2010

Dossier of

The Proposed Iron Ore Mining in the Sawantwadi -Dodamarg stretch of the SINDHUDURG Dist, Maharashtra, India

Mining Projects in the northern Western Ghats (*Sahyadris*)

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Executive Summary

Various mining projects have been proposed in the Sindhudurg district of Maharashtra. The proposed mining area seeks to destroy about 200 sq km. in the Western Ghats part of the Sawantwadi and Dodamarg blocks of the district in the core of the northern Western Ghats.

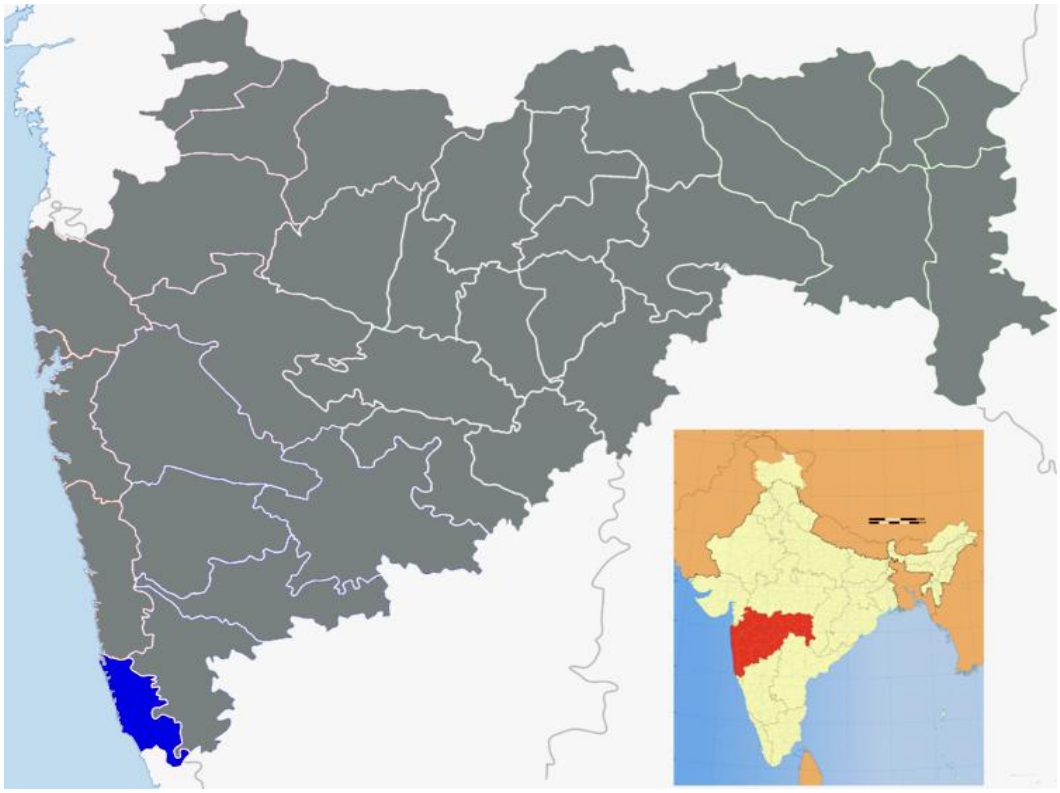
We object to these mining projects for the following reasons:

1. The proposed mining area falls in the Western Ghats region, which is identified as one of the ecological hot spots of the world that need to be protected to safeguard the biodiversity of the planet.
2. There are Reserve Forests and sacred groves within a 10 km radius of the proposed mining area which would get affected by mining activity.
3. The area is rich in endemic and endangered species of flora and fauna. The area serves as an important wildlife corridor for large animals including the endangered Tiger.
4. There are a number of perennial springs, streams and rivers in this area which would be completely destroyed by the mining activity due to runoff and siltation. These water resources are the only source of water (both domestic and agricultural purposes) for the area.
5. These perennial water streams feed the Terekhol River, which lies within the buffer zone of the mining lease areas and provides drinking water to parts of north Goa.
6. Irrigation canals that are part of the interstate irrigation project (Maharashtra - Goa) are situated in the proposed mining areas (situated in village Dongarpal).
7. Agriculture, mixed plantations and agro-forestry are the primary occupation of the villages in the stretch.
8. The proposed mining activities would entail massive deforestation in the watershed area leading to ground water depletion, thus desiccating the landscape, making existing traditional water harvesting and irrigation systems dysfunctional and causing water scarcity in an area originally known for its high ground water table.
9. Pollution due to mining would increase toxicity in the soil and water. Mining would also reduce soil fertility of surrounding areas thus affecting important cash crops such as betel nut, coconut, mango and cashew.

10. The unavoidable effect of the runoff depositing itself on the paddy fields is sure to destroy farm lands beyond repair. Plantations and agricultural lands would dry up. It will destroy the local economy.
11. Very high levels of dust pollution caused due to mining would have a negative impact on the vegetation in the surrounding areas. Very high levels of Suspended Particulate Matter (SPM) will also result in respiratory diseases and other health hazards.
12. High noise levels and vibrations due to mining activity would also have an impact on the villages and the adjoining forests.
13. The boundary of the proposed mining area continues right up to the edge of the village (directly abutting the houses). It will not be possible for the settlement to survive once the open cast iron ore mining starts and will lead to the displacement of the local community.
14. Employment that the mining companies offer are best suited for people with no basic education (mine helpers, security, labourers etc.). A region with over 80% literacy rate comprising self-sufficient farmers with fertile lands do not need this kind of employment.
15. The Siddhanath Samadhi is located on the top of the hill forms the highest point in one of the villages offering a panoramic view of the region. Due to its aesthetic and religious significance the villagers have submitted a proposal to the government to get it declared as a tourist site. This hill falls within the mining area and the mining activity would have an adverse impact on the environment, aesthetic and cultural value of the site.
16. Historical fort Hanumantgad built by the Maratha King Shivaji is in the vicinity of the proposed mining site.
17. This region has a tree density of 0.8-1%.

