



Passing the buck for the damage done by mining companies in Goa has been a regular pastime among the statutory authorities. This is how the blame game works:

The Goa State Pollution Control Board held the view that it was not required to grant consents under the Air and Water Pollution Control Acts, on the specious grounds that what happened on the mining leases was the responsibility of the Regional Controller of Mines. As a result, the regulations under these two Acts remained unenforced vis-a-vis mining, and no authority bothered about air and water pollution control for the past 40 years. It is only in the year 2006 that the Board com-

The blame game

Pinning the responsibility for the destruction of Goa

menced granting consents under these two Acts. The Board still refuses to monitor air and water pollution from mining. It says that all air pollution from mining trucks is the responsibility of the RTO under the Motor Vehicles Act. All discharges into the rivers are beyond its control.

The Regional Controller of Mines (RCM) indicates it is not concerned with the pollution caused by mines as this is the responsibility of the Ministry of Environment which grants environment clearances after looking into all aspects of the environment, and the Pollution Control Board, which has to monitor pollution levels. The RCM says it is only concerned with approval of mining plans.

The Department of Mines, Government of Goa, says its only job is to grant the leases for mining. It does not concern itself with mining operations after the leases are granted. That is the responsibility of the office of the District Collector (if people are affected), or the Pollution Control Board or the RCM.

The Ministry of Environment and Forests, Government of India, admits that it grants environment clearances but insists that this clearance is effective only if the mining company has obtained NOCs from the Wildlife Warden, the State Pollution Control Board and other authorities. It claims that when it grants environment clearances, it does not consider the impacts of mining operations on

wildlife and forests as there are separate departments for these aspects. Hence, its environment clearances are issued without any reports on these critical environmental components. Parties must get these separately. This is the equivalent of the MoEF saying that it issues a formal graduate degree to a student, but the degree is valid provided that the student has obtained a pass certificate in all his/her subjects! How does one grant an environment clearance when the issue of forests and biodiversity impacts are not considered by the expert committee? The significant fact is once an environment clearance is granted, all other approvals are granted as a matter of routine because it is simply assumed by all the authorities lower down that

the environment clearance was granted after taking all relevant factors into consideration! Many of the officers in the field (like Chief Wildlife Wardens) are actually subordinate officers in the Environment Ministry: try getting any of them to produce a report contrary to their bosses!

It is ironic that the entire procedure for grant of environmental clearance was recently reviewed and revised by the previous Environment Secretary, Prodipto Ghosh, under the garb of infusing them with scientific procedures and bases. Can this be called a scientific improvement, or was the review exercise by this former ADB official skilfully engineered to sabotage the environment laws in favour of business?



As of December 31, 2007, there were about 70 mines cleared for operation in Goa by the Ministry of Environment and Forests (MoEF), which granted its clearances without visiting any of these devastated areas. In addition, there are a large number of illegal mines. A list of mines is provided on the reverse of the maps attached at the end of the book.



- These “environment” clearances do not take into account the severe ecological havoc perpetrated by these mines over the past decades, but treat the mining as if it is just due to start. The past is forgiven in the interest of business! No conditions are therefore imposed for restitution, repair and recovery of ecological endowments from earlier activity;
- No conditions are imposed to protect the right to life of the settled communities on or adjacent to the mining leases, to protect their quality of air (including dust and noise pollution) and water;
- Clearances have been issued for “two years” with the requirement that the companies produce a hydrogeological certificate that their activities will not impact the ground water. However, the clearances record that mining has already intersected the ground water table. The Ministry, when it issued such orders, had only a base-line study done after 2005 and despite the experts knowing that it would take from 4-5 years years for scientific studies on impact;
- The clearances were issued without considering impact on forests, as MoEF claims “forests” are not part of “environment” as per its procedures; similarly with wildlife;
- Carrying capacity of the Western Ghat system to absorb the impact of all the leases approved taken together was not even considered;
- No protection was afforded to adjoining rivers or lakes;
- No consideration was allowed of rich agricultural plantations and farms. According to the MoEF and its experts, such concerns are seen as being part of “environment” clearances;
- The clearances were granted on concocted data produced by the companies without independent verification by authorities.

A good number of leases lie within the wildlife sanctuaries. The Goa Government allowed mining to continue in these leases despite the Supreme Court's orders till they were stopped by the Central Empowered Committee. Within the last year, the expert committee and the MoEF have granted environment clearance to three leases within the Netravali wildlife sanctuary!





Environment clearances have been granted for several leases that were notified as “reserve forests” under the Indian Forest Act, 1927.

