Annexure I - Data Sources

Table 1: Extraction of Major Metals in India (1950-51 – 2012-13)

<table>
<thead>
<tr>
<th>Year</th>
<th>Iron ore</th>
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<th>Manganese ore</th>
<th>Bauxite</th>
<th>Copper ore</th>
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### Table 2: Country-wise production of iron ore (2008-09 – 2012-13)

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<th>2013</th>
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### Table 3: State-wise extraction of major metals in India (2008-09 – 2012-2013)

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<th>2013</th>
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*Percentage is the percentage total contribution of major metallic mineral extracting states to total extraction of non-metallic minerals in India.

Table 4: State-wise extraction of non-metallic minerals in India (2008-09 – 2012-13)

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<td>4.57</td>
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<td>Himachal Pradesh</td>
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<td>1.38</td>
<td>1.50</td>
<td>1.41</td>
<td>1.45</td>
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<tr>
<td>Rest of India</td>
<td>7.44</td>
<td>10.08</td>
<td>12.20</td>
<td>11.77</td>
<td>10.46</td>
</tr>
<tr>
<td>Total production-Major States</td>
<td>262.77</td>
<td>278.28</td>
<td>297.26</td>
<td>324.37</td>
<td>313.66</td>
</tr>
<tr>
<td>Total Production</td>
<td>270.21</td>
<td>288.36</td>
<td>309.47</td>
<td>336.14</td>
<td>324.12</td>
</tr>
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<td>Percentage*</td>
<td>97.25</td>
<td>96.50</td>
<td>96.06</td>
<td>96.50</td>
<td>96.77</td>
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*Percentage is the percentage total contribution of major non-metallic mineral extracting states to total extraction of non-metallic minerals in India.

### Table 5: State-wise extraction of Iron ore in India (2008-09 – 2012-13)

<table>
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<tr>
<th>State/Year (unit: MT)</th>
<th>2009</th>
<th>2010</th>
<th>2011</th>
<th>2012</th>
<th>2013</th>
</tr>
</thead>
<tbody>
<tr>
<td>Andhra Pradesh</td>
<td>6.25</td>
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<td>1.78</td>
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<td>30.16</td>
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<td>33.64</td>
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<td>18.31</td>
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<td>1.54</td>
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<td>1.62</td>
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<td>64.44</td>
<td>76.23</td>
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<td>0.03</td>
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<td>0.70</td>
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<td>Total of Major States</td>
<td>218.55</td>
<td>207.16</td>
<td>168.58</td>
<td>136.62</td>
<td>152.43</td>
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<td>India</td>
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<td>207.16</td>
<td>168.58</td>
<td>136.62</td>
<td>152.43</td>
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### Table 6: State-wise extraction of Manganese ore in India (2008-09 – 2012-13)

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<tr>
<th>State/Year</th>
<th>(unit: thousand tons)</th>
<th>2009</th>
<th>2010</th>
<th>2011</th>
<th>2012</th>
<th>2013</th>
</tr>
</thead>
<tbody>
<tr>
<td>Andhra Pradesh</td>
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<td>0.050</td>
<td>0.000</td>
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<tr>
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<td>55.090</td>
<td>245.240</td>
<td>40.556</td>
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<td>0.000</td>
</tr>
<tr>
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<td>4.266</td>
<td>4.701</td>
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<td>413.287</td>
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<td>137.935</td>
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</tr>
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<td>562.013</td>
<td>527.966</td>
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<td>4.987</td>
<td>5.401</td>
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### Table 7: State-wise extraction of Chromite ore in India (2008-09 – 2012-13)

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<th>State/Year</th>
<th>(unit: thousand tons)</th>
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<th>2010</th>
<th>2011</th>
<th>2012</th>
<th>2013</th>
</tr>
</thead>
<tbody>
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<td>2923.435</td>
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### Table 8: State-wise extraction of Copper ore in India (2008-09 – 2012-13)

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<th>2011</th>
<th>2012</th>
<th>2013</th>
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### Table 9: State-wise extraction of Bauxite in India (2008-09 – 2012-13)

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<th>2011</th>
<th>2012</th>
<th>2013</th>
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Table 10: State-wise Reserves and Resources of iron ore (haematite+magnetite) in India

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<th>Remaining Resources (MT) (as of 2010)</th>
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Table 11: State-wise major metal extration intensity in India

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<th>2013</th>
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### Table 12: State-wise iron ore extraction intensity in India

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### Table 13: State-wise iron ore extraction per capita in India

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Annexure II- Reports from the Field

1. Talc, the widowmaker of Madarangajodi

Published in: Uneven Earth; link: http://www.unevenearth.org/2016/09/talc-the-widowmaker/

A small mining town in India can’t pay the costs of economic growth

A stone crusher used for crushing large blocks of talc in Madarangajodi. Photo: Indrajeet Rajkhowa

Madarangajodi is a quaint hamlet in the foothills lining the densely forested Indian state of Odisha with a population of about 195 people living in 54 households. Small, but neatly painted mud houses line the streets. Villagers collect mud of various colors to adorn the walls of houses, resulting in a series of dwellings with a variety of soothing, earthen colors. Each house has a courtyard and a garden, children play in common spaces, which are ample in the village, and old trees mark the beginning and end of streets. The village has a predominantly
tribal population (composed of the Munda, Bhuyian, Milkawan, and Pattron tribes), who have historically been and largely still are forest dwellers.

This idyllic little hamlet, however, hides a harsh tale of exploitation, labor and human rights violations, and contamination. The village is the site of an ongoing environmental justice struggle against a private talc mining company that has operated there for over 15 years, and has resulted in the death of many miners.

Like the ghost town of Delamar, Nevada, nicknamed ‘The Widowmaker’, the deaths of the 45 miners has left 45 widows in the village over the past few years. Delamar, which witnessed a mining boom between 1893 and 1909, became the largest producer of gold within the state until 1909, and contributed significantly to employment generation and economic growth. However, large amounts of silica dust generated from gold mining resulted in the death of a large number of miners from silicosis. The exact number of people that suffered from silicosis remain unknown given the constant migration of people in and out of the mining town. The once flourishing mining colony of at least 1500 people currently lies abandoned.

Madarangajodi, unless stringent and timely action is taken, faces a similar fate. The major difference between the two is that Delamar—being a constructed mining town, enabled workers to have the option of moving back to their original home, whereas Madarangajodi is an old settlement of tribals. Indigenous inhabitants, largely income poor, often have the limited choices of either living in the environmentally polluted and socioeconomically exploitative environments, or moving to larger towns as daily wage laborers and slum dwellers.

This article presents a glimpse into the lives of the victims of environmental injustice due to mining. Although the case may appear to be an isolated event, it is only one small piece in the larger picture of the underbelly of the privatization and ecosystem exploitation-driven growth agenda that is becoming increasingly popular in India.

**The mining industry in Odisha**

The state of Odisha has some of the richest rainforests in India, with significant biodiversity—including endangered mega fauna such as tigers and elephants. Sacred groves of ancient trees dating back to over 500 years, found in various locations around the state, are sites of worship for local communities. Further, these regions are also home to 62 tribes, including 13 Primitive Vulnerable Tribal Groups—who have unique cultures and who are often dependent on forests and forest produce for livelihood sustenance. Incidentally, Odisha has 16.92% of total mineral reserves of the country—with chromite, nickel ore, graphite, bauxite, iron ore,
manganese and coal accounting for 97.37 per cent, 95.10 per cent, 76.67 per cent, 49.74 per cent, 33.91 per cent, 28.56 per cent and 27.59 per cent respectively of the total deposits in the country. As such, the state is a prime location for the mining industry. The villages of the mining rich areas in the region have, over the past few decades, been witness to cases of police brutality, dispossession, loss of livelihoods, spread of mining mafia, as well as Naxalism—an internal insurgency and a violent manifestation of the struggle against dispossession and often termed the greatest threat to India’s internal security.

**Talc mining in Madarangajodi**

Talc is a hydrous magnesium silicate and is used in various industries such as cosmetics, food, paper, pharmaceuticals, plastic, paint, coatings, rubber, electrical cable, and ceramics. Large boulders of talc are first broken into smaller pieces and then crushed using mechanical crushers—often generating large quantities of silica dust which disperses in the air during stone blasting and quarrying. This makes the talc mining industry workers extremely prone to lung disease.

Talc mining in the region has had various impacts on the local community and ecosystem. The mine has visibly consumed almost half of the hill nearby. Destruction of forest land, which is a source of livelihood given the dependence on forests of the local tribal communities, has implications on access to food and fuel. As a result of reduced access, villagers are forced to clear new spaces for agriculture and to walk farther for forest produce collection activities. Forests are also closely intertwined with tribal culture, which often means that forest clearing due to mining has impacts on traditional ecological knowledge and alters the patterns of interaction between local communities and forests. However, what forms the core of the environmental justice struggle in the region is the death of over 45 men working in the mine from silicosis.

Silicosis, also known as miners’ disease, is the most commonly occurring occupational disease for miners and stone cutters. It occurs as a result of fine particulate silica dust settling in the lungs of workers upon prolonged exposure without adequate protection for a prolonged period of time (between 5-10 years). Silicosis is an easily preventable but progressive disease that has no cure. This means that it gets progressively worse over time and the aim of treatment is limited to the reduction of symptoms and pain. Silicosis paves the way for other respiratory infections and patients often die from diseases such as tuberculosis. In mines with largely non-mechanized mining and quarrying, the chances of silicosis are extremely high.
However, prevention of the disease is not difficult. Procedures such as wet-drilling and provision of adequate safety masks which can capture the fine silica dust are some of the easy measures to be taken to prevent or at least reduce the occurrence of this lethal disease. And yet various factors such as income poverty of local residents, lack of alternative livelihood options, monetary and social power wielded by the mining companies, lack of regular checks etc., allows the companies to get away with avoiding both maintenance of safety standards and paying compensation to the affected people and families.