The Region

Sawantwadi-Dodamarg block, Sindhudurg district, Maharashtra



Map 1: Location of the Sindhudurg district

Map 2: Map of the Sindhudurg district, showing Sawantwadi-Dodamarg stretch (in red line). Map not to be scaled

Sindhudurg is a district in southern Maharashtra. It is bordered on the north by Ratnagiri district, on the south by the state of Goa, on the west by the Arabian Sea, and to the east across the crest of the Western Ghats or Sayadhris is Kolhapur district. Sindhudurg is part of the Konkan (coastal) region, a narrow coastal plain in western Maharashtra which lies between the Western Ghats and the Arabian Sea.

Sindhudurg District Fact File

Geographical Details	
Geographical co-ordinates	North Latitudes: 15.37 to 16.40 East Longitude: 73.19 to 74.18
Area	5,207 sq km
Climate	Min. Temp: 16.3° C Max. Temp: 33.8° C
Rainfall	3,287 mm (annual average)
Important rivers	Terekhol, Gad, Devgad, Karli, Vaghotan
Forest Area	38,648 Ha.
Demographic Details	
Population	8,68,852
Density	167 per sq km
Administrative Details	
Tehsils	1. Dodamarg 2.Sawantwadi 3.Vengurla 4.Kudal 5. Malvan 6.Kankavli 7.Devgad 8. Vaibhavwadi
Villages	743
Towns	5
Agricultural Details	
Major Crops	Rice, Kokum, Coconut, Mango, Cashew
Annual Crops	Kokum, Mango, Cashew

N.B:

1. **The area is has 91 per cent rural population.**
2. **74% of the total holdings in the district are held by small and marginal farmers.**

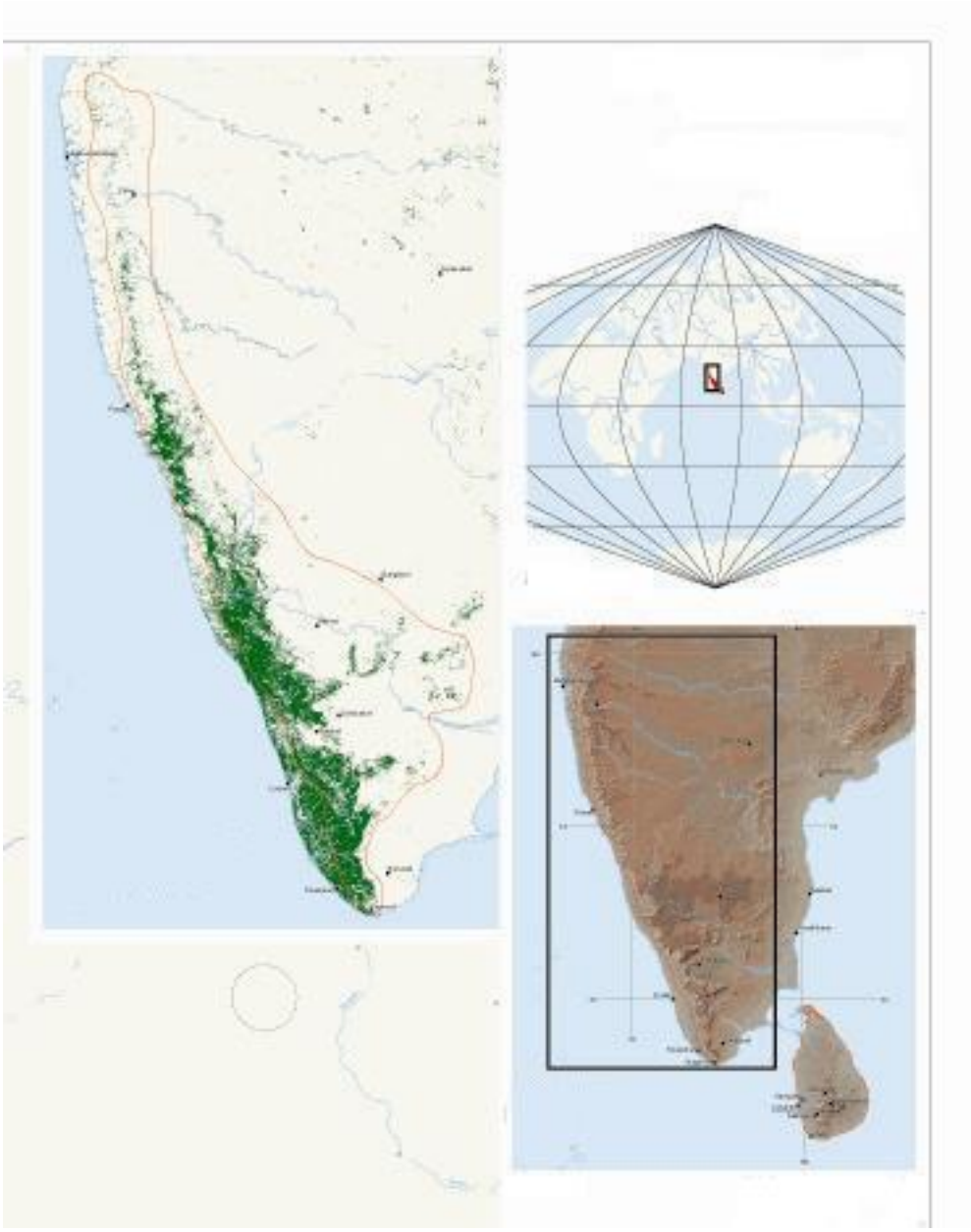
The Sawantwadi Dodamarg stretch lies in the southernmost part of the district. The most beautiful and bio diverse region of Maharashtra, the stretch is a wildlife biologist's paradise and a tourist's delight comprising both coastal and hill ecosystems. The stretch is home to intertidal forests and evergreen forests.

Following is a brief fact-file of the stretch.