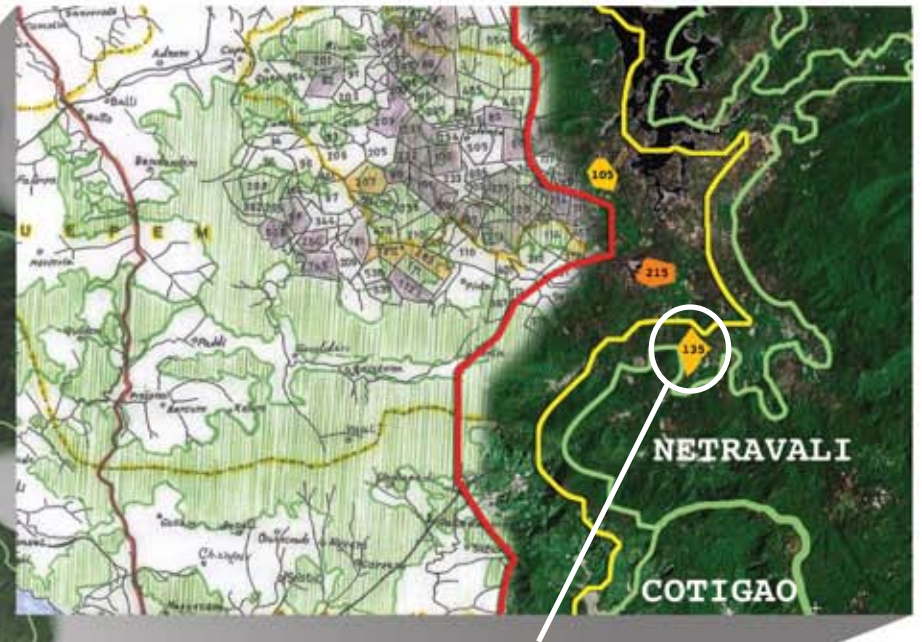
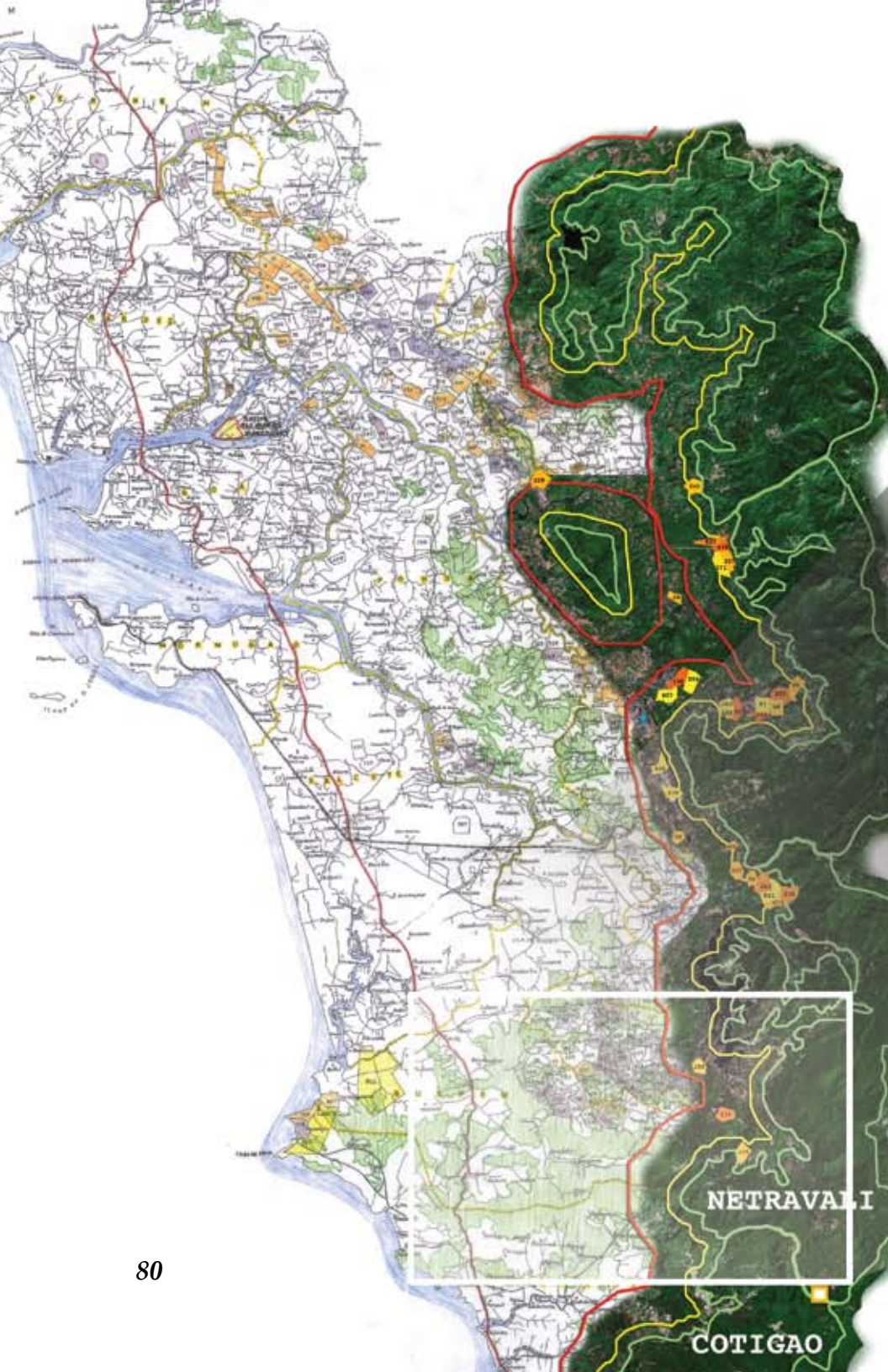


As the maps indicate, the so-called expert committees of the MoEF have approved open-cast mining within 1-3 km of Goa's wildlife sanctuaries. If the protector himself turns hunter, pity the game. As the white square within this map indicates, mining leases have been granted "environment clearance" even when located within the corridors enveloped by three connected wildlife sanctuaries.





