimashankar Region)

Miscellaneous places

Once enroute to Mumbai from Bhubaneswar approx. 50 mins before arriving into Mumbai I noticed this peculiar water body with a stadium like shape to the south. Most water bodies are organic in shape, rivers are serpentine, and canals are fine lines from the air. My plane had just flown over Nagpur some time back and we were heading west to Mumbai. I could see the water body at a comfortable distance to south below me. I took as many pics as I could. A few minutes later the plane flew close to Aurangabad and landed in Mumbai later.

Could that have been Lonar Lake?



Here is how I have base my claim!

The next day I tracked the same flight on flight radar. It flew approx. 15 kms from the north of Lonar Lake. Flight path seemed similar to mine since I took the snap while sitting on the port side of the aircraft flying west.

An Airbus A320 neo's cruise speed is 520Nm per hour (ie 8.66 Nm per minute). Nagpur sits halfway between Bhubaneswar - Mumbai. Mumbai - Bhubaneswar Flight time is approx. 2 hours. Lonar is approx. 210 Nm from Mumbai. Nagpur - Lonar is approx. 160 Nm (ie; 18 mins of flight time) Lonar - Mumbai is 200 Nm (ie 25 minutes of direct flight time, time lost to traffic extra)

This claim is open to challenge!

Mumbai South



Kutubh Minar



For this blog I acknowledge the following sources;

Books/ Maps

Trek the Sahyadri by Harish Kapadia

Sahyadri Companion by Young Zingaro Trekkers

Survey of India Maps

Google Earth

People

Capt. Ameya Pangam

Suhas Joshi, Journalist

Yogesh Kulkarni

Anand Joshi

Further links;

For more of my articles do visit;

<https://drive.google.com/drive/folders/12IMzgBFyBTsZFbsrASErq3Pf6Om9vW0H>

<https://drive.google.com/drive/folders/1ok66TQj3z0CYIkrOjDJuPYUJsyn6Uy1H>

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