1. This region lies in the heart of the biodiversity hotspot, Western Ghats.
2. Perennial water bodies which are a lifeline for the region as well as parts of north Goa (Mapusa and Bicholim) originate in this region.
3. The region forms an integral part of the Sahyadri Konkan wildlife corridor* facilitating movement of wild animals like the Asiatic Elephant (*Elephus maximus*) and the critically endangered Tiger (*Panthera tigris*).
4. It is home to endemic (Slender Loris, Malabar Giant Squirrel) and globally threatened species of flora and fauna.
5. The stretch has 127 types of trees, 66 types of shrubs, 29 climbers, 4 bamboos, 15 grasses and 99 types of medicinal plants.
6. The region fulfils the criteria of the Pranab Sen Committee** thus making it eligible to be declared an eco-sensitive area.
7. Wild elephants, vagrant from Karnataka, who are unable to go back due to man- made barriers, have become denizens of the forests in the stretch.
8. Villages in this stretch are agrarian with over 80 per cent of the population being literate self-sustaining.
9. 19 lakhs tree were cut in the Sawantwadi taluka alone from 2008-2010.

*Refer chapter 3
**Refer Chapter 4

The Western Ghats



Map 3: Location of the Western Ghats

The Western Ghats, also known as the Sahyadri Mountains, is a mountain range along the western side of peninsular India. It runs north to south along the western edge of the Deccan Plateau, and separates the plateau from a narrow coastal plain along the Arabian Sea. The range starts near the border of Gujarat and Maharashtra, south of the River Tapti, and runs approximately 1,600 km through the states of Maharashtra, Goa, Karnataka, Tamil Nadu and Kerala ending at Kanyakumari, at the southern tip of India.

These hills cover 1, 60, 000 km² and form the catchment area for a complex of river systems that drain almost 40 per cent of India. The average elevation is around 1,200 metres. The mountains intercept the rain-bearing westerly monsoon winds, and are consequently an area of high rainfall, particularly on their western side. The dense forests also contribute to the precipitation of the area by acting as a substrate for condensation of moist rising orographic winds from the sea, and releasing much of the moisture back into the air via transpiration, allowing it to later condense and fall again as rain.

The area is one of the world's biodiversity hotspots and has over 5,000 species of flowering plants, 139 mammal species, 508 bird species and 179 amphibian species. At least 325 globally threatened species are found in the Western Ghats.

Climate

The climate in the Western Ghats varies with altitudinal gradation and with the distance from the Equator. The climate is humid and tropical in the lower reaches tempered by the proximity to the sea. Elevations of 1,500 metre and above in the north and 2,000 metre and above in the south have a more temperate climate. The average annual temperature here is around 15°C. Frost is common in some parts, and temperatures touch the freezing point during the winter months. Mean temperature range from 20°C in the south to 24°C in the north. It has also been observed that the coldest periods in the south Western Ghats coincide with the wettest.

During the monsoon season between June and September, the unbroken Western Ghats chain acts as a barrier to the moisture laden clouds. The heavy, eastward-moving rain-bearing clouds are forced to rise and in the process deposit most of their rain on the windward side. Rainfall in this region averages 3,000–4,000 mm with localised extremes touching 9,000 mm. The eastern region of the Western Ghats which lie in the rain shadow, receive far less rainfall averaging about 1,000 mm bringing the average rainfall figure to 2,500 mm. Data from rainfall figures reveal that there is no relationship between the total amount of rain received and the spread of the area. Some areas to the north in Maharashtra while receiving heavier rainfall are followed by long dry spells, while regions closer to the equator receiving less annual rainfall, have rain spells lasting almost the entire year.

Rivers

The Western Ghats form one of the three watersheds of India, feeding the perennial rivers of India. Important rivers include the Godavari, Krishna, and Kaveri. The west-flowing rivers that drain into the Arabian Sea are fast-moving, owing to the short distance travelled and steeper gradient. Important rivers include the Mandovi and Zuari. Many of these rivers feed the backwaters of Kerala and Maharashtra. Rivers that flow eastwards of the Ghats drain into the Bay of Bengal. These are comparatively slower moving and eventually merge into larger rivers such as the Kaveri and Krishna. The larger tributaries include the rivers Tunga, Bhadra, Bhima, Malaprabha, Ghataprabha, Hemavathi and Kabini. In addition, there are several smaller rivers such as the Chittar, Manimuthar, Kallayi, Kundali, Pachaiyar, Pennar, Periyar and Kallayi.

During the monsoon, numerous streams fed by incessant rain drain off the mountain sides leading to many spectacular waterfalls. Among the most well-known are the Jog Falls, Kunchikal Falls, Sivasamudram Falls, and Unchalli Falls. The Jog Falls is the highest natural plunge waterfall in South Asia and is listed among the 1,001 natural wonders of the world. The Talakaveri WLS is a critical watershed and the source of the river Kaveri. This region has dense evergreen and semi-evergreen vegetation, with shola-grassland in areas of higher elevation. The Sharavathi WLS and Someshvara WLS in Shimoga district are the source of the Tungabhadra River system. The Netravathi River has also its origin in the Western Ghats, flowing westwards to join Arabian Sea at Mangalore.

Eco region

The Western Ghats are home to four tropical and subtropical moist broadleaf forest Eco regions – the North Western Ghats moist deciduous forests, North Western Ghats montane rain forests, South Western Ghats moist deciduous forests, and South Western Ghats montane rain forests.

The northern portion of the range is generally drier than the southern portion, and at lower elevations makes up the North Western Ghats moist deciduous forests eco region, with mostly deciduous forests made up predominantly of teak. Above 1,000 metres elevation are

the cooler and wetter North Western Ghats montane rain forests, whose evergreen forests are characterised by trees of family Lauraceae.

The evergreen Wayanad forests of Kerala mark the transition zone between the northern and southern eco regions of the Western Ghats. The southern eco regions are generally wetter and more species-rich. At lower elevations are the South Western Ghats moist deciduous forests, with Cullenia the characteristic tree genus, accompanied by teak, dipterocarps and other trees. The moist forests transition to the drier South Deccan Plateau dry deciduous forests, which lie in its rain shadow to the east.

Above 1,000 metres are the south Western Ghats montane rain forests, which are cooler and wetter than the surrounding lowland forests, and are dominated by evergreen trees, although some montane grasslands and stunted forests can be found at the highest elevations. The South Western Ghats montane rain forests are the most species-rich eco region in peninsular India; eighty percent of the flowering plant species of the entire Western Ghats range are found in this eco region.