The story of the mining industry in Goa is replete with gross violations of the law, and abuse of the land.



Take, as an example, the case of the mine with TC no. 135, circled in white on the map extract above. This mine is located within/on the boundary of the Netravali sanctuary. The document on the facing page is the opening sheet of the environmental clearance provided to this mine by the MoEF. Read it carefully.

J-11015/373/ 2007- IA. II (M)
Government of India
Ministry of Environment & Forests

Tel no. 24363973
E mail: plahujarai@yahoo.com
Paryavaran Bhavan, C.G.O. Complex,
Lodi Road, New Delhi-110003
Dated the August 9, 2007

To
M/s Sociedade Sri. Mahalaximi Companhia Mineira Limitada
C/o Velingkar's House, Post Mardol
Veling, Goa 403 404

Sub: Expansion of Macodiatolem E Mamatambo Iron ore mine (ML area 72.72 ha, 0.373 MTPA of iron ore map no. 135 TC No. 27/50) at village Netorlim, Sanguem Taluka, district South Goa M/s Sociedade Sri Mahalaximi Companhia Mineira Limitada - - reg. environmental clearance.

Sir,

The undersigned is directed to refer to your letter no. SSMCML/67/2006-07 dated 28.3.2007 on the subject mentioned above.

2. The Ministry of Environment and Forests has examined the application. It has been noted that the proposal is for mine lease renewal and enhancement of Iron Ore production from 50,000 TPA to 0.373 MTPA. The mine is located in district South Goa in Goa. Total mine lease area is 72.72 ha of which 39.12 ha is government forest land and 33.60 ha is private land. Forestry clearance is required. Life of the mine will be 19 years. Area of Excavation (Mining) will be 26.1245 ha, 0.10 ha for storage of top soil, 15.5414 ha for overburden dump, 0.90 ha for mineral storage, 0.60 ha for infrastructure, 2.4423 ha for roads, 3.0 ha for green belt and 27.0118 ha for future use. The topography of the area is hilly and undulating. No eco-sensitive area such as National Park/Wild life Sanctuary/Biosphere reserve etc is located within core zone. However, Cotigao wild life sanctuary is located at a distance of 4.0 km towards South of the lease. Also, proposed Netorlim Wildlife Sanctuary will be near the eastern boundary of ML area. Elevation of the Mining lease is from 90 to 155 m above MSL. The present working depth of the mine is 115m above MSL. Method of mining will be open cast and mechanized. No drilling and blasting is involved. The ultimate working depth of the mine will be 57.75m above MSL. The ground water table is around 71.75 MSL, i.e., 14m above the lowest workings planned. The piezometric levels in boreholes are between 30 to 40m MSL. The mining is likely to go 18m below the water table at the end of the mine life. However, during first five years mining will not intersect the ground water table. Water requirement of 80 m³/day will be met from the stored/ground water. Solid waste to be handled till the life of the mine will be about 6.77 million tonnes. It is proposed to dump 36% of the solid waste outside the lease area and 64% of waste material is proposed to be backfilled. It is noted that Public hearing was held on 06.09.2006. Mining scheme and mine closure plan approval was obtained from IBM on 11.11.2003. Cost of the project is Rs. 13.60 lakhs.

3. The Ministry of Environment and Forests has examined the application in accordance with Section 12 of the Environmental Impact Assessment Notification, 2006, read with para (2.2.1

http://164.100.194.13:8080/allied_envclr/show/Approvedletters1994.do?projectCode=J... 8/28/2007

Of particular interest are the lines circled in red:

- The clearance refers to Cotigao Wildlife Sanctuary as being “located at a distance of 4.0 km towards South of the lease”. Where is the point of mentioning Cotigao when in fact this lease borders and spills into the Netravali Wildlife Sanctuary and has nothing to do with Cotigao? This is a deliberate attempt to mislead and is not confined to this example alone.
- The sanctuary directly affected is Netravali. The clearance gets around this by referring to the Netravali Wildlife Sanctuary as “proposed”. The fact is that the sanctuary was notified by the Forest Department as far back as 1999.
- Even had this not been the case, the Supreme Court’s order banning mining in protected areas covers *all* sanctuaries, whether notified under Section 18 (proposed) or Section 35 (final) of the Wildlife Protection Act, 1972. The Wildlife Act defines a ‘sanctuary’ as an area notified either under Section 18 or 35 of the Act.

What is most shocking about documents such as this, is that this subterfuge is being practised by the very Ministry set up to protect India’s wildlife and forest resources.

MoEF reduces public hearings to a farce

Nothing illustrates the complete farce involved in MOEF supervised public hearings as the instance of the hearings surrounding the Sarvona mining lease located at a hamlet called Vathadev in Bicholim Taluka.

The Sarvona mining lease (TC 28/53) of M/s. Zantye & Co. Pvt. Ltd. was granted in 1953! (It was operated manually for manganese sporadically till 1956. Thereafter, mining was permanently stopped). The lease covers an area of 72.00 ha. which – 50 years later – is all agricultural plantation forest land, and settled communities.

The lease is located on the bank of the flood prone Bicholim river from which the town takes its name. The Bicholim River is a fresh water perennial tributary of the Mandovi, which originates in the Western Ghats.

There are residential areas around and in close vicinity of the lease. During the first public hearing on the lease, the to-be-affected residents protested improper procedures and got the hearing postponed. They also went on a protest morcha.