During our time in the village, we were taken into the house of a late-stage silicosis patient. Entering into the dark mud hut, what we saw could only be described as a barely alive, barely human figure. No muscle, no fat, only skin and bones, eyes wide and hollow due to extreme weight loss and malnourishment. The man lay on a bed, incapable of moving, of eating, drinking, or of any motion except occasional violent shivering. The torture he was going through was conveyed by the violent movements of his constantly shaking body, and a repetitive groan emanating from his throat. This man had no healthcare options, no doctors, no medicine, and no sedatives to dull his pain. He lay there in bed, awaiting an agonizing death. He received no compensation and no healthcare from the company that he dedicated over 10 years of his life to. He will leave behind a wife and three young children. He is emblematic of the face of oppression, of exploitation, of unimportant and forgotten deaths, and of the brutality of a system that favors private profit over individual human life.

View of the talc mine from a distance showing the scale of mining operation, the location of agricultural land with cattle, and the appropriation of large section off the top of the mountain due to mining operations. The village is located at the foothills of the hill, within the remaining forested land. Photo: Indrajit Rajkhowa
The widows of Madarangajodi

The widows of Madarangajodi appear to have been the worst indirect victims of the mine. Owing to marriage at a young age, most of these women have on average two or three children whose education, nutrition, and healthcare suddenly becomes their sole responsibility. Women, especially those of the older generation, have rarely had access to work outside of the household, thus making it either difficult for them to get jobs, or forcing them to end up working in exploitative jobs. The relatively more financially stable families have the option of engaging in agriculture, but the more financially unstable and income poor are forced into daily wage labor.

These widows receive a small compensation of 1000INR (€13.7) per month by the company and 300 INR (€4.2) per month by the government. Further, the MGNREGA (Mahatma Gandhi Rural Employment Generation Act), which guarantees 100 days of paid labor per year to anyone willing to work, has allowed some of these women to get employed in small jobs such as construction of roads, government buildings, or cleaning jobs. However, often repayment of costs of medical care for their late husbands and maintenance of basic livelihood sustenance forces women to put their young children into child labor. Children as young as 8 were employed as daily wage earners in the village—often exploitative.

A mud hut in the village of Madarangajodi belonging to a relatively income poor family which has suffered the loss of the primary earner to silicosis due to talc mining. Photo: Indrajeet Rajkhowa
One woman who lost her husband to silicosis in 2006 now has the disease; their household conditions forced her to often replace her husband at work once he started falling ill on a regular basis. She has three children aged 8, 10 and 15, all of whom are currently forced to work as daily wage laborers in a nearby village since she is no longer capable of doing any laborious work, let alone grueling construction work in the heat.

Yet another woman, aged 33, whose husband happened to possess agricultural land, now farms to support her two children—a daughter aged 13 and a son aged 7. She breaks down and cries while recounting the horrors of her husbands’ disease, and her struggle to provide children with two square meals, a primary school education and to keep them from being forced into child labor. She describes the years of economic instability, the pressure of protecting her children from hunger, the struggle of protecting her land from outsiders, all the while handling the physical strain of dealing with her husband’s severe illness and soon after the emotional strain of dealing with his death. She has finally, after five years of his death, been able to afford a decent standard of living surviving off agriculture, is able to send her children to school, and has built a small two-room mud house.

Sarojini Kuthia, wife of Keshav Kuthia (died 2006), standing beside her small mud hut. Currently suffering from silicosis due to replacing her husband as a daily wage laborer in the talc mine during his illness to support her family. She has three children: an 8 year old boy, a 12 year old boy and a 15 year old girl all of who are employed as daily wage laborers since she is no longer capable of earning sufficient income to maintain her family. Photo: Indrajeet Rajkhowa
Social mobilization and resistance

With the help of a local activist and some lawyers, the widows have been able to shut down the operations of the mining company by bringing the matter to the local court. As of now, about 29 court cases against the mining company have been filed by the women. However, the threat of the mining mafia looms large in the areas, often preventing them for pursuing, and sometimes forcing them to withdraw cases. For instance, on the day that we visited the village, death threats were immediately communicated to us, issued presumably in order to discourage any interventions by outsiders, and to prevent the publication of the piece in media.

The need for alternatives

Natural resources have historically formed the basis of the socioeconomic system. Whereas pre-industrial economies relied on terrestrial natural resources by using forest products, agriculture and surface water for livelihood sustenance needs, the current economic system relies on an expanded base of sub-terrestrial resources for sustenance. From groundwater to
fossil fuels, metallic and non-metallic minerals—it is largely dependent on resources, often extracted in scales that have resulted in ecological degradation at the local, regional, and global level. This comes at the cost of ecosystems—either on the source-side (e.g., in the form of resource extraction) or sink-side (e.g., in the form of ‘filling’ of ecological sinks such as oceans)—evidenced by the fact that 15 out of the 24 ecosystem services quantified by the MEA are already being degraded or seeing unsustainable rates of extraction.

Since sub-terrestrial resources are not evenly distributed within the earth’s surface, specific areas with large volumes, high concentrations, and relatively pure forms of minerals tend to suffer most from exploitation. As indicated by the concept of ‘resource curse’, such regions do not often benefit directly from the appropriation of these resources. In fact, many mineral-rich regions tend to suffer the most in terms of other sectors such as education, healthcare, environmental and ecological indicators, and alternative income generation opportunities. Further, these locations are often the site of environmental injustices occurring from the imposition of negative environmental and social externalities upon local people and communities, which are increasing in frequency across the world.

Socioeconomic progress through access to electricity, sanitation, medical and healthcare facilities, and education are certainly necessary for large sections of disadvantaged populations in India, and in other parts of the world. However, looking beyond the rhetoric of pursuit of growth for the poor, there is an urgent need to examine how the real costs and benefits of economic growth are being distributed. The village of Madarangajodi, some could argue, is a small case with respect to number of victims, given the benefits of the talc mine to economic growth and industrial development in the larger context. However, the growing incidents of similar such cases of environmental injustice taking place across India highlight the urgent need to question a system which incentivizes large-scale ecosystem degradation, livelihood destruction, and associated human rights violations for the benefit of fictitious growth for the poor, and real growth for the already advantaged elite minority.

What is needed instead is a political economic system that ensures ecologically viable progress for the vast majority of the marginalized people across the country. This is not only possible, but very much practical, as has been evidenced by the hundreds of successful grassroots and community initiatives in India documented by the organization Vikalp Sangam—‘the coming together of Alternatives’ in India. Alternatives exist and must be explored if we are to transition into a socially, economically equitable society with a sustained ecological base.
2. Field Notes: Odisha

Interview Schedule

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Translated transcripts of semi-structured interviews with multiple stakeholders in Keonjhar, Sundergarh and Mayurbhanj districts of Odisha

1. Local anti-mining activist.

Name: Bhakji

Date: 08.06.2016

Location: Keonjhar city

Translated interview transcript:

There is extensive ‘peripheral diversion’ for what are called ‘huttings’ or ‘hutting areas’ near all the mines. These are regions where the truckers and other manual laborers live in terrible conditions. They do not have access to sanitation facilities. Sometimes ten or 12 people live in together in the same hut. The walls and roofs are made of plastic or tin or wood. Even in the hot months, these people live together without even fans in the rooms. All this diversion of village land is taking place in the name of “peripheral development”. This land is all outside the mining areas, so this is illegal land occupation.

The truckers work under terrible conditions. They are all informally employed. They only need a drivers license, and they are employed. But employment is all as daily wage workers. They get paid depending upon how many trucks they can transport every day. They are always breathing the mining dust. But they can never make any claims for health impacts of the dust because they are all informally employed. In the hutting there is so much alcohol consumption. There are also women’s issues which come into play. The local tribal girls are becoming prostitutes and they go these hutting where all the trucker men live, because the men have money which get on a daily basis. And they spend it on women and alcohol. I cannot even take you to the huttings area because it is so bad and so unsafe.

The crushers in the mines produce so much mining dust and these people in the huttings as well as in the villages are always breathing this air. When you travel to Joda-Badbil you will see how much dust there. All the houses are covered red, all the trees are covered in red, all the signboards are covered in red, all the nalas are red. Now people just paint their houses red, because they know any other color will get covered with red in a few days in any case. The cattle and people are drinking the red water. The water is used for agriculture also. What will the productivity of the soil be with this red water? There is a village here where the mining
company provide cans of water to all the villagers every day because the water is so polluted. But what about the river, what about the animals? They just think they can kill a river and get some water to the villagers. These red trees lose all significance for the tribal people. The tribal people collect Non Forest Timber Products, but now all the trees are red, so the NFTPs are completely worthless to the communities. There is also ‘water theft’ going on. The mines are not supposed to take river water, but they take thousands of liters of water from the rivers and then discard the waste which travels downstream. There are skin diseases that people have because all the village people bathe in the polluted river water.

There is also more and more man-animal conflict in the villages because the animals are scared of the dynamite blasts. Also all the forests are destroyed, so the animals have nowhere else to go and nothing to eat. So they now enter villages resulting in loss to villager’s crops, and cattle. And the animals suffer as they are beaten up, tortured or killed by the villagers who are trying to protect their fields.

The huttings have people from all over the country. Migrant labor comes Jharkhand, Bihar, Punjab and Haryana. There are so many outsiders in Joda-Badbil now that no one speaks Odia. When you go there you will see signs in Hindi, or even Punjabi. The local people don’t know Hindi so now they are left out.

Now there are 20,000 trucks transporting ore 12 hours a day, during the night times. But before the Shah commission ban there were trucks travelling 24 hours a day. These trucks travel in line, with almost no gap between trucks. There is no space for any other vehicles. There was a school, the first English medium school, which was opened in a nearby village. The school had to be closed because children were not able to go to school. The trucks are running all day and there is no scope of people to come from other villages to the school because crossing the road for children is asking for accident or death, so they closed the school finally.