Biome Protection

The Government of India established many protected areas including 2 Biosphere Reserves (BR), 13 National Parks (NP) to restrict human access, several Wildlife Sanctuaries (WLS) to protect specific endangered species and many Reserve Forests (RF), which are all managed by the forest departments of their respective states to preserve some of the eco regions still undeveloped. Many NPs were initially WLSs. The Nilgiri BR comprising 5,500 km² of the evergreen forests of Nagarahole, deciduous forests of Bandipur NP and Nugu in Karnataka and adjoining regions of Wayanad and Mudumalai NPs in the states of Kerala and Tamil Nadu forms the largest contiguous protected area in the Western Ghats. The Silent Valley NP in Kerala is among the last tracts of virgin tropical evergreen forest in India.

World Heritage Site

In 2006, India applied to the UNESCO MAB for the Western Ghats to be listed as a protected World Heritage Site. This would be composed of 7 adjoining areas:

1. Agasthyamalai Sub-Cluster (with Five Site Elements) including: The Agasthyamalai BR 900 km², includes Kalakkad Mundanthurai Tiger Reserve 806 km² in Tamil Nadu and Neyyar, Peppara and Shendurney WLSs and their adjoining areas of Achencoil, Thenmala, Konni, Punalur, Thiruvananthapuram Divisions and Agasthyavanam Special Division in Kerala.
2. Periyar Sub-Cluster (with Six Site Elements) including: Periyar NP and nature reserve 777 km² in Kerala, Ranni, Konni and Achankovil Forest Divisions. On the eastern side, lying largely in a rain-shadow area with mostly drier forests, lie the Srivilliputtur WLS and RFs of the Tirunelveli Forest Division.
3. Anamalai Sub-Cluster (with Seven Site Elements) including: Chinnar WLS, Eravikulam NP 90 km², Indira Gandhi NP, Grass Hills NP and Karian Shola NP are located within the larger Indira Gandhi WLS 958 km², and Palani Hills NP 736.87 km² (PRO) in Tamil Nadu and Parambikulam WL 285 km² in Kerala.
4. Nilgiri Sub-Cluster (with Six Site Elements) including: The Nilgiri BR with Karimpuzha NP 230 km², Silent Valley NP 89.52 km² and Wayanad WLS 344 km² in Kerala, Bandipur NP 874 km², Mukurthi NP 78.46 km², Mudumalai NP 321 km², New Amarambalam RF in Tamil Nadu. This sub-cluster constitutes a largely secure forest complex of over 6,000 km², which is one of the most globally significant conservation areas for highly threatened species such as the Asian Elephant, Tiger and Gaur, besides dozens of endangered species in other taxa.
5. Talakaveri Sub-Cluster (with six site elements) including: Brahmagiri WLS 181.29 km², Rajiv Gandhi (Nagarhole NP) 321 km², Pushpagiri WLS 92.65 km², Talakaveri WLS (105.01 km²) in Karnataka and Aralam RF in Kerala.
6. Kudremukh Sub-Cluster (with Five Site Elements) including: Kudremukh NP 600.32 km², Someshwara WLS and surrounding RF of Someshwara, Agumbe and Balahalli in Karnataka.
7. **Sahyadri Sub-Cluster (with Four Site Elements) including: Anshi NP 340 km², Chandoli NP 317.67 km², Koyna WLS and Radhanagri WLS in Maharashtra**.

Sahyadri-Konkan Corridor

A wildlife corridor is a habitat that connects wildlife populations separated by human activities (such as roads, development, or logging). This allows an exchange of individuals between populations, which may help prevent the negative effects of inbreeding and reduced genetic diversity (via genetic drift) that often occur within isolated populations. Corridors may also help facilitate the re-establishment of populations that have been reduced or eliminated due to random events (such as fires or disease). This may potentially moderate some of the worst effects of habitat fragmentation. Wildlife corridors are important for large species requiring significant sized ranges; however, they are also vital as connection corridors for smaller animals and plants as well as ecological connectors to provide a rescue effect.

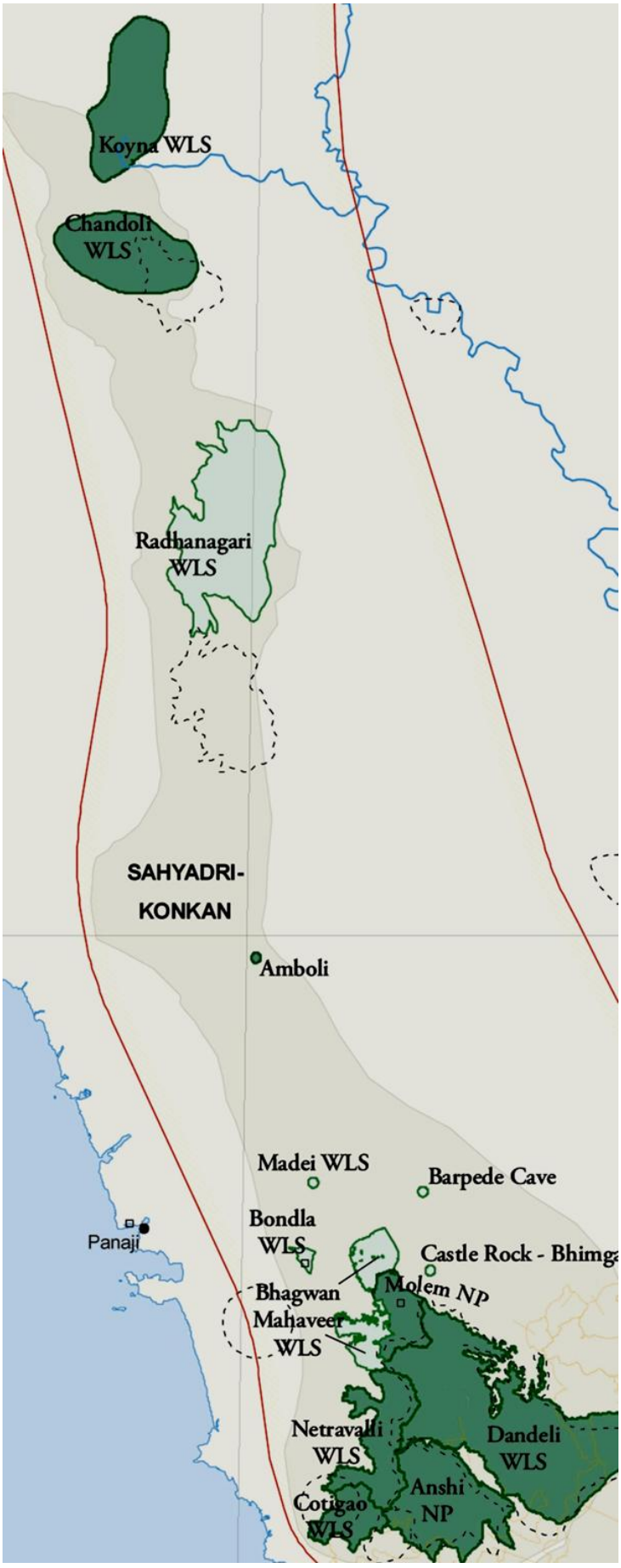
The Western Ghats, the 1,600 km long stretch of mountain range, is home to 332 globally threatened species of flora and fauna. Based on the distribution of these species, **128 key biodiversity areas** have been defined and **five landscape-scale corridors** are identified based on wide-ranging species' movement (predominantly tiger and elephants), distribution and connectivity of suitable habitats. They are as follows:

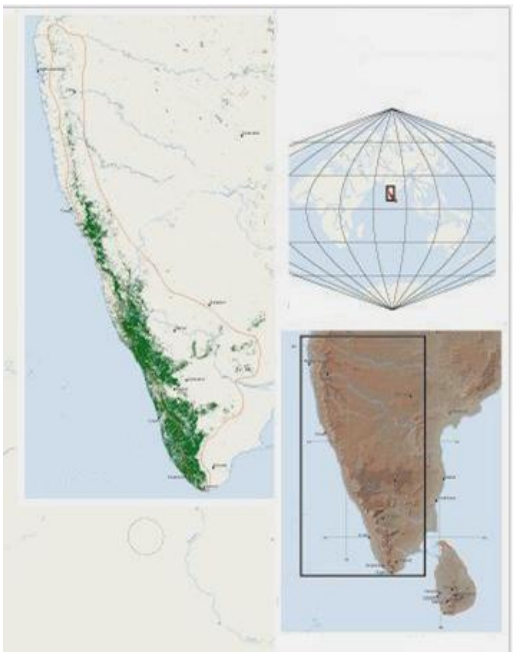
a. Annamalai
b. Malnad-Kodagun
c. Mysore-Nilgiri
d. Periyar-Agasthyamalai
e. Sahyadri-Konkan

The Sahyadri-Konkan Corridor connects the Koyna and Radhanagri WLSs and Chandloi NP in Maharashtra with Madei, Bondla, Bhagwan Mahavir, Netravali, Cotigao WLSs and Molem NP in Goa, and Anshi NP and Dandeli WLS in Karnataka.

Note:

1. The region of the proposed mining is a part of the Sahyadri- Konkan Corridor.
2. The recently declared Sahyadri Tiger Reserve forms parts of the Koyna WLS and Chandoli NP, its notification still pending.
3. Anshi-Dandeli is also a Tiger Reserve in Karnataka.





Map 4: Location of the Sahyadri Konkna Corridor

Government Committees Involved in the Issue

Western Ghats Ecology Expert Panel (WGEEP)

The WGEEP was constituted by the Government of India, in March 2010, chaired by Dr. Madhav Gadgil. Their mandates are as follows:

1. To assess the current status of ecology of the Western Ghats region.
2. To demarcate areas within the Western Ghats Region which need to be notified as Ecologically Sensitive and to recommend for notification of such areas as Ecologically Sensitive Zones under the Environment (Protection) Act, 1986. In doing so, the Panel shall review existing reports such as the Mohan Ram Committee Report, Hon'ble Supreme Court's decisions, Recommendations of the National Board for Wildlife and consult all concerned State Governments.
3. To make recommendations for the conservation, protection and rejuvenation of the Western Ghats Region following a comprehensive consultation process involving the people and governments of all the concerned States.
4. To suggest measures for effective implementation of the notifications issued by the Government of India in the Ministry of Environment and Forests declaring specific areas in the Western Ghats Region as eco sensitive zones under the Environment (Protection) Act, 1986.
5. To recommend the modalities for the establishment of Western Ghats Ecology Authority under the Environment (Protection) Act, 1986 which will be a professional body to manage the ecology of the region and to ensure its sustainable development with the support of all concerned states.
6. To deal with any other relevant environment and ecological issues pertaining to Western Ghats Region, including those which may be referred to it by the Central Government in the Ministry of Environment and Forests.

The Committee formed in March 2010 was supposed to submit their report in September 2010. Dr. Gadgil visited the area in October 2010, and saw first-hand the ecological conditions there. He interacted with many villagers and received over 1300 representations from local inhabitants who were seeking the declaration of the region as an ESA. They also

voiced their opposition to the mining projects. Dr. Gadgil is supposed to submit his findings within a month's time.

Pranab Sen Committee

This Committee was set up by the Government of India to decide upon the criteria to declare areas eco-sensitive. The Committee has defined ecological sensitivity as the imminent possibility of:

(a) permanent and irreparable loss of extant life forms from the world; or
(b) significant damage to the natural processes of evolution and speciation.

The essence of this definition is that loss of bio-diversity needs to be measured not only against some measure of the current stock, but also in terms of the potential that must be preserved for future generations. It also emphasises the view that bio-diversity needs to be seen in the global context, and national responsibilities should not be unlimited. No single nation can afford to take on the absolute responsibility for preservation, protection and conservation of all species that occur within its national territory regardless of their occurrence elsewhere. Protection and conservation of bio-diversity has to be a task that is shared between all the countries of the world in an equitable manner, and excessive onus should not be placed on countries which happen to possess an unusual degree of richness in bio-diversity. Nevertheless, due to its rich biological heritage, India has a special responsibility to conserve and use these resources in a sustainable manner, which is recognised.