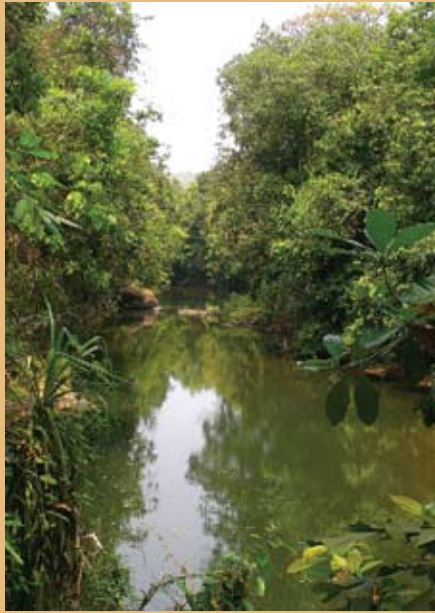
At the second public hearing held on 24.3.2007, all the local people including the women unanimously opposed the proposed mining operations. The hearing lasted over six hours. The hearing established that the rapid EIA

prepared by the company was a false and fabricated document: it provided incorrect information on flora and fauna and did not disclose existence of forest on the lease.

The gram sabha of Sarvona village had already passed a resolution against the mining project. At the request of the villagers, the Collector agreed to refer the matter to the state government before sending the public hearing proceedings (including video recordings) to Delhi. However, the company directly presented the public hearing proceedings to the MoEF, which despite the unanimous opposition, granted environment clearance in a record period of four months. The environment clearance does not even mention the exis-

tence of the Bicholim River or any measures to protect it from destruction. The mining activity proposed is an absolute threat to the river and to the forest on the river bank. Mining would also devastate horticulture spread over one lakh sq.m and dairy operations presently yielding 2 to 2.25 lakhs of lit/yr. to the residents; their 22 water wells and homes. The Tillari irrigation canal passes through the lease area, covering more than 38,000 sq.mts. of land. None of these concerns are addressed in the environment clearance order.

The environment clearance has now been challenged before the National Environment Appellate Authority in Delhi.



The environment clearance letter on the Sarvona mining lease states the lease does not have forest or vegetation. Pictures alongside show rich forest, especially adjoining the Bicholim river (**at far left**). The area is also rich in biodiversity and contains significant number of very ancient trees, some taller than 10-storey buildings. Despite huge public protests expressed at the public hearing (**below**) and an absolute rejection of the mining proposal by the Gram Sabha of the village, the MoEF granted clearance in a record time of three months. It is on record that the Pollution Control Board was yet to send the proceedings of the public hearing to the MoEF at Delhi when the grant of environment clearance was announced.



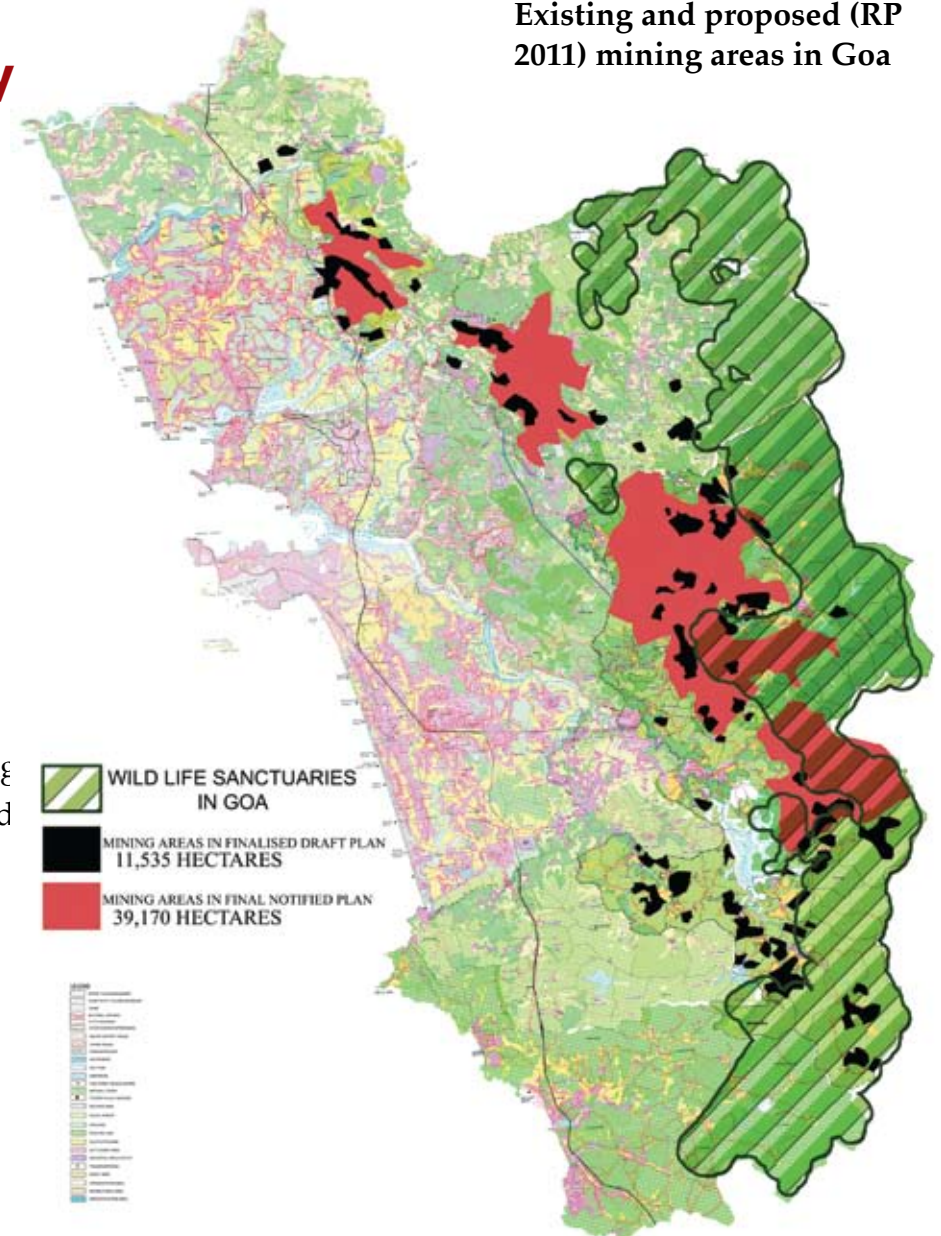
The Goa Regional Plan 2011 — a disastrous agenda hidden deep away in the files reveals the real truth behind the claims of mining being the 'backbone' of the economy.

