

## Loksatta

Tiny Goan town pays the price to feed steel-hungry Chinese

Raju Nayak

Vitthal Aundenkar, headmaster of the Shreemati Chandrabagha Tukoba School, in the towns of Curchorem is faced with a severe problem – students suddenly collapsing after complaining of cardiac and breathing problems.

According to Aundenkar, the trouble began nearly two years ago when the tiny railway station here began to see more wagon loads of iron ore from neighbouring Karnataka for onward export to China. "Though such problems from mining existed even earlier this has now worsened as the amount of ore coming here has increased," says Aundenkar. According to him children as young as ten years have had to undergo bypass heart surgeries after prolonged exposure to dust from the mines.

Ore from Karnataka is brought to Curchorem (population 21,000 people) for blending with the inferior Goan ore before export. It is transported from Curchorem to different parts of Goa for blending with locally mined ore before export.

With no warehousing facility, the ore is dumped along once fertile paddy fields along the railway tracks. Gusty winds carry fine dust particles into the air causing them to be ingested by villagers nearby. According to Dr. Jaiwantrao Sardesai, Entomologist, formerly with the United Nations, agricultural yields in farms adjoining mines have fallen sharply as mine owners dump mining rejects in the surrounding areas. "They have destroyed lot of rice fields and government is not caring to preserve the agriculture" Sardesai said.

Dr A G Chachadi, Scientist on Groundwater and Reader in Earth Sciences in the University of Goa says: The arithmetic of mining rejects is 1:3. When one tonne of ore is extracted the rejects amount to three tonnes.

The mining rejects dumped on the fields percolate down to the soil damaging the earth permanently. "Sometimes the seepage of the silt forms a two three inches of layer and fertility is affected, according to Dr Chachadi. "Yields of paddy farms have come down extensively as a result of which more fertilizers are used." Often rains wash down the mining rejects on the fields nearby destroying the quality of soil everywhere. Mining rejects have now been washed into the Selaulim reservoir the Khandepar river and Mayem Lake thereby affecting the water quality in Goa.

According to local doctors, instances of respiratory ailments including bronchitis, asthma, common cold, upper respiratory tract infection, sinusitis and cancer have

increased substantially in the past few years. "People complaining from mining-related ailments form the bulk of patients at the primary health centre here," says Dr Shashi Parkar in charge of the Curchorem-Carcora primary health centre. The tiny town of about 21,000 people reported as many as 6126 cases of bronchitis, 1445 cases of asthma, 9529 cases of upper respiratory tract infection and 130 cases of tuberculosis in 2004-05.

According to Health Minister Dayanand Narvekar Goa's mine owners pay a paltry Rs 17 crore to the central government while the state spends almost Rs 15 crores on the health and welfare of residents living in the mining areas.

Meanwhile, mine owners have now come up with ingenious ways to play down the health problems caused by mining. Clinics sponsored by mine owners that have sprung up here offer free treatment to local villagers. However such clinics do not share health data collected by them with the government thereby making it difficult to assess the effects of mining on health.

The problems have worsened in the past few years with China importing iron and steel in a big way from around the world. Iron ore brought to the tiny Curchorem town alone has risen from 1.27 million tonnes in 1999-2000 to 9.24 million tonnes in 2004-2005. However the infrastructure to handle the whopping increase hasn't kept pace.

TERI's Western regional Centre in Goa has been studying quality of life of people in the mining belt. This study shows that "health problems in the region are being underreported as a number of patients prefer to go to private doctors, who do not keep any records and hence these numbers are not reflected in the health statistics of mining areas. Secondly, some cases are directly referred to the Goa Medical College thus increasing the health cases at the state level, but again not reflecting them in the statistics of the mining region", Sonak said.

She however said that in the recent years, mining industry has been taking precautionary measures to prevent land run-off and siltation of fields.

According to the state of the environment prepared by the government in its regional plan for Goa, the suspended particulate matter concentration levels exceed the Central Pollution Control Board standards described for industrial areas. Dust fall rate in mine areas and mining villages is reported to be varying from 8 to 6 t/sq km/month to 2 to 4 t/sq km/month respectively, which in many instances exceeds the standards described by CPCB (10 t/sq km/month).

The respirable particulate matters in ambient air is reported to vary from 10 to 14 percent of suspended particulate matter. The free silicate content in respirable dust fraction varies from 7 to 12 per cent, which is higher than what is specified in the guidelines (< 5%) by the Directorate General of Mine Safety.

The dust, which flies while the ores are, transported causes health hazards like respiratory disorders and Tuberculosis.

On the whole Goa exported 32.59 million tonnes of iron ore in 2004-05 as against 30.72 million tonnes the previous year. Almost 80 per cent of the exports were to China alone, according to mining industry sources.

A three-year old proposal by the Goa Pollution Control Board to transport ore from Curchorem to silos in sparsely-populated Shelwan village nearby via a covered conveyor belt has been halted by local MLA Ramrao Dessai. The MLA who lives nearby has opposed the construction of silos because of which the iron continues to be dumped in the open, sources said.

Goa's iron ore exports to China rose from 12.7 million tonnes in 2003-2004 to 17 million tonnes last year. The neighbouring state now accounts for nearly 85 per cent of the iron ore exported from Goa. The state's iron ore, which fetched US \$ 15 per tonne earlier, now goes for US \$ 45 per tonne with China buying aggressively. Goa's iron exports are expected to touch Rs 2000 crores this financial year as against Rs 1650 crores in 2004-05.

"However the mine owners here are yet to loosen their purse strings to undo the damage caused to the environment," says environmentalist Claude Alvares who heads the Goa Foundation.

Unfortunately for Goa, the situation is getting worse. With even low-grade ore finding a market in the neighbouring country, Goa's mine owners have begun to reopen pits sealed more than 25 years ago for residual ore for export.

#### Share of Mining & Quarrying in State NDP

YEAR	% SHARE OF NDP
1986-87	6.00
1993-94	8.50
1994-95	8.40
1995-96	7.00
1996-	5.90

The mineral reserves in Goa were discovered in early 20th century. In Portuguese regime around 600 private parties were granted mining permission prior to liberation and 18 % of NDP was derived from mining. This share has now come down significantly and today mining is not the principal income generator. Current 65,000 ha of land is covered by mining leases of which 61 % is in South Goa and rest is in North Goa. Bicholim contributes 60 % of value of mineral produce followed by Sanguem. The number of operative mines have also declined. Currently 85,000 people are directly employed by this sector.

*Box in the story:*

Goa's mining industry defends itself.

S Sridhar, Secretary, Goa Mine Owners and Exporters Association

What is the mining industry doing to curb pollution of air and ground water? S. Sridhar, Secretary, GMOEA responds:

After TERI Report highlighted the problems a detailed study had been undertaken by the National Council of Applied Economic Research (NCAER), New Delhi that addresses to the issues. NCAER has also filled up the void left by TERI. More care is taken in transportation of trucks, which are fully covered, roads are widened and strengthened (even public roads). As also various health camps have been undertaken through Mineral Foundation of Goa and nothing abnormal has been found in the health of the people in Curchorem. Apart from this, the Foundation is conducting health camps in schools and villages to improve the health of the people not only of Curchorem, but almost all over Goa where mining activities takes place.

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