Sindhudurg was declared and promoted as India's first eco-tourism district by the State Government of Maharashtra in 1997. The Pranab Sen Committee's criteria for the district to be declared eco-sensitive only reinforces this declaration.

National Tiger Conservation Authority (NTCA)

Recognising the need to protect tigers, Government initiated several measures aimed at conservation and protection of the species. Significant among them were Project Tiger, a centrally sponsored scheme launched in April 1973 and the India Eco-development Project (October 1997-June 2004) funded by external agencies. Besides, efforts were made to prevent illegal wildlife trade to ensure a viable population of tigers in India. The main activities of

Project Tiger include wildlife management, protection measures, and specific eco development activities. 28 Tiger Reserves were created in 17 states between 1973-74 and 1999- 2000. The Project Tiger Directorate (PTD) in the Ministry of Environment and Forests (MoEF) at New Delhi is responsible for providing technical guidance, budgetary support, coordination, monitoring, and evaluation of Project Tiger while the management and implementation of the Project rests with the State Governments concerned.

The Wildlife Protection Amendment Act, 2006, which came into force on September 4 2006, makes provision for the constitution of the NTCA. The functions and powers of the Authority, *inter alia* include, approval of the Tiger Conservation Plan prepared by States, laying down normative standards for tiger conservation, providing information on several aspects which include protection, tiger estimation, patrolling, etc., ensuring measures for addressing man-wild animal conflicts and fostering co-existence with local people, preparing annual report for laying before Parliament, constitution of Steering Committee by States, preparation of tiger protection and conservation plans by States, ensuring agricultural, livelihood interests of people living in and around Tiger Reserves, establishing the tiger conservation foundation by States for supporting their development.

Table I indicates that western Maharashtra has no reserves declared. The recently notified Sahyadri tiger reserve also has its notification pending. This shows that western Maharashtra has been neglected. It is imperative to note that despite receiving information on the presence of four tigers using the Sawantwadi-Dodamarg corridor, neither the NTCA members nor anyone associated with Project Tiger thought it necessary to visit the region and press for it to be notified as a protected area. The NTCA website proclaims that “every tiger counts” but somehow these four tiger (official figures) seem to have been disowned.

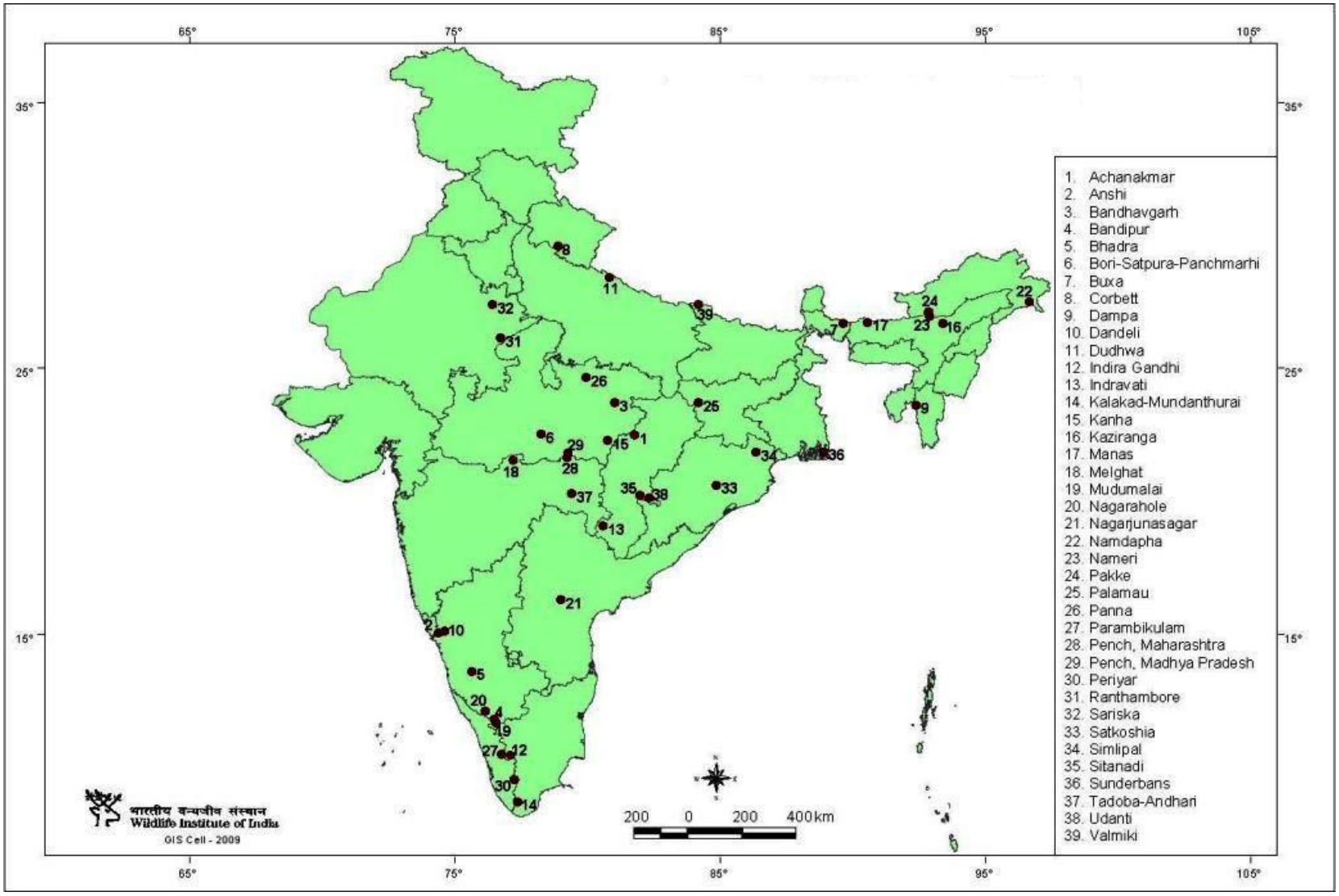
The NTCA members were supposed to visit this region in July, 2010 but the visit hasn’t happened till date and there are no indications if and when this is going to happen. The visit attains significance due to the fact that there are official reports of at least four Tigers using the region as a corridor to traverse to adjoining forest areas (which have already been declared tiger reserves). The figure of four Tigers is official but local villagers testify that they have seen many more Tigers, both adult and cubs.