In 2006, the Government of Goa notified the Regional Plan for Goa 2011 which is a statutory land-use plan accompanied by a surface utilisation map. Due to major anomalies discovered by the public and an ensuing well-documented outcry, the RP 2011 was withdrawn with retrospective effect in October 2006.

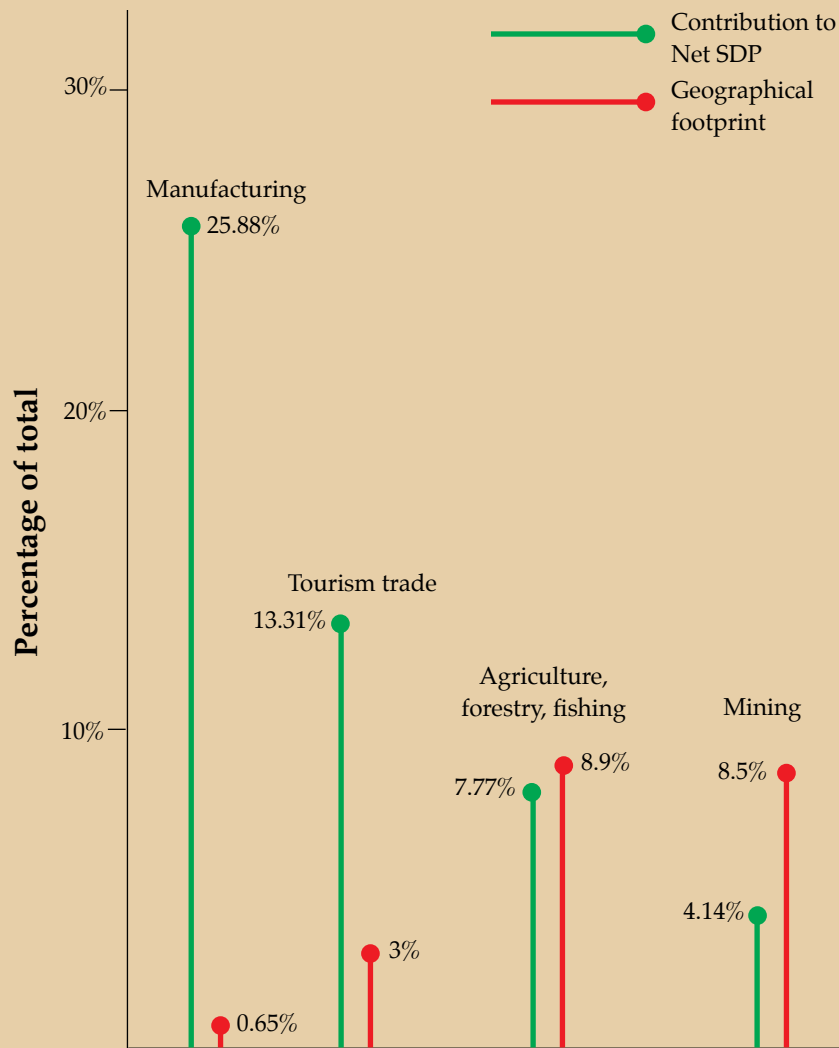
Interestingly, whereas a surface utilisation map requires that ALL zones of impact be shown on it, the mining leases were not disclosed. While studying the official policy documents, activists found details hidden deep within. The existing mining areas were indicated (shown here in black), while the proposed expansion of mining in Goa for the future was marked (here shown in red).

This was a shocking discovery. Mining would not only cover almost 8.5% of Goa's land mass, it proposed to cut right into the Bhagwan Mahaveer and Netravali Sanctuaries. If the Plan had not been withdrawn, a terrible fate would have befallen these havens of nature.

Existing and proposed (RP 2011) mining areas in Goa



Comparison of proposed geographical footprint (RP 2011) versus Net State Domestic Product (2003-04 figures) for some key sectors in the economy of Goa



A comparison of the geographic footprint versus the economic benefits of different industry sectors reveals that mining fares poorly in comparison to the other industries.