The local MLA of Keonjhar, Sanatan Mahakud pays local boys above 18 years old 1000-2000 rupees every month. They go to each village in buses every 1st of the month, and then all the young men stand in line to receive their monthly payment. This is how they maintain control on the people. The people think at least he is sharing his profit and actually have high reverence for him. This strategy of giving money to the people has made him even more powerful. The police also cannot touch him. When you go to Joda-Badbil, his house is the first one you will see. It is a palace which is constructed on illegal area. For so many years there have been complaints. The police have requested him to vacate the illegally occupied space for years. Last week finally the local police had to go and request him to break his house in
order to show the people that they have taken some action, which Mahakud finally ‘permitted’. So now half the house is demolished.

2. **Member of civil society**  
Name: Wing Commander Kiran Sankar Sahu  
Organization: Kenujhar Citizens’ Forum  
Date: 09.06.2016  
Location: Keonjhar city  
Translated interview transcript:  
The mining has ruined the Baitrani river. The river flows through (shows map) the entire region and provides water for all the villages. It is the longest river in the region. Now the river is being used to transport slurry. Now the situation is so bad that there are areas where 75% of the river is water and 25% is iron ore.  
There is something called a BRGF (Backward Regional Grant Fund) in the district, and Keonjhar gets the largest money in the District Fund. But what happens to this money? Why is this not invested in social upliftment of the people? This is because the miners have vested interests in keeping the population poor, uneducated and sick. Almost 6-9 lakh comes from per hectare and the Keonjhar fund has somewhere to the tune of 5000 crores (no one knows the exact amount). This was the money put into CAMPA. 2300 is supposed to be for forests and wildlife and 1700 is supposed to be for tribal development. Where is it going? There is too much money here. This is what is causing damage in the area. Already there is enough money as well as manpower to invest this properly for tribal welfare and for forest conservation. This is what happened when there is too much concentration of wealth. This is what is happening right now. The district administration is sitting on a lot of money but they have no idea where to put it and how to manage the funds so as to actually result in betterment of the lives of the people. But the problem, is even if the wealth is channelized to the people pockets, when it is randomly paid out without proper structural arrangements and a proper understanding of where it is supposed to go, it will not help. It will only result in creating all kinds of new problems because of the extreme wealth in the region.

3. **Local Lawyer and non-tribal citizen of Keonjhar**  
Name: Sudhanam S. Panda  
Date: 10.06.2016  
Location: Keonjhar city
Translated interview transcript:
What can I say about Joda. Joda has been laid to waste, haven’t you heard? The mining industry’s impacts are not limited to mining areas. They are much larger because they totally pollute the rivers. There is silting problem that villages many kilometers downstream also face. There are so many diseases that the people are facing. Like Jaundice. The prevalence of jaundice is extremely high in many nearby and downstream villages. This is all because of mining, the children drink this polluted water and then they get all kinds of diseases. The water pollution has resulted in high number of asthma patients, and tuberculosis patients.
The resistance against mining is only by a small number of natives, but who will listen to them. Look at the money that the corporations have. How can they do something against TATA and Birla? They are totally powerless.
Joda-Badbil is also extremely populated by migrants now. That brings all kinds of other problems there like alcohol, prostitution and fights. The atmosphere in the hutting is so bad. The natives have very low levels of education and have no information about how to resist this process. What is completely necessary is ‘rights-based education’ for the natives. They need to know the constitution and what all illegal activities are being undertaken by the miners. That is what the will help the natives take some control of the situation.
There is also extreme media failure all over the region. The media houses are connected to the rich and powerful. Why will they report against their allies?
There were 120 mines running here before the Justice M.B. Shah Commission. Many of them have their head offices outside Odisha, many are in Kolkata and other places. How can one expect them to care about the environment and the people here when they are sitting so far away. They don’t care about the place at all, this is just a money making factory for them.
No matter what the miners do in the name of environment and good practices, mining is not sustainable development. Sudhal river used to be over 2km long before mining, boats could pass even in the hottest of the summer months. Now there is only mining waste where the water used to be. In one area, the mining dump is more than 20 feet high.
At the same time, local people do not protest because it represents easy money for them. There is enough money with the locals, but there is no social progress. They don’t have proper houses, but they have a lot of money inside the houses. They don’t know what to do with it for long term benefits to their families and themselves.
There is also mafia everywhere. These people are very rich. However, even they still live in mud houses and use cycles. Be very careful, don’t go around asking wrong questions, you won’t know who the mafia is. They are just look like normal villagers. In core villages almost everyone is involved in this process. If you sample 100 local male youth, and likely they are all
involved with the mafia or with the mining company in some way. This is a very frustrating situation. Often, it leads us to question our work—what are we working towards? What are we fighting for? These people themselves want to be a part of the industry and do not realize what all is being taken away from them in the long term, just for easy and short term gains. There is so much illegal operations and there are some very risky activities going on. There is constant overburdening of trucks. Frequently, in a truck that is supposed to carry 10 tons of ore, they transport 40 tons. Then there is mining dust flying all over the path that the truck travels through. The dust flies all around and cover houses, trees and roads. In the peak of mining operations, there were 40-45 thousand trucks travelling throughout the day and night carrying ore much beyond the allowed capacity. At this rate, imagine what kind of material was being transported throughout the year.

4. Owner of a small-scale mining operation

Name: Mr. Kapur Vijaynath
Date: 11.06.2016
Location: Keonjhar city

Translated interview transcript:

In the District Mineral Fund there is already close to 800-900 crores. You can take a look at the collectors website for more information. But no one knows how to properly spend this money. All the members of the DMF are government officials. They have left no space for members of civil society, for citizens, for activists, for villagers or any other stakeholders who the distribution of the fund will affect.

The current situation is not at all friendly for small-scale mining operations. Small miners here are mostly local and there should be different policies implemented for these smaller players. Policies for small scale stone quarrying are also missing. There are no regulations for, no competence standards, and no training for such small scale miners. This is a difficult situation for us, we would prefer to have a set of regulations that could be followed. But the only attention that is paid is to large mining companies. Large mining companies also have much more power, extract much larger quantities, have many more illegal operations, and do much more damage than small ones, so it would be better if the state invested in policies for small scale miners.

There also needs to be awareness raised among people working in small scale mining operations as these are largely non-mechanized. So there is much more likelihood of contracting air borne diseases from dust etc. The state should conduct “safety awareness
weeks” for both laborers as well as the owners of small scale mining operations. There may be particular hazardous substances or practices that even we may not be aware of, so the government needs to take the responsibility to raise awareness among people for this. Due to lack of awareness, both owners and workers tend to follow a ‘chalta-hai attitude and a jugaad culture’ regarding small safety equipment such as masks. There also need to be strict regulations for failure to follow safety operations. Labor rights also need to be implemented in these industries. Right now most people work as contract workers and daily wage laborers which is not good for them.

The large mines have a lot of illegality in operations, and the amount of ore being illegally sold off is extremely large. The district and state government knows everything that is going on. They are all in with the miners. This has been going on for 20 years, but suddenly when the Court (Justice M. B.B Shah Commision) came in, that when they woke up from their deep slumber.

The ignorance of the tribal people is the prime cause of their exploitation. The government is responsible for this lack of awareness and education among the people. They are addicted to smoking and drinking alcohol. They are getting easy money from the mining companies right now. What will happen when this stops?

Another big problem is the Net Present Value (NPV) calculation. This is not differentiated by commodities being mined. For instance the same NPV is applied for a mine like mine (Pyrophyllite) which sells at the rate of INR500/ton. and to iron ore which was selling at almost INR5000/ton and to gold which sells at 25000/gm. This makes iron ore so much more profitable and hence there is this mad rush for mining. This is a big problem, especially for small scale miners of relatively cheap commodities. Differential pricing based on the type of commodity, and the commodity prices need to be integrated into the NPV calculations.

5. High ranking professional in one of the large mines: Aditya Birlas Essel mines

Name: Mr. Aditya Saha
Date: 12.06.2016
Location: Joda-Badbil
Translated interview transcript:

Purer Iron ore is often found closer to river beds. This is why most mines tend to be located near rivers.
When mines are auctioned off, the surface of the land is not included. Only the minerals under the surface are auctioned, this is why there is a need to conduct public hearing for obtaining rights to acquire the surface which is naturally essential for mining operations. According to the regulations, for each hectare of forest land cleared, 2 hectares have to be planted elsewhere.

Monetary compensation to the local does not necessarily compensate with respect to environmental and ecological losses. For instance, mushrooms that the villagers collect as NTFPs have high nutritional values. They are rich in proteins as well as various micronutrients essential for the human body. When land is cleared, these sources of nutrition are lost. This is one of the reasons for the high levels of malnutrition among the children in the tribal communities. There are many other such deeper losses faced by communities which need to be compensated appropriately.

When mining operations begin, the top soil is cleared first. A proper stock of this top soil is maintained. After this, the clay and shell are carefully segregated from the top soil. Then, a second sub-grade dump is created. There are four dumps created in the first phase which are composed of: a) saleable dumps – these are temporary dumps; b) non-saleable dumps- these are preserved for when and if there are appropriate technological advancements to extract minerals from these; c) sub-grade soil; d) top soil- this is rich in nutrients and minerals for agricultural activities of for plantations and hence is conserved appropriately. Conservation of the top soil is conducted as follows: first the top soil dump is covered with coir mats, next indigenous plants are planted on top of the coir mats. This results in the creation of a stable dump. In order to conserve top soil runoffs, a ‘garland drain’ is created at the bottom of the top soil dump. For the non-saleable dumps however, the situation is different. Crushers are used to crush the material and create dumps. These ‘crusher’ dumps fall under the Industries Act. No particular regulation exist for these dumps, and these are the ones that result in massive run-offs into local river bodies. The government has not yet addressed the issue of these ‘crushers’—which do not fall under the Mines and Minerals Act, but instead under the Industries Act (which does not follow the same rules). Crushers cannot be located within 10 kms of mines, and these result in illegal mining by very small-scale agents, eg: with shovel mining.