The NTCA has neglected the northern Western Ghats and though there are tiger reserves in the adjoining tracts the tiger along with other wildlife is left exposed to an environment which has led to man-animal conflict and a decline in the number of fast declining tiger populations.

Sr.No.	Year of Creation	Name of Tiger Reserve	State	Total area of the Core/Critical Tiger Habitat (In Sq. Km.)
1	1973-74	Bandipur	Karnataka	872.24
2	1973-74	Corbett	Uttarakhand	821.99
3	1973-74	Kanha	Madhya Pradesh	917.43
4	1973-74	Manas	Assam	840.04
5	1973-74	Melghat	Maharashtra	1500.49
6	1973-74	Palamau	Jharkhand	414.08
7	1973-74	Ranthambhore	Rajasthan	1113.364
8	1973-74	Similipal	Orissa	1194.74
9	1973-74	Sunderbans	West Bengal	1699.62
10	1978-79	Periyar	Kerala	881.00
11	1978-79	Sariska	Rajasthan	681.1124
12	1982-83	Buxa	West Bengal	390.5813
13	1982-83	Indravati	Chhattisgarh	1258.37
14	1982-83	Nagarjunsagar	Andhra Pradesh	2527.00
15	1982.83	Namdapha	Arunachal Pradesh	1807.82
16	1987-88	Dudhwa	Uttar Pradesh	1093.79*
17	1988-89	Kalakad-Mundanthurai	Tamil Nadu	895.00
18	1989-90	Valmiki	Bihar	840.00*
19	1992-93	Pench	Madhya Pradesh	411.33
20	1993-94	Tadoba Andheri	Maharashtra	625.82
21	1993-94	Bandhavgarh	Madhya Pradesh	716.903
22	1994-95	Panna	Madhya Pradesh	576.13
23	1994-95	Dampa	Mizoram	500.00
24	1998-99	Bhadra	Karnataka	492.46
25	1998-99	Pench	Maharashtra	257.26
26	1999-2000	Pakke	Arunachal Pradesh	683.45
27	1999-2000	Nameri	Assam	200.00
28	1999-2000	Satpura	Madhya Pradesh	1339.264
29	2008-09	Anamalai	Tamil Nadu	958.00
30	2008-09	Udanti-Sitanadi	Chhattisgarh	851.09
31	2008-09	Satkosia	Orissa	523.61

32	2008-09	Kaziranga	Assam	625.58
33	2008-09	Achanakmar	Chhattisgarh	626.195
34	2008-09	Dandeli-Anshi	Karnataka	814.884
35	2008-09	Sanjay-Dubri	Madhya Pradesh	831.25*
36	2008-09	Mudumalai	Tamil Nadu	321.00
37	2008-09	Nagarhole	Karnataka	643.35
38	2008-09	Parambikulam	Kerala	390.89
39	2009-10	Sahyadri	Maharashtra	Notification Awaited
Total				**32137.14**

Table 1: Name location of Tiger Reserves in the country with the year of creation



Map 5: Location of Tiger Reserves in India Courtesy: Wildlife Institute of India, GIS Cel

The Mining Issue: Sawantwadi-Dodamarg Stretch

Mining type	Open Cast
Minerals sought	Iron, Aluminium, Manganese
Area under threat	200 sq. km. dense forests
Number of leases in the region	30
Operational period of extraction	30 years (extendable)

Mining leases have been issued and operations have commenced already in some villages despite evidence of non-compliance of conditions and the lack of socio-economic development (promised by mining companies) in the villages which are in the proximity of mines which are over four decades old; e.g. in the village Redi, district Sindhudurg. The village of Redi has been transformed from that of an agrarian village to that of dumpers; owners who are face financial loss unless they get contracts for carrying excavated mud from nearby areas. The mining companies offer their assistance in securing loans from banks to the villagers to purchase dumpers and promise them contracts at the site. Going by the experience of Redi which has over 200 dumpers in one small village having an area of 4 sq km. the entire Sindhudurg region stands to be transformed from an ecologically rich zone to a dumper parking lot in few years from now. This is the idea of development and prosperity mooted by the political guardians of the State.

On October 12, 2006, a leading mining company from Goa signed a MoU with the Government of Maharashtra for mining projects in the Sawantwadi taluka. Without application of mind and with utter disregard for forest conservation laws, mining companies were encouraged to begin operations. The entire procedure required to commence operations and obtain clearances is riddled with falsehood and fraud. Fake EIA reports and farcial public hearings all contributed to giving the green signals to mining companies to destroy forests and displace ancient villages.

The proposal at Kesari- Phansavde ran into obstacles due to the strong opposition from the PCCF, FD-GoM, Nagpur who confirmed the fact that the region was teeming with wildlife and was an important conservation zone.

The next village in line was Kalne where mining operations are underway even today (which began in 2009) and the region has lost a great deal of its forest cover. This has

happened despite of the villagers confronting the mining agents. During this confrontation, a security guard while fleeing the area, fell off from a jeep and lost his life. 18 villagers were arrested on murder charges and kept in custody for three months without bail, thought they were not involved in the murder, a case was also registered against 47 people for rioting. This action has terrorized the villagers into submission and the mining company has taken advantage of the situation to continue their operations without any opposition. The EIA report for Kalane village lists jackals as the highest predator of the area, despite the district official records recognising the presence of Leopards and Tigers as the top predator. People in Kalne are more than happy to participate in tourism projects and do not want mining to be done at any cost.

The village of Asniye is a village without wells which is a testimony to the fact that it is well inundated with perennial streams and rivers. The village is surrounded by hills on all sides with agricultural lands downhill. The village deity incidentally is the Tiger God (*vagh dev*). The sighting of the tiger is considered auspicious by the villagers and any compensation offered by the government due to loss by tiger attacks is refused as the loss is treated as an offering to god. The entire population of tigers would be wiped out since mining permits have been issued all around it.

The village of Dongarpal has 42,000 cashew trees with a production of 100 tonnes of cashew nuts every year. Besides this coconut and beetle nut are also cultivated in a village with a population of 400 people. There exists a secondary school in the village, a fact which was hidden in the EIA report. There is a perennial river (River Kadshi confluences with the trans boundary Terekhol River) flowing through the village. There are seven densely forested hillocks (400-1100 ft. altitudinal range) surrounding the village from all sides which would be flattened for mining operations. Interestingly and amusingly, the EIA report prepared for this village shows its location in the Arabian Sea, which was accepted.

In the adjoining village of Galel which is next on the miners' list, there exists a water reservoir and irrigation canals built by the government for agricultural purpose. Without waiting for the clearances mining has commenced on either sides of the reservoir.

In this region, wherever public hearings have been held, the mining companies have brought in anti-social elements and hoodlums belonging to politicians with a view to intimidate the villagers. Despite being outnumbered, the villagers have managed to get their protests recorded by the district administration and have stuck together and confronted all those who chose to displace them from their homelands. Expectedly, the district administration headed by the collector chose to underplay this show of intimidation by the

mining agents. Copy of the minutes of the meetings was also not submitted to the villagers even after months from the date of hearing.

EIA reports which require an 18 months long study were done in just three months' time by the EIA agencies. Dense forests were described as scrub forests and wastelands in the EIA reports and showed that very little agriculture was done. It also said that the people were poor and in need of employment.

Applicable Legislations

Mining of minerals other than coal, lignite, natural gas and petroleum is regulated under the Mines and Minerals (Development & Regulation) Act, 1957, amended in 1994, Mineral Concession Rules, 1960; and the Mineral Conservation and Development Rules, 1988. These acts and rules have provisions for environment preservation and protection while carrying out mining operations. In addition, there are five main environmental acts which are applicable to the mining industry, they are Water (Prevention and Control of Pollution) Act, 1974; Air (Prevention and Control of Pollution) Act, 1981; Environment (Protection) Act, 1986; Forest (Conservation) Act, 1980; Wildlife (Protection) Act, 1972.

Mines and Minerals (Development & Regulations) Act, 1957 (amended in 1999CC)

This act provides for general restriction on undertaking prospecting and mining operations; procedure for obtaining prospecting licenses or mining leases; and conservation and systematic development of minerals.

Mineral Concession Rules (MCR), 1960 (amended in 2000)

These rules framed under the MMDR Act, 1957 and subsequent amendments stipulate that a "Mining Plan" shall incorporate, amongst others, a plan of the area indicating water sources, limits of forest areas, density of tress, impact of mining activity on forest, land surface and environment including air and water pollution; scheme for restoration of the area by afforestation, adoption of pollution control device and such measures as may be directed by the concerned Central and State Government agencies. Environmental Management Plan (EMP) therefore forms a part of the Mining Plan.

Mineral Conservation & Development Rules (MCDR), 1988 (amended in 2000)

These rules contain a chapter devoted to environment. There are 11 provisions in this chapter pertaining to storage and utilisation of top soil, storage of overburden, waste rock, reclamation and rehabilitation of land, measures against ground vibrations, control of surface subsidence, measures against air and noise pollution, discharge of toxic liquids, and restoration of flora.

Water (Prevention and Control of Pollution) Act, 1974

and **Air (Prevention and Control of Pollution) Act, 1981**

These two acts provide for the control of water and air pollution and to tackle environmental problems in an integrated way by the establishment of one Central Board and individual State Boards. The acts prohibit waste emissions without written consent and payment of fees to the State Pollution Control Board

The Forest (Conservation) Act, 1980

This act provides for the protection of two classes of forest; Reserved and Protected Forests (RFs and PFs). Prior approval of Government of India is required for any change in status of RFs or non-forest use of protected forest land. The RF has the highest conservation status and the area so classified cannot be used for any non-forest purpose. Surface and underground mining are deemed non-forest activities and, therefore, MoEF approval is required for mineral concessions in any forest area.

The act stipulates that, for any area of forest lost due to development, the developers have to pay for purchase of an equivalent area of non-forest land as near as possible to the site of diversion, or twice the degraded forest area, for transfer to the State Forest Department with sufficient funds for compensatory afforestation which is then declared as a PF.

The Safety Zone for mining operations cannot form part of the replacement forest area. The developers have to provide funds to the State Forest Department for one and half times the forested area of the safety zone. The act has now been modified with respect to underground mining so that only the area actually damaged by subsidence need be replaced by duly afforested non-forest land.

The Environment (Protection) Act, 1986

This is an umbrella legislation. The act has precedence over the previous pollution control acts and provides for overall protection and improvement of the environment. The Government of India is empowered by EPA to take all measures deemed necessary for protection and improving the quality of the environment, and preventing, controlling and abating environmental pollution including authority to direct closure of any industry or operation. The powers of the Government of India under the act provide for laying down of standards for emissions and discharge of pollutants from all sources.

The Ministry of Environment and Forests has notified the Hazardous Waste (Management & Handling) Rules in 1989 under EPA. These rules provide for control on generation, collection, treatment, transport, import, storage and disposal of hazardous wastes. The rules clearly state that import of waste for dumping is completely prohibited. The implementation of these rules is through the State Pollution Control Boards and the State Departments of Environment.

Wildlife (Protection) Act, 1972

This act provides power to the authorities for regulating hunting of wild animals, declaration of any area to be a sanctuary, national park or closed area, protection of specified plants, sanctuaries, national parks and closed areas and miscellaneous matters.

Measures to be Taken

1. Urgent action to get the area (Sawantwadi - Dodamarg) notified as an ESA.
2. Setting up of a district council comprising representatives from all villages in the region. The council will be actively involved with the forest department to ensure protection of the forest cover, its wildlife and water resources.
3. Encouragement for eco-tourism: Development of homestays, but keeping middlemen and hotel chains out of the region. A tourism council would be needed to be set up comprising of community leaders from the villages which will co-ordinate locally with MTDC and NGOs which promote eco-tourism.
4. Educational campaigns to prevent expansion of existing horticultural and agricultural areas into forest land.
5. Village-wise case studies will be prepared and uploaded on the Vanashakti website and used for a PIL whenever required.