Mine owners are able to convince gullible experts that they are the ‘backbone’ of Goa’s economy. Given here is a thumb-rule comparison of the footprint of the Regional Plan 2011 in terms of its proposed industrial estates, agricultural lands and coastal settlements (for hotels and tourism) vs Net State Domestic Product (official for 2003-2004). It shows that mining nets only 4.14% of SDP, for which it demands a footprint of 8.5% of the state whereas manufacturing, which nets 25.88%, had a proposed footprint of a mere 0.65%.

The data is indicative of the lopsidedness of land use vs income. Add to that the huge environmental and social costs of mining, and the equation is skewed beyond any reasonable level.

The Goa government receives approximately Rs 200 crore annually as royalty from the mines, and the Central Government several times that amount as excise. However, nothing of this is set aside to repair the damage to ecological assets.

Costs and benefits

It was already known several years ago that the profits from mining in Goa are more than cancelled by the economic costs of damages inflicted by mining activity on fragile ecosystems, water resources, forests and public health. The Energy Resources Institute (TERI) made an elaborate study of this issue and recommended that the costs of mining could be mitigated if the mining companies were asked to pay Rs. 7 per tonne of every ore excavated. If the government was serious about a total rehabilitation plan, this would require a tax of Rs. 26 per tonne to be sourced to both mining companies and the Goa government. (This recommendation was made in

1998, at the request of the Goa government, when iron ore fetched US\$15. Today, a tonne fetches US\$90!) However, till today none of these recommendations has seen the light of day.

Two major problems villagers in mining locations face are:

- a) Who will supply them water once mining is over and the mining companies withdraw from the lease? (At present, after disrupting groundwater aquifers and turning village wells dry, companies supply water in trucks).
- b) Who will fill back the open mining pits, some of which are more than 80 metres deep, as much of the existing material excavated has already gone into the rivers and nullahs?

In 2003, the Central Government amended the MMRD Rules to require the approval of a final mines closure plan from all mining companies. Under the plan, the mines will deposit bank guarantees at the rate of Rs. 25,000 per hectare of land used for mining.

According to the proposal, this money will be set aside for reclamation and rehabilitation of exhausted mines and pits. The companies can claim deductions from this amount if they carry out reclamation and rehabilitation work during the life of the mine.

Knowing the companies' past habits, all of them are going to claim in any case that they have already spent Rs. 25,000 reclaiming each hectare of their exhausted mines.

At Rs. 25,000 an hectare, not much reclamation can be done in any case since the cost of truck transport to carry fill material for even a few dozen feet of mine pit would require much more than that.

Without a figure mentioned, the prospect of getting the mines reclaimed was better. It appears the 2003 Rules have been notified to assist the mining companies get out of their responsibilities to reclaim and rehabilitate mines.

Thus Goa is bound to have a series of moon craters for all time to come, generating their own brand of havoc for the coming generations.

Two 'expert' committees have been responsible for much of the irresponsible recommendations relating to the continuance of Goa's iron ore mines despite the gross environmental damage associated with such mines for several years.

At first, there was only one 'expert' committee on mining, headed by Dr Velu Annamalai, a former Chairman of SAIL (the Steel Authority of India). The list of members is given alongside.

List of Expert Appraisal Committee (Mining) members

(those responsible for approving Goa mining leases till August 2006)

1. Dr Velu Annamalai
Chairman

2. Professor G.S. Roonwal
Vice Chairman

3. Shri B.K.P. Sinha
Member
Former Director
Hindustan Zinc Ltd,

4. Shri R.K. Sinha
Member
Controller of Mines (Planning & Co-ordination),
Indian Bureau of Mines

5. Dr Sudhir Kanaiyalal Dave
Member
Sr Deputy Director,
National Institute of Occupational Health

6. Dr S.D. Attri
Member
Director,
Indian Meteorological Department

7. Prof Narendra Kumar Goel
Member
Professor and Head,
Department of Hydrology,
Indian Institute of Technology,
Roorkee

8. Dr V.B. Mathur
Member
Dean,
Faculty of Wildlife Sciences,
Wildlife Institute of India,

9. Shri B.P. Singh
Member
Director of Mines Safety (S&T),
Directorate General of Mines Safety

10. Dr S.K. Aggarwal
Member-Secretary
Director,
Ministry of Environment & Forests

As the pressures mounted for quicker and speedier (and more careless and thoughtless) approvals, a second, additional 'expert' committee was set up under M.L. Majumdar, former Additional Secretary in the Ministry of Mines (also therefore from the industry side). The other members of the Majumdar expert committee are listed on the following page.

The environment stood little chance in the face of these two committees headed by persons wholly sympathetic to the iron and steel industry and mining.

These so-called 'expert' committees followed a blatantly partisan methodology. They accepted all the 'data' provided by the project proponents

without independent verification and, till fairly recently, did not even bother to consult the public hearing records generated by the public hearing process. The poor villagers who attended the public hearings genuinely believed their voices were going to be heard. Little did they know that the public hearings were nothing but a farce because the 'expert' committees would scarcely be able to even read the voluminous notes sent in by the Pollution Control Boards, since they were expected to 'clear' around 60 projects at each sitting!

So they had no time to visit the mines, not a single one of them — much less try to meet the people affected by mining operations or NGOs who had made representations.

List of IInd Expert Appraisal Committee (Mining) members

(those responsible for approving Goa mining leases since September 2006, who will take up the remaining lease cases for approval)

Shri M.L. Majumdar, IAS (Retd.)