The mines in themselves have “benches” or steps—this is what gives the iron ore mines their typical appearance. Check rules for the benches require each bench to have the measurements of 9m*25m, i.e., each step has to be 9m in height and 25 m in width. When a mining operation needs to dig deeper, each of the “benches” have to first be expanded by this height and width requirement.
In order to conduct blasting operations, dynamite is no longer used, at least by the more well developed mining operations. Instead a combination of Urea and Diesel called ‘Site Blast Emulsion’ is utilized. After the blasts have been conducted, rock breaker machines are used to clear the broken fragments of the hills.

6. Manager of a medium sized mine

Name: Mr. Rajesh Kumar Mohanta, Lal Traders
Date: 13.06.2016
Location: Mayurbhanj district
Translated interview transcript:

The TATAs has a 90 year lease from 1919, and they abandoned/ surrendered the mines in 1967 since it was no longer productive to extract these hills for them. TATAs. Lal traders brought off these mines after the TATAs and acquired it in 1970. The head office of Lal traders is located in Kolkata. There was an existing rail line made for ore transportation already. The production of this mine is very low as compared to other large mines, given that most of the high grade ore was already extracted by the TATAs during the 90 year period. The mine stretches over an area of 129 hectares. This is an “extremely small scale” operation; the mine produces and transports a small 7 lakh tons or iron ore per year. The operations are semi-mechanized. As such they do provide some local employment. They also do not follow the daily wage system, but are employed on a monthly basis through the process of ‘direct employment’, rather than contract employment. The wages however, are paid on a weekly basis according to the kgs. of ore extracted by each worker. In this particular mine, laborers are also insured through governmental programs (through the CESS). The system of direct employment is very rare. The mine is also a “departmental mine”- very few of such mines are located in Odisha (some other examples are M G Mohanty in Badbil, and G S Mishra and sons). The company has also undertaken road building, school building, tank building, well construction, lake digging, and creation of natural tanks for water storage and harvesting. 3-4 lakes of 100*60 meters have been already created in the region by the company.

The mine uses water harvesting systems for dust settlement. The mine utilizes no ground water for its commercial applications at all. In terms of afforestation regulations, since the mine was already setup there was no deforestation conducted by the company. However, the company still conducts afforestation programs in the region. In the afforested region, simalua (oil seed) are planted. Additionally, 9-9 types of trees are grown rather than monocultural
plantations. Acacia and Eucalyptus which consume massive quantities of groundwater and reduce the local water tables are not grown in the afforested regions. Instead teak, koronja, neem and other such indigenous species have been planted. Instead of the usual monocultural plantations, pluricultural mixed plantations have been created which also include some local varieties of fruit species.

In order to manage waste dumps there is a complex system in place. First dumps are created, then terracing is done on the dumps to prevent waste run-offs, on top of these, plantations are created. A retaining wall is added below this, below this a garland drain is created. Finally a settling tank is created to store any additional run-off. Desilting of tank is regularly carried at ‘half time’—when half the tanks height has been filled.

7. **Head of communications at Triveni Earth Movers**

Name: Aditya Sharma (name changed)

Date: 16.06.2016

Location: Joda-Badbil

Interview transcript:

TATAs have a captive mine, whereas Shirajuddin and Rungtas have non-captive mines. Rungtas have the largest mine in the region which stretches over 2000 hectares. According to the MMDR Act (1957) mining operations cannot stretch to over 2000 hectares.

Within a mining lease, up to 50 hectares is the ‘core zone’, and over 50 meters is the ‘buffer zone’ according to the 1957 directive. For small nallas, 50 meters on each side is the safe zone wherein mining operation cannot be conducted. For big nallas, the safety zone extends to 100 m on both sides. The safe zone for roads and national highways is 50m. Earlier, the mining leases were granted for a 20 year period, five year plan period, and 35 year mining period. The new, modified mining lease is: 5 years for Mining Plan, and the rest 15 years for the mining scheme. Each renewal period is for a 20 year period. The interpretation of the law is currently quite problematic due to the confusion of the 3rd and 4th phases are supposed to represent. Of the 186 total mines in the region, 96 have ECs, whereas the rest 96 were operating without ECs. Overall, 200MT of EC capacity had been granted by the state government. As per the new MMDR rules, the MC (mining clearance) is given for a period of 50 years. If they have crossed the 50 year period, a further clearance for 5 years can be granted.

For the captive mines in the region (TATAs and Jindals etc.) the lease expires on the 31st of March 2030; for the merchant mines on the 31st of March 2020. After 2030, the captive mines, will expire and there will be renewed auctions.
As far as the actual ore is concerned, based upon the a) global markets; b) high excise duty; and c) government policies, less than 45% is considered to be waste grade, between 45 and 55% is considered run of mines, between 55 and 58% is considered as sub-grade ore; between 58 and 68% is considered good grade; and over 68% is considered as high grade ore. Apart from this, the extremely high grade ore is called ‘blue dust’ and is used for pelletization.

The major documents for the execution of a mining plan are as follows: a) Mining Plan; b) Environmental Clearance; c) Forest Clearance; d) Consent to Operate; d) Consent to Establish.

The mining plan has to extremely detailed and must include information regarding the following: borewell data, content of Fe at each 10 m depth, presence of ‘blue dust’, quantification of the various grades of ore present, calculations of resources and reserves as per UNFC classifications, year wise development plan, based upon the borewell data the space for dumps versus the space for mining has to be determined, a cost-benefit analysis per ton of production, man power employed, machines to be used (number of trucks, dumpers, etc.). Finally a progressive mining closure plan has to be provided. As of now the state has not seen a single Mining Closure Plan, TISCO is developing one now.

After submitting, the next is obtaining Environmental Clearances (EC). The consent to operate and consent to establish are based upon the Water Rights Act, and the Umbrella Act of 1986. ECs were started in 1996, before which everything was run only on the Consent to operate and Consent to establish. During the years between 1996 and 2004, there was a lacuna regarding ECs. No one knew what exactly was to be submitted and what was expected, including the government agencies. Only after 2006 did ECs become fully and legitimately operationalized. ECs are granted an Expert Appraisal Committee (EAC) which is based in Delhi. This committee includes 1 director from the government, 2-3 deputy directors, 12-13 people from different but relevant sectors. Odisha has SEIAs (not all states have this, and not in all regions, only in the heavily mined regions and mining belts). Permission for operation of anything over 50 ha go to the Central government. If the mining lease area falls in any buffer zones, this is also sent to the Central government. If there is any eco-sensitive zone in the elase area or the buffer zones, this is taken up by the Central government. It a coastal zone is involved, or if a critically polluted area, or special zones fall under the lease are, this will also be sent to the Central government for judgement. Terms of Reference have to be submitted, pre-feasibility studies have to be conducted (these are done on a pre-defined format provided by the ministry). All the documents have to be sent to each member of the EAC. This is followed by a presentation to the EAC. Environmental Impact Assessment (EIA) and Environmental Impact Management (EIMs) plans have to be submitted. Three months
of monsoon data has to be reported. Baseline data is used for monitoring all the air, water conditions pre-mining.

All environmental samples' baseline data are to be provided both for the core zones as well as the buffer zones. Noise, water (ground water and surface water), flora fauna studies are conducted and baseline data for the same is provided. Presence of Schedule I species, endangered or protected species eg: tigers, elephants etc., Schedule II species etc. have to be provided. This follows the (International Union for Conservation of Nature) IUCN conventions. Sloth bears and elephants are the two major Schedule I fauna that are found in the mining regions of Keonjhar. Following these studies, a Wildlife Conservation Plan is prepared. Budget preparations for the core zones and the buffer zones are provided separately. This is then fed into the CAMPA fund. *“If some specific types of birds like some fruits or nuts, then we will plant them so that they may also come and enjoy”—with respect to the Buffer Zone conservation plans.* *“There has to be made some balance of nature, so that there is balance in ecosystem.”—with respect to killing of neelgai and monkey in the region.*

For air pollution, particulate air matter data has to be provided for baseline scenario calculations. This includes PM 2.5, NOX, and SOX data. For the water baseline calculations, data has be provided regarding Fe (0.3), Mg (0.1), pH (6.5-8.5), TSS (200-300) etc. (the numbers in brackets are the general acceptable limits). This is used to determine the Ground water and Surface water quality prior to mining operations.

Regarding dumps, they should not exceed 30 meters, and need to be terraced every 10 meters. These are then stabilized through coir mats, and plantations. Dust extraction system, or sprinkling vehicles are required for dust settlement. Water harvesting systems need to be put in place in order to maintain or increase the Ground water levels. Surface rainwater harvesting operations are required during monsoons to enable unconfined aquifer recharge. Effluent and sewage treatment plants are located in mine. Once all the data has been collected and the EIA prepared, this is presented to the State Pollution Control Board (SPCB). Following this Public Hearings (PH) are conducted. At the public hearings, the presence of the local Superintendent of Police (SP), and District Collector (DC) is mandatory. Public hearing are announced in the newspapers. The PH has to be organized within a 10 km radius of the affected villages, it has to be chaired by the DC. Journalists, villagers, and other relevant stakeholders are to be present at the PH. The PH is videotaped, and written in hard copy as well. This is then signed off by the relevant chairs. These are then sent and presented to the ministry. Granting of the EC will be based on the presentation.

Forest Clearances requires the following steps: Total stations→ GPS→ DGPS (differentiated GPS) authentication. This is conducted by the Odisha State Remote Sensing Department. This
is then sent to the DFO (District Forest Officer) → RCCP → ECCF → State secretariat → State Ministry → Central Government → Compensatory afforestation → payment to CAMPA → Gram sabha permission/consent (specifically when there are people living in the region).