Chairman

B-3 01, Harmony Apartments,
Plot No. 6-B, Sector 23,
Dwarka Phase I
New Delhi 110 075

Dr B. Padmanabhamurthy

Ex-Director, Indian
Metereological Department,
B-3B/*C, Janakpuri,
New Delhi 110 058

Dr Satish R. Wate

Deputy Director & Head,
Environmental Impact and Risk
Assessment Division,
NEERI, Nehru Marg,
Nagpur 440 020

Dr A. Mohankumar

Director,
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Tamilnadu

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Alandur North, Chennai 600 032

Dr B.K. Mishra

Professor,
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Planning and Participatory
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Wildlife Institute of India,
Dehra Dun

Dr Binayak Rath

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Indian Institute of Technology,
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Dr T.K. Joshi

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Dhouli Piao, Shivaji Marg,
New Delhi 110 018

Dr S. Subramaniyan

54, V.G.P. Golden Sea View Part
II,
2nd Main Road, 5th Cross Street,
Palavakkam, Chennai 600041

Shri B.S. Roy

Member,
Expert Committee on Mining,
Ministry of Environment and
Forests,
Government of India,
G-280 Sarita Vihar,
New Delhi 110 076

Dr Gurdeep Singh

Professor and Head of
Department,
Centre for Mining Environment,
Indian School of Mining,
Dhanbad 826004

Scientific studies on damages from mining in Goa

Neither the expert committees named in this book nor the Environment Ministry cared to look at any of the scientific studies already carried out on the impact of mining activities in Goa. This is extremely unusual for a Ministry that was set up as a science-based department. It is even more unusual for a government that is duty bound to follow the three principles of environment law laid down by the Supreme Court of India: "Polluter Pays"; "Precautionary Principle" and the "Public Trust Doctrine". Listed here are a few of the studies, some sponsored by the MoEF itself.

Chachadi A.G., Impact Assessment of Open Cast Mine Dewatering on Local and Regional Ground Regimes in Goa. TERI, 1997.

D'Souza J., Lobo, Belinda, Souza, Marina, Effect of Mining on Microbial Ecology of Bicholim Taluka, Goa: Possible Restoration Processes in the Region. Ministry of Environment and Forests, Govt of India, 1995.

De Souza, S.N. (National Institute of Oceanography), Effect of Mining Rejects on the Nutrient Chemistry of Mandovi Estuary, Goa. *Indian J Marine Sci*, 28(4) (1999), 355-359.

Dhaveji C.S., Survey of Goan Mining Industry, 1992.

Ganihar, S.R., Impact of Mining on the Faunal Composition of Goa. Goa University, 1990.

Gonsalves, D.V. and D'Souza J., Impact of Mining Rejects on Water Quality at Selaulim Water Project, Goa. *Indian Journal of Environmental Protection*, June 1999, pp.427-431.

Government of India, Ministry of Industry, Identification of Protected Districts (circular), Feb 17, 1987.

Indian Bureau of Mines, Study of Environmental Pollution Control Measures in Goa, 1995.

Modassir, M., Impact of Current Iron Ore Mining Activities on the Environment of Goa and Proposed Measures to Minimise Long-term Environmental and Economic Damage, University of Hull, UK.

Nayak G.N., A Technical Report on Impact of Mining and Physico-Chemical Changes due to Siltation in Mayem Lake and Other Water Bodies of Bicholim Taluka, Goa. MoEF. Nov. 1995.

Nayak, G.N., Impact of Mining on Environment in Goa: Present Status. Goa University, 1994.

Nayak, G.N. and Rao, T.S.S., Studies on Sediment Flux of Rivers, Estuaries and Adjoining Coastal Waters of Goa, West Coast of India. MoEF, Government of India, 1993.

Parulekar, A.H. et al, Effect of Mining Activities on the Clam Fisheries and Bottom Fauna of Goa Estuaries, *Proceedings of Indian Academy of Sciences (Animal Sciences)*, Vol. 95, No. 3, June 1986.

Rank, J.S., Study of the Impact of Mining Rejects on Degradation of Soil and River Ecology, Met Centre, Ahmedabad.

"The Mandovi river is estimated to carry about 200 thousand metric tonnes of sediment from the North Goa mining belt every year. After monitoring the environmental health of the estuary in 1974-5 and 1984-5 the scientists of National Institute of Oceanography did not dare to repeat the sampling in 1994-5. Would we see the same diversity of fishes in this river again?"

Nandukumar Kamat, eminent environmentalist

"I wish to also point out that mining activities in Goa, in addition to causing environmental hazards like air pollution, deforestation and damage to agricultural land, pose a constant threat of physical accidents to around 16,000 persons employed in the mining sector in the State. It is essential that the Annual Plans have appropriate provisions for providing safeguard measures to prevent accidents apart from checking environmental pollution and degradation of agricultural land."

Opening remarks by

Deputy Chairman, Planning Commission of India

Tenth Plan & Annual Plan Discussion 2002-2003: Goa

Samat, L.D., Environmental Management and Reclamation of Iron Ore Mines of Goa. In: National Seminar on Protection of Environment and Ecology by Mining Industry, Vol. I and II, 1989.

Shetty, S.M. et al, Effects of Mining on the Ecosystems of Sanguem, Bicholim, Sattari and Quepem Talukas: Goa, Technical Report I, Department of Environment, Forests and Wildlife, Government of India, New Delhi, 1987.