Stage I clearance if the Major phase, stage II is the compliance phase, after this NPV (Net present Value) payments have to be made. Before cutting any trees, tree enumeration has to be conducted and the species and other details provided. This report goes to the forest department. Cut trees also go to the forest department.

On the basis of all these, the mine can be “established”, i.e., erection of the industry. However, this is not operationalized yet. This is after the Consent to establish certificate has been obtained. Operationalization can only begin after the Consent to Operate certificate has been obtained. The next step is the application for the Consent to Operate certificate. A two year time period is generally required to operationalize a mine.

Apart from these, the grant of surface rights is given by the DC; hazardous wastes permission by the SPCB; blasting permission from the DMGS (all other safety related consideration come from the DMGS).

In order to receive permissions from the SPCBs—which provides all statutory clearances, various steps have to be followed. Air quality and water quality measurements are recorded and six-monthly reports are provided, hydrogeology studies are conducted, various other conditions (which are mentioned in the SPCB guidelines) are to be met. After operationalization, yearly production reports are sent to the DDM and the IBM.

The entire process is so long and complicated that it is not possible for smaller players to invest the kind of time and energy required. As such, the policies are such that small miners cannot operate. No small miner can operate sustainably in such a policy space, which leaves space only for large multinational corporations to operate.

8. Head of local NGO working for tribal development

Name: Banamali Tripathi
Date: 08.06.2016-16.06.2016
Location: Keonjhar city
Excerpts from discussions:
Although I don’t like iron ore mining, we need the mines to survive. All of our funding comes from Aditya Birla and Rio Tinto. If we are to keep our activites in the villages, we require this funding. We are working on some very interesting projects to help boost the agricultural productivity in the villages. In addition to this we work with various NGOs and partner with
them to provide mechanisms of clean water, access to energy, education and other basic requirements. We were also partners of the Keonjhar project for Lighting a Billion Lives, which is TERI's flagship initiative on providing access to solar lighting to the villages. Most of the villages we work in are in the hills where access is not easy. Therefore we need to operate vehicles and require funding to be able to access and provide help to these villagers. Most of the villages we work in are not in the core iron ore mining region and hence the issues in these areas are very different. The problems here are related to failure of the state government in providing basic facilities to tribal people who are still living under quite difficult conditions. Most don't have access to clean water facilities and hence regularly consume polluted water which results in diseases in adults, and death of children. There are almost no electricity in these hills, except for the solar lighting we have provided through our various initiatives. Unfortunately there are no alternative sources of funding and hence our only option is to tie up with local mining companies. The work we do looks good on their CSR reports, whereas we have the satisfaction of knowing the small amount of money that we have been provided is being put to good use.

9. **Former trucker**

Name: Alok  
Date: 08.06.2016-18.06.2016  
Location: Keonjhar city, Joda-Badbil, Mayurbhanj  
Translated excerpts from discussions:

Keonjhar City: I joined trucking because it was much more money than what my fields provided. Around 2004, there was a sudden boom in demand for trucking and so I obtained a license and got into the business. Although we were contract workers and were paid only on a daily basis, the money was so good that we all jumped at the opportunity. We were all young men so it was very exciting to earn upwards of 30,000 Rs/- per month. However, the conditions are very bad. We have to wait for many hours in long lines of trucks to get ore. It is very common for ore truck lines to stretch to over 2 kms in length. Apart from this because we are all one behind the other, there is always iron roe dust flying around. Many people that I know died around the age of 35 after being truckers for 5-6 years. There is also a lot of alcohol, drug use and prostitution in the trucking community. The hutting areas where we lives always had prostitutes and it is very different from regular brothels. This is because the huts are all so close and everyone can hear everything. It is a very different life in the huttons. The places are small, and tens of people stay in a single hut. The hutting are based on
communities. Because so many people have come here from outside Odisha, everyone prefers to stay with their own people. Thus separate hutting are made for Biharis, Punjabis etc. this also sometimes results in fights breaking out between communities. All in all, the life in a hutting is very bad. I left trucking mainly because I got married and my parents did not think it was good for me to be involved in the business anymore. Since then I have been taking up various driving professions and finally settled here (with the NGO). This is much lesser pay, but I feel like I have a much more dignified life here. I also don’t have to go through all the stress of waiting in line, not knowing when my turn will come, driving ore all day and night long. I am much happier as compared to when I was trucking now.

It was also a good time for me to leave, because one year after I left the Justice M.B. Shah Commission report came out. This resulted in ceasing of most of the mining operations and therefore many people lost their jobs. The people from outside go back, but the Odia people have nowhere to turn to after the mining operations were abruptly stopped. They cannot go to agriculture because now they have seen the quick and easy money, and do not like to work in the fields. Many of my friends are very unhappy and have taken to alcohol and drug use to kill time waiting for the demand for trucking to grow again.

10. Owner of a Steel Plant
Name: Dr. Subhashish Das (Hira Group)
Date: 04.06.2016
Location: Bhubaneshvar

Interview transcripts:
The first steel plant in Odisha was set up in 1911 by the TATAs. This served as an engine for the 2nd World War. In 1951, when India became a republic, the system changed to leases for 30 years, with a 20 year renewal period. Currently, only about 6-7 PSUs are operating successfully at the moment.

During the Chinese Olympics the demand for iron ore suddenly surged. The entire boom in India was a result of this demand. In 2000, 54 MOUs were signed by the Odisha government. The operations started by 2004 and between 2004 and 2008, there was a sudden boom in mining of iron ore. During those years, some of the highest tax payers from India were from Keonjhar.

Best quality of ore is magnetite. Haemetite is not so good for steel making. Keonjhar has Magnesite, whereas mayurbhanj has haemetite. For successful steel plant operation it is important to have captive mines. Not being able to obtain these captive mines is the reason
why various big players such as OSCO and Mittals exited from the state. As opposed to his, various companies such as Rio Tinto which did not apply for captive mines were able to secure permissions.

It is the end of steel, if captive mines cannot be secured. In the past year almost 65% per capita reduction in steel production has taken place.

There is always large scale corruption involved in the mining industry, at every level, including to obtain Forest Clearances. There are over 100 mines in Keonjhar itself.

Tulasi Munda is a campaigner for tribal rights and interesting person to meet to get more detailed analysis into the points of intersections between tribal rights/welfare and iron ore mining/steel plants.

3. Field Notes: Goa

Interview Schedule

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1. **Journalist**  
Name: Nihar Gokhale  
Date of interview: 28/02/2016  
Location: New Delhi  
Transcript of interview:

Goa is a state, but if it wasn’t a state and was rather a small part of a big state it would have been left on its own as an ecosensitive area.

From my understanding is that Goa is very well endowed in terms of natural resources. It has got many streams and springs. If you just look at a map of Goa, which includes water bodies, you’ll find its mostly blue. Not as big water bodies, but in these small lines. It’s like a human hand. It got these tiny veins joining together and becoming the two major rivers that Goa has—the Mandovi and the Zuari. There are a lot of springs, streams, and rivers in Goa. And it’s the bauxite and the iron ore in the ground which facilitates this water bodies. Even in Niyamgiri, where there is bauxite, there are many streams that emerge from the mountain. A whole part of the sacred theology of the place is related to the water that comes from the Niyamgiri. So the water and the minerals are connected. And water is everything.

Q: What is the connection between water bodies and mines?

A: Laterite is the stone of Goa. Laterite stone is like a foam, like sponge which facilitates the soaking of water. The geology is such that there is layer of laterite, followed by a layer of basalt which is impermeable. So all the rain water is trapped through the laterite in the basalt and this allows the formation of streams and springs. The whole basic geology and ecology of Goa are connected in this way—the laterite allows the water to flow and the basalt layer does not, hence the water is trapped and stored and then released as streams.

Goa is rich in iron ore and the bauxite mining, but mostly in iron ore. And the ore is very low grade. All soil of Goa has iron ore and hence all the soil is red. They call it *tambi maati*. Taamdi means bronze-like..there’s also a blog called Tambdi Mati..an old Goan blog. So technically, the entire Goa can be mined, due to the presence of ore.

Q: How were the mining leases and concessions given?

A: The Portuguese gave mining concessions to certain people before the Liberalization of Goa in 1961. So State government, in a state like Goa that is pressurized to generate a GDP, and earn money, is forced to sell the resources it has. And this is not limited to iron ore. Now that iron ore mining is banned temporarily, and will be capped, the scope of the industry returning
to it full scale as it was before is difficult. As such the next resource is land, and tourism. Because it is a beautiful place, the government has started selling whatever parts of Goa they can, to whoever. Literally, whoever. That’s what is happening. There are five different ways they are doing it. They are cutting into orchads and cashew plantations, and they are substituting these plantations with concrete. Land, the physical surface as is, has great value in Goa. Currently in Goa nothing that is above has much value as the physical surface of the land-the topographical entity of the surface. So when they sell the surface, they sell it to real estate whatever, and the value is of the surface and of the surrounding aesthetics. Like for example, this village at the southern edge of Goa called Lolien. Lolien is a beautiful tribal village which is situated on the slopes that lead to the sea. So there are fishermen and tribals褼 its a tribal belt anyway. Its close to 2-3 wildlife sanctuaries. The Goa government has proposed three resorts—7star resorts here. All on the slopes overlooking the sea. So the aesthetic value is the sea and the slope. I mean I’m sure it will be beautiful. And also the southernmost tip go Goa, so you know, virgin land.

And they’ve developed an idea called eco-tourism…and the guy who wrote the ecotourism policy is the same guy who is designing the resorts. He’s an architect.

The whole of Goa is an ecologically sensitive, nice, area with people who are actually living a very Degrowth, post-growth lifestyle. These people are now being subject to growth, because of the natural resources in the state. If Goa was a part of a larger entity, they may have earned their income from other sources and left this region to be the ecological economy it has always been. It’s a very ecologically sensitive economy. It’s all coconuts and water and fields. What is Goa otherwise? You go anywhere, people are earning money from fishing and farming. And these coconuts are just like everyone’s. Everyone plants some coconut trees. But this industrial development, which in itself is causing the ecological havoc and this new real estate craze. And then there’s ecotourism as an apology for tourism. They are appropriating natural resources...

Q: So are you saying this new regime is basically like mining?

A: Yes, exactly like mining. They are appropriating nature, to ensure growth, economic growth. And they do it in the name of income for local causes. They say that, they have created a discourse where they say, that Goans are leaving the country.

Q: But that must be the upper caste again??The ones that are leaving the country??

A: No the people go to gulf countries for labor. What are activists are saying that this has not changed despite tourism. They say go to Calangute and Baga beach. The most commercialized of the lot. They say go to the local women living around there. They say that every family has...
one person in the gulf. Why? If you think tourism has brought money to Goa, why do they have to send somebody abroad? Like every shack in Goa, the guy who runs the shack, does not earn money. He has a sibling in the gulf or on the ship. They are saying people are also not getting married because people aren’t making money. But how come?? It’s probably not profitable enough. Probably there are too many shacks, too much competition. So the activists are going a step further and saying that this political economy is not really helping people. But the dominant discourse is that this is supposed to be helping people and. The whole point behind all of this and the article I wrote recently is that they want to create jobs for Goans. Non-polluting jobs. But what these people are saying is that neither this tourism nor industries are creating jobs for Goans. They are getting immigrants.

Most of Goa lives in villages, only Panjim is a city and Margaon to an extent. But even those are councils. So in my opinion, Goa is seeing its natural environment degrading, and also not getting anything in return.

Q: Are there any other such anti-land grab movements in Goa?

A: In the beautiful coastal with the river Tirapole meeting the sea. But the proposed a big resort and a golf course over there—7 star. And the people have opposed it. When you cross the ferry with your rented bike, and you cross the River Tirapole and there are three big boards saying “we say no to resorts”. “We deny golf course”. Southernmost point I went to loliea.

Q: Who are the major NGOs and activists involved in defending this new land grab in Goa? What do you think the role of Activists is in spreading awareness?

A: There’s an excellent group called The Federation of Rainbow Warriors. There are four people running it. They are the ones going around, and Hartman. He will give you the bigger picture, but he doesn’t deal with the regular and more detailed cases of Goa. But, these Rainbow Warriors, on the other hand, are literally going from village to village. Talking to the villagers, informing them, and creating awareness about all these issues. So the Rainbow Warriors are there on the ground informing people about all of this. There is this document--Regional Plan of Goa, 2021. The Rainbow Warriors are basically going from village to giving presentations on this Regional Plan. They have used Google Earth to superimpose the regional plan on the actual city. There is a plan for every village. So they have placed it exactly on the village. Now they go to these villages and they show these maps, and there is a transparency tool. So people can see exactly how this current forest, in the Regional Plan, has been shown as settlements. What the plan does is show the land use as settlements vs orchards, forest fields and water. Settlements meaning any human interference.
Q: Are there any other ways, apart from this new eco-tourism, in which, in your opinion, the push for economic growth is impacting the socioecology of Goa currently?

A: And there’s so much more. Right now they are opposing that airport in Goa. Mopa airport, the airport in Goa, it is coming up on a plateau. Goa is full of plateaus, which are full of this laterite. So these plateaus end up actually being the water bodies for all the downstream villages and towns. And they are building an airport on the plateau which they found out has 46 springs. And they are making the airport there. The Ministry of Environment, Forests and Climate Change gave an environmental clearance to it already. This study was done by Himanshu Kulkarni. Of Acquadam. It’s an acronym. basically they do groundwater studies and Himashu is a very well-known water guy. These guys came and they went around Mopa plateau. I saw the pictures, and that plateau is wetland. There are pictures of activists jumping in water, and Madhav Gadgil has been there. He has also certified that you cannot build an airport here.

Q: But they’re going to go through with the project anyway?

A: Yeah, it has been approved. They think that the current airport is not enough. But here is the catch, the new airport will be economically viable only if it gets 24 million passengers per year, and the current average is 3 million. And here’s the issue—the point of these big airports is to generate income. How they will generate income is by creating economic opportunities at the airport. So along with the airport, they plan on making an ice skating resort, a sports center, a shopping mall. It’s all in the plan. And this plateau is a beautiful green plateau. It has also got tiger habitation. It’s a beautiful hilly area with lots of biodiversity. It’s got hornbills, tigers, leopards, wild bison, and wild pigs, and water resources.

2. Local Activist
Name: Ramesh Gawns
Date of interview: 01-07/03/2016
Location: Panjim
Transcript of interview:
Q: What are the major issues with regard to tribal communities and iron ore mining in Goa?

A: Most tribals have their own land and most of the tribals are quite connected to the land. They have paddy plantations, and cashew plantations. Basically they are 3-4 talukas where the tribal people dominate. There is undue access into their areas, and their activities. Government policies don’t look at the basic issues of the people, such as the sustenance of
their self-employment. You are trying to give them loans for purchase of flats etc. but they don’t need flats, they need funds for self-employment. Why does a tribal want to buy a flat? Is it in their culture? Is the flat-culture a part of their tradition or is this an urban, city culture..? They (the State Government) have also floated a corporation for the development of the tribal people through which they are providing loan facilities for 2% (if they start their own production of fruits and vegetables for sale into larger markets) and 4% for flats.

The idea of giving the loans should not get confined to the shops (or bigger markets). They traditionally sell at the side of the roads. Why don’t you give them compensation for this ‘sufficiency culture’ and support the sufficiency culture? Why this need to pull them into the markets and to grow to sell.

What you are doing is imposing upon them a totally new kind of culture. That of the mining industry. Immediately the social culture, the family bonds, the social bonds they get destroyed. It is not only in the tribal areas, but in other areas also. That entire leadership is gone. Traditional leadership. From the traditional people, and has been transferred into the hands of the mining companies.

Q: What is the situation of the mining industry today, after the mining ban of 2012?

A: These are 409 mining leases, as of today, renewed by the mining department. Out of these 225 leases exclusively in the largest taluka dominated by the tribal people. What are you aiming at? On the one side you have this development corporation where you are giving them loans and on the other hand you have all these mining concessions on their lands. You are renewing these leases. This is a mindless business. For instance, in Sanguem taluka, there is dense forest, cover, hills, and perennial springs, and therefore the tribal people enjoy the water tanks. There is also a river there, which is right there because of the forest. And this river used to provides water to the tribal people for subsistence agriculture, and for self-employment in agriculture. But now these tribal people hardly get any water for cultivation, because all the water get pumped into a dams which has been constructed there.

Q: What are the other (non-mining) activities that the mining industry in Goa is involved in?

A: The mining companies are enforcing their own ideologies... And what is this? It is that of making profits. They only want to make money. Do they care about what the fabric of the community is?

Worst is how mining companies encourage construction of new temples. It is because of them they have a new temple in Colomb. There is no one who can say no to temples, because it
becomes religious then. This is something that has been happening everywhere. It is also something that the political brass supports—the RSS and the BJP. It lends support to the Hindutva ideology while at the same time appeasing the local Hindu communities. At least, this is my interpretation from what I have sensed and understood in my years of travelling through the villages and campaigning against the mining companies.

Why does a village which is otherwise backwards do they need to have an expensively constructed temple of 50 or 60 lakhs. When the people are living in mud houses what is the need of this. Money is being spent for the construction of the temples in order to obtain approval, or at least to reduce the opposition to their environmentally and socially damaging activities.

Q: Is there anything else you would like to add from your own understanding of this situation?

A: There is something. I think that land acquisition of marginal, or above-marginal people, is an important political tool in maintaining the balance of powers by the ruling classes. Land is an important resource. The people who have land are the people who have the clout to change the balance of power. Once I move to a flat, and abandon my village land, or my agriculture, will I wield the same power? Shall I have the social bonds? The cultural pride? Shall I have the same river and field if I get uprooted? Will I still have the same respect for natural resources, for rivers, and springs, and hills, and trees, once I move into a flat and they are no longer a part of my daily life?

Democracy can change the scenario can change the situation against the corporations or for them. The corporate-state machinery recognize this power of the common people, and they have no interest in the people. But in a democracy, especially in a small place like Goa, they can’t directly change land ownership, so they do it through other mechanisms.

Everywhere in the world, what I feel and anticipate is that this is the motivation of the ruling classes and the political class, which is often carried out through the corporate sector. What is this? You have to uproot all those farmers and laborers who are dependent upon the farming system. So long as they hold it, they hold the power to say no. So what you have to do is just to take the power to say no. the moment you take away this power. They have nothing left.

In Goa, it is not a direct manner of land acquisition and dispossession, but it is being promoted in an indirect way. And the mining industry plays a significant role in this indirect transition. Mines are not always horizontally placed but are often on hill slopes. Once siltation and run offs from the mining operations which are so heavy enters into fields, once they get in, you can no longer cultivate. The siltation and run-offs cover large stretches of downstream land.
Once this happens, the fertility is gone, and people can’t get it back, once land is covered by this heavy silt and run offs from the mines, it becomes unusable. And now there is alternative to make quick money from mining. So what happens is people leave agriculture, and they are eventually uprooted from their land—this can be either physically (by selling off land and moving into cities) or psychologically (by breaking the dependency, and hence the connection to agriculture, which means to springs, rivers, soil and forests).

In the mining affected area, their (villagers’ and agriculturalists’) right to pursue their traditional means of livelihood generation, i.e., cultivation, is being deprived. These lands and these occupations have been handed over generation to generation, and now they can’t pursue them anymore. This agitates people.

Q: Could you comment on the history of mining in Goa, and elaborate on what the relevance of this history is to the current mining sector?

A: If you want to understand mining in Goa, you have to go back to the Portuguese colonization period. It is founded upon the supremacy of certain Classes of society. During the regime of the Portuguese, for over 400 years, there was the ruling class of Goans. These people were integrated into the administration of the Portuguese. These were the traditionally wealthy classes. These are the people who learnt the language (Portuguese) ahead of other people. They had access to more facilities. This is how they got more and more integrated into the System (the Portuguese regime). This is why, and how, the mining families of today got their mining concessions from the Portuguese. These concessions carried on post Liberation in 1961.

Even during those times, these people and these families had the ‘we are the bosses’ attitude. This has been going on for many hundreds of years. Will this mindset or mentality be changed overnight? During the Portuguese regime, they were the administrators and hence the bosses. In 1961 during the liberation, they were still the bosses. They always did and continue to hold the economic power. In the present times, in purely economic terms, and based upon the revelations of the Shah commission, their income is not less than 70,000 crores of rupees, when their investment is not more than 2000 crores. The whole state of Goa has a budget of only 6000 crores for the welfare of 14 lakhs of population. In this situation, who will hold the actual power? Will it be the state or the few mining companies and families?

In such a situation where everything is dictated by the mining companies nothing can happen because of them. Even in the case of integration with Maharashtra. Goa was privileged to be able to give an opinion poll for the same. Even behind this merger, the mining companies
were involved. There were various reasons, of course, which must be respected. But one of the more important reasons was the flexibility of operating in a smaller state. It was easy for the miners to “handle” a smaller state like Goa. So they spent a lot to keep Goa as a state. The same would not have been possible with integration into a larger state, where powers would have got diluted, and it would have been more difficult to control the political and state machinery.

In 1987 Goa, Daman and Diu bought a bill, a mining bill, which was rejected in the HC then taken up by the SC. That bill is still pending. The main point was that each of these concessions were to be converted into leases and brought under the MMDR. This was because they wanted the concessions, since concessions are in perpetuity. Concessions can’t then be re-auctioned by the State, they stay in the family for generations. Leases can be taken away and re-auctioned, but not concessions. This was opposed by the mining companies and families because they want the inheritance based concessions. These people don’t want to integrate into the system of India. These are the people that are anti-national.

Q: Can you comment on the power dynamics between the State v/s mining companies in Goa?
A: Given this economic power, mining companies select all the representatives of the government. If the mining people say no to something the government cannot do it. They will not survive (politically). And, if this is so, then can the government, in the totality of justice, can they look at interests of the tribals or other common people? Can they, practically speaking, place the interests of the people against those of the merciless mining corporations, or the destruction of land, or of the entire ecosystem?

If they are damaging dam which supplies 55% population, which they were, can the state do anything?? 21 mining leases were operating in a 1 km radius of the Saravalli dam and river area. The Manganese concentrations were found to be beyond human consumption safety standards. This is the water which is being supplied to 55% of the Goan population. And there was no action taken.

Who is going to look after the people? It is a welfare state? The state should look after these people. However, even though there is a state machinery, the mining machinery is more powerful and resourceful than the state. How can the state then actually control or make mining companies comply with regulations?

Q: There were various protests against the mining ban. Would you comment on why this happened?
A: There was absolutely no problem. I was on the field and there was nothing. Was there any case of suicide due to the mining ban? The mining people have made enough to sustain them for generations. Those who entered into this business, buying cars, trucks, equipment etc. were out protesting because it was too late for them to get into the business. Those were the ‘victims’ of the ban. The ones that were victims of their own greed. They had bought many cars and trucks and equipment and now these equipment had no utility. These were the people shouting against the ban.

Q: What, if any, cultural and social changes have occurred due to the mining industry in Goa?

A: Major cultural and social changes. I’ll give you one example. During the peak of mining, the youngsters of this area used to, when there was electricity failure in the villages, they used to move to Panjim to stay in 5 star hotels. How come this change to move from the family homes just for a day, is this not because of mining money?

A second example, is the casino culture. The buses of the casinos used to collect people, over the weekend, from the villages. Buses would leave the villages on Friday and bring them back on Monday mornings. How were they (the villagers) able to do this? All because of the mining money. The casino culture has been planted into this generations in villages far away from Panjim. I know some people who have machinery, and were earning 1 crore per month. This is where the loss of income is. These are the people who will suffer from the mining ban. They were vociferous and condemning the ban because of these 1 crore incomes which suddenly went away. It was all easy money.

There are also some other people. Some people who took loans, and sold things, to buy mining trucks etc. and lost everything. But there are very few such people.

In order to appease local villagers, mining companies also give trucks to important families and some local youth. Why are you giving 10-20 trucks to each person, why don’t you cap the number of trucks that are being sold? This is a dowry system created by the mining companies. Once there is a person integrated into the mining company they become the richest, and hence the most powerful in the entire village. There are many such ‘victims’ as well.

Culture is not about dance and song only, there is much more. Culture is something you live.

Q: Was there no government action at all? What about sanctioning of reports etc. to determine the impacts of the mining industry?

A: Yes there was some action in that regard. Various reports had been sanctioned by the government to determine best practices, what was wrong with the industry, and what changes
could be made to improve the functioning of the mining sector. But all of the documents that make significant recommendations are discarded. For instance, eventually what was the fate of the report by Madhav Gadgil? It was rejected, and it is now not in public domain. The government sanctioned this and supported it and gave a large sum of money for it. Gadgil visited so many villages, and talked to so many people and wrote this report with great effort. But eventually it was not accepted.

Even Parrikar himself contributed to the Public Account Committee report. He prepared this report. Here he condemned each illegal activity. He brought forth all these illegalities to the forefront. What happened to that report? Which you yourself wrote to get to power to become Chief Minister? Which you so emphatically stated are illegalities and need to be controlled? You clearly stated that 85 MT of iron ore has been illegally exported, and that 37,000 crores Rs were illegally acquired by the companies. But when you became the Chief Minister why did you not follow through on these issues? That money should have come back to the government the resources belong to the people of Goa. The worst thing that was brought out in the Shah commission was that there was a ghapla of close to 70,000 crore rupees. A sate like this?? Can it provide anything any justice to the tribal people??

Many years ago, Tata Institute of Social Sciences (TISS) came out with a lot of suggestions. This was when production was only 12 MT. They explored the problems being generated by the mining activities in great detail. Ultimately they came up with a suggestion that each company should pay 7 Rs per tonne extracted for environmental reclamation. They said no and said that we will pay only 5 Rs. Government says 7 mining companies say 5. At least then, they should have then accepted it. But that same report was also rejected. The report was thrown out.

The state mining department is basically run by companies. If you go there, you will find some or the other head of company dictating to the politician what the policies need to be.

I also think all records are completely changed. Every file and register was taken out and burnt. Literally burnt. This is something a close friend working in the Geological department has told me. This is what happened. Any data that has not been already in public domain before have been changed. I just found 409 mining leases, and it was 50 or so a little while back.
3. **Activist-researcher**

Name: Rahul Basu  
Date of interview: 08/03/2016  
Location: Panjim  
Organization: Goa Foundation, Goenchi Mati Permanent Fund  

Transcript of interview:  
Q: What is the major issue that you are fighting against?  
A: Corruption is the main issue. The amount of money that has been lost to the public exchequer is the central point of our struggle.  
Q: So it is the state of Goa, and the people who own the minerals?  
A: Yes, there is a Public trust doctrine which needs to be respected by the state authorities. And this has not yet been done by the government. The losses of 70,000 crore Rs. over the 8 year period between 2004-05 and 2011-12 show that (details of the same in EPW article titled: Catastrophic failure of public trust in mining).  
Q: Have you ever faced any serious threats from the mining mafia? Such as threat to life or harm to your physical person?  
A: No we are not at threat to life here fortunately  
Q: What are your main proposals for ensuring better mining practices, and to enhance the share of shared profits?  
A: The main thing we are advocating for right now is the Citizens’ dividend which we want to be paid out through the Permanent Fund (details in Goenchi Mati Permanent Fund website).

4. **Local Activist**

Name: Siddharth and Nilesh Gaonkar  
Date of interview: 17/03/2016  
Location: Madgaon  
Organization: Federation of Rainbow Warriors  

Transcript of interview:  
Q: What are the major problems with mining in your opinion? Are there any new leases in tribal areas?  
A: First there is the problem of Environmental Clearances. Although I don’t have exact data, some 15 mines have again been given ECs. Secondly, there is a major problem with the
measurement of the dumps. They haven’t documented the exact number of, and size of dumps. Right now the major transportation of ore will be from dumps (until the mining ban). If dumps aren’t known, then they can start to again export the dumps illegally. The villagers actually know the number of dumps, but they (the State Government) don’t listen to us. The sizes are also important, not only the presence of dumps. This is what happened with mining as well. In almost every case of there are permissions of 3 MT they have removed 6 or more MTs. This is where the illegality comes into picture. There was one dump in Cavrem we went to inspect during one of our agitations. The dump appeared small. But when we went behind, the land (hill) below was gone. From the other side (of the hill) you see that the entire mountain is a dump. Whereas on paper it is a small dump.

Q: What is the scenario with regard to opposition to ore transportation in your village?

A: Right now extraction has stopped, but there is still transportation of ore from dumps. We recently agitated in Cavrem so they stopped the transportation. But other villages where there is not a strong movement, they do as they like. There is no authority strong enough to face or stand up against the mining companies. Only the people can do this. The dumps are so large, and there is no one to regulate how much is being taken out.

Q: What is the situation of youth political movement in Goa? There is obviously a vacuum, with both current parties not really targeting this important issue. Are there any new, emerging politicians, or political movements on the scene?

A: Unfortunately the young, and influential people are all family members of older politicians. They haven’t really taken interest in this issue. There are no strong student activists also right now. There were some earlier, they were called the Progressive Students Union, but it collapsed soon after. Although, that was a strong movement, there is not so much talk now of reviving it now.

Q: What has been the role of the peoples movement, the social movement of resistance against mining?

A: When all of this was taking place, Nilesh was 21 years old and these people were all a part of the movement. It was these activists that stopped it, only the students and the vigilant members of villages stopped it. Otherwise there was no way it would have happened. It was the protest of the people. And nobody ever given these people credit. They only talk about individuals. It was only after these movements had already begun that the NGOs came. But these were the people on the firing line. These were the people who were beaten up. Nilesh, and people like him. Nilesh has been beaten up by them. They (the mining companies) had
hired goons, and as soon as he entered the place (of agitation) they were waiting. They hit him with iron rods. Nilesh got a fracture. He was a terrorist for them. But these were the people at the forefront of the struggle. People who live there, and face the brunt of the goons every day.

Q: What were the major reason you started your protest?

A: Goa has the highest rainfall and still has scarcity of water. Whatever we are drinking and using in our village is all fresh water. There are so many natural nallas, we don’t have PWD (Public Works Department) connections. Suddenly when the mining boon began in 2009-2010, our entire water system was destroyed. So we started a movement in 2010. Many our natural nallas had been destroyed at that time. There is some iron ore in the water anyway, but this is required for our body, but the mining waste makes it toxic. This also affected our agriculture, and the noise pollution and dust which came along with it were all major reasons. That is why we organized our protest.

In 2010, we spoke to people in other villages, we educated them. We told them about what was happening. We explained to so many people exactly how the mining, the siltation, the run-offs affect the agricultural productivity etc. to educate people.

Q: What is next on your agenda?

A: We have started the cooperative society for tribal people, but the government does not want to register this society. This is only because one of the things the cooperative wants to do is mining. We can do some mining without affecting agriculture etc. without our involvement this is not possible. Because we know the place, we know the people. We are living in the villages, we are here. Why are you giving control of these resources to people from outside? To people who are not affected? These contracts should be given to people who are affected. We will do it ourselves, we will do it sustainably, and we will use these resources to develop our own village by our own selves. A village does not need thousands or hundreds of crores of rupees to sustain itself. We will do it in a manner that is small scale.

When we approached the government representatives with this proposal, they said we will accept it proposal, if we just remove the word ‘mining’. They clearly told us we will do it if you just remove the proposal for mining, it will be accepted. So now we will struggle to make this a reality.

Q: Can you comment on your understanding of the relationship between iron ore and lateritic hills and spring?
A: Laterite plateaus are everywhere in Goa. We never knew its importance. But they actually hold the water and the rain recharges the aquifers down below. This is why there are so many perennial springs at the bottom of these lateritic plateaus. The mining of the hills destroys this rainwater recharge system which so many villages in Goa use. We also spread awareness regarding this issue to local people. Most of the nallas also are fed by these processes. This is the same issue with the Mopa airport construction which will be on top of a plateau. And this is one of the reasons people are protesting against the Mopa Airport.

Q: In your view, do you see the tribal people becoming more aware of their rights and the effects of mining or even other industries, after the iron ore mining protests?

A: Yes absolutely. One example is a new Beer manufacturing unit which has been proposed in a village in Sanguem taluka. When we went there, the tribal people had already done all the work. They had got all the documents and were able to resist the cutting down of hundreds of coconut trees in their village by themselves, with no outside help. We went there to help them with legal documents, and to make them aware of their rights and to help them take the case further. But they had already managed it by themselves! If tribals are empowered that is what happens!

These trees though, are they owned by the companies?

Yes they are. The protest is by people living around it. The company will also extract large quantities of water. And the tribals know this. So even though the company owns the land there will be problems in all the neighboring areas as well. And the villagers will be affected. Peoples’ participation is the most important. Even If we go somewhere to spread awareness, we can’t do anything if peoples’ participation is not there.

Q: Do you have anything else you would like to add?

A: Yes, just one thing. The mining companies have offered to pay me so many times. But it hasn’t worked. What they are doing is a violation of my human rights, and my constitutional rights, and my fundamental rights, and I will fight to protect them till I can.
5. Local Activist
Name: Kalanand Mani
Date of interview: 20/03/2016
Location: Kadamba Plateau
Transcript of interview:

Q: What is your experience of Goa in the pre mining boom years?

A: Before the mining boom came into the picture, people had not realized the destructive power of mining. The general notion was that Goa was a very special land which had no issues at all. At that time, as I spoke against mining, I was the outsider. When I told them about the destruction of catchments etc. I was not taken seriously. In 1984 we organized a Parivarthan Yatra, and invited Sundar Bahuguna. He was a brand in himself. I took him to those areas where mining was wreaking havoc on the land. He spoke out against mining. But people told him, Bahuguna ji ye toh rozgar deta hai. The perceptions were different because the impacts were not felt so strongly yet and people still considered it to be positive. It was also to bring to focus that there is a divide between the cities and rural areas, and the forests, and between the haves and have-nots. At that time there was absolute denial of these issues. Except for The Herald, no one covered that particular meeting. No other media covered it because they were all funded by mining companies. This is how media plays a role. One must be careful of who owns the media and who controls the information which is being disseminated.

Goa used to be considered the best place on earth. Now Goa has been destroyed in the name of first mining, then industrialization, then tourism and now housing and real estate. Initially there were no protests because people felt they brought in alternative income generation opportunities. But when certain things happen that threaten you entire way of living, and your life, then people take action. That is why people took to action in Goa. Because they finally understood the damage and the threat to their identity, culture, livelihoods, and lives.

In Cotigao, which used to be considered the most backward village during those times. What was the definition of backwardness? It was the lack of roads, markets and modern civilization. However when I went there in 1984, it was full of forests, even in the daytime there were areas which were dark. And there was a self-sustaining communities. There was only one problem, which was access to drinking water. And they did want some basic access to education. But, if you wish to bring development do it in terms of improving standards of living by providing a school, hospital, and some other basic facilities. But the government announced the area as a sanctuary. Now the issue became displacement. The government felt that people there are the enemy of wildlife. The people who have lived with wildlife for generation are considered, by
people who want wildlife for their entertainment, but who are not ready to live with wildlife, as the enemy.

Q: Is there any mining family vs corporate culture strife in Goa? Because the corporations have only recently come in, whereas the mining families have been here for a long time.

A: Corporations always fight or compete with other corporations. The mining companies had reason to present a joint front and till there was a small corporate sector, mining families had no problems. The moment SESA Goa started expanding and had capability to buy more, that is when the other fish ganged up to make sure they were not going to be encroached upon. But fact is there was also some kind of an internal movement to hold back the movement of SESA Goa.

On the one hand, yes there is victory which must be saluted in terms of banning and stopping mining. Because some people were really in a terrible condition. And it was complete destruction. But people must also be careful to see the bigger picture. Who replaces who as the new mining giants, and what are their powers? How will this new entity affect the mining scenario? How will the movement transform itself to tackle this new face of the old enemy? This is how activism also gets trapped, because this perspective or information is lacking. One must think ahead. And each movement should be careful of hidden corporate agendas.

Q: Are there any other suggestions you would have for the organization of movements in Goa or even outside?

A: The problem with movements is that the holistic picture is missing. Those who are fighting against tourism say they have nothing to do with mining. Those who are working with organic farming, they again don’t want to associate with the anti-mining protests. It is essential to take all these issues together. I don’t understand what the ability to unite around different issues is not there in these movements. If despite of corporate war, they (the corporations and mining families) can pull their resources together to prevent the State from harming them, then what prevents the social sector from joining hands? The union of these different movements would have a much stronger power, and would been able to present a much more holistic picture of the problems at hand in Goa.

We are a divided society and this division is used by them to manipulate people. These are unacknowledged divides which fragment our society here. And these fragment enter our movements. This needs to be acknowledged and accepted for movements to come together. When people talk about certain issues, they are considered as negative people. The immigration due to tourism has resulted in break in culture. This is also in the linguistic
divide. These create friction in society. And as far as the environment is concerned, again we need a holistic perspective. Environment is not only the trees, forests, mountains and rivers, but also people. You cannot take away people and society from the environment.

Q: What is your view on ‘development’ in Goa?

A: Some people say for certain objectives certain extent of destruction may be necessary, but this should not be forever. This can’t go on forever. Goa became popular because of the hippies. And hippies led a very strange life. It is not for me to understand, but people came to see that and also said, oh the beach is also nice. So suddenly there was tourism. Now with this tourism, there was the need for creating tourism infrastructure. This is the same that happened with industries, or with mining. More and more infrastructure to support the industry was created, causing more and more destruction of the environment. The idea is something will be lost, that people loses something or the other to gain something else. Eventually, in all of this, the environment of Goa is losing.

Another important thing is this apartment-culture. How old is this really? About 20-25 years old? No more than that, at least in Goa. And what is it doing? It is breaking social bonds. As an example, here in this town, in my locality, right now I am paying a heavy water bill. We all are. But we are not protesting against this. Why? We are so occupied by other things that we have no time to actually mobilize. We also don’t know each other that well. If I go to the other people in the apartment, will I get support? People will pay for water and not have time for mobilization. This is a part of the apartment culture. Here (in these apartment complexes, in the cities), we are growing as a cultureless community.

And another question that must be asked is: development for who and at what cost? And what are the parameters of development? Just buildings, and things, and goods? Or a higher quality of life and living? And if it is a higher quality of life, then if life of Cotigao is good, why not replicate this life in Panjim? Instead of replicating the Panjim life in villages... We are just not ready for a long term collective perspective. I am happy with mine, and what I have created, with my data, with my awards, with my organization, with my data and my book. This happens because we never work for a collective perception. And because we lack persistence. When we want something, do we have the persistence to ask for it, and to stick to it?
6. **Tribal resident and Local Activist**

Name: Rama Velip

Date of interview: 21-25/03/2016

Location: Colomb village, Rivona, Sanguem, South Goa

Transcript of interview:

Q: What have been the experiences with compensation for agricultural losses in the villages here?

A: Mining caused losses in agricultural productivity. And many