The Energy Research Institute (TERI), Areawide Environmental Quality Management (AEQM) Plan for the Mining Belt of Goa, 1997.

Torne, S.G. and Gaonkar, R.V. Response of Plant Species to the Mining Sites Situated at Pale and Sirigao, Technical Report, 1986-1989. 1989.

Depletion of fresh water in the mining regions of Goa, India: Gendered impacts and responses

By **Shirin Cooper, Yogita Mehra** and **Anuradha Joshi**

This paper by three researchers focuses on the human dimensions of changes in ground water in the mining belt of Goa from a gendered perspective. The Ministry of Environment and Forests has legitimised all mines working below the ground water tables. The environment clearance letters of the Ministry mostly record, without understanding, that mining will cross-sect the water table. However, no measures are suggested, even for the mines cleared in the vicinity of wildlife sanctuaries.

"Barges are used in Goa for carrying iron ore. While sailing through the estuaries, barge movement gives rise to strong waves, which sometimes damage the young mangrove seedlings. Rhizophora seedlings are broken by the boats passing through the plantation (Hong, 1996)."

Rajiv Kumar

Extension Division, Forest Research Institute, Dehradun

These studies present strong local scientific evidence about the ill effects of mining on various aspects of life and society, but that does not seem to concern the experts.

Area-wide environmental quality management plan for the mining belt of Goa

The Energy Research Institute (TERI) (1998)

“Present conditions in the study area can be summarised as:

- Mining has been prevalent since the 1950s and has led to environmental degradation.
- No effective measures have been taken to control land, air and water pollution.
- The runoffs from the dumps, pit water discharge and the tailing pond overflow account for most of the sediment (TSS) loads in rivers/streams/nallahs. The worst affected rivers are Bicholim, Mhadei, and Kandepar. Some of the mines have their dumps right on the river banks from which there is run off directly into the rivers during the monsoon.
- Run offs from dumps has affected about 320 Ha of agricultural land due to silting.
- Air quality index developed

for the villages in the study area show that in many of villages the population is exposed to poor/bad air quality. Dust pollution is a problem in

cluster II and III villages and along certain stretches of road corridors.

- Socio-economic study has identified many issues that are of concern to the villages.
- Scarcity of water is common in all clusters but more acute in villages in clusters III and IV.
- Vocational training institutes are almost non existent in the villages. Alternate employment opportunities are very limited in the mining area.
- Sanitation facilities are almost absent in the villages.
- A total impact index (TII) was developed for each village taking into account environmental impacts and social conditions in the mining villages. 11 villages are highly stressed with TII > 10 and 20 villages are moderately stressed (TII > 5 but < 10).”

Goa: Blood on the mountains

Sunita Narain, Centre for Science and Environment, in **Down to Earth** magazine, April 11, 2007

“We were standing between a massive mine and a stunning water reservoir. Local activists were explaining to me that this iron ore mine was located in the catchment of the Salaulim water reservoir, the only water source for south Goa. Suddenly, as I started clicking with my camera, we were surrounded by a jeepload of men. They said they were from the mine management and wanted us off the property. We explained that we had come on a public path and that there were no signs to indicate that we were trespassing.. But they were not in a mood to listen. They snatched the keys of our jeep, picked up stones to hit us and got abusive.

In the next village, Colomba, I was surrounded once again: not by goons of a mining company, but by women of the village. We were standing on top of the hill, overlooking the village. But where we were, bulldozers, mechanised shovels and trucks were hard at work. They were breaking the hill, shovelling its mud, dumping the rejects and then taking away the ore. The mine had just started operations, said the agitated women, but their streams were already drying up. The sight of the red waste on the green lands presented a stark contrast.

They dragged me down into the village, where they showed me their wasted fields. They then showed me how the mining waste — and there are tonnes of this red mud — was being dumped into their streams. They walked me to a home where the walls had been badly damaged, they said, because of the blasting in the mines. The house owner, Devki Katu Velip, told me that when she complained to the miners, the supervisor told her they would destroy her house completely if she dared protest again.

Stand up and be counted...

Was the MoEF right in granting environment clearances to regularise this mammoth assault on Goa's environment and ecosystems? If you disagree with what the MoEF has done, are you willing to do something about it?

You should write to the persons listed alongside, asking for:

- a) the appointment of a high-powered monitoring committee to review the entire process of granting such clearances to mines in Goa;
- b) that the high-powered committee will review the clearances already granted with a view to ensure they incorporate aspects to protect ecological assets of the state and the quality of life of settled communities;
- c) Till this is done, no further environment clearances ought to be granted for mining in Goa.

Shri S. Regupathy

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Ministry of Environment and Forests,
Government of India,
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C.G.O. Complex, Lodi Road, New
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Shri Namo Narain Meena

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Mr M.L. Majumdar

Chairman, EIA Expert

Committee on Mining,

Ministry of Environment and Forests,
Government of India
(same address as above)

Members of the EIA Expert

Committee on Mining

(see page 88 for addresses)

In Goa, write to:

Shri Digambar Kamat

Minister for Mines,

Government of Goa,
Secretariat, Porvorim, Bardez, Goa.

Phones: (0832) 2224845, 2730432

Fax: (0832) 2453510

E-mail: cm.goa@nic.in

The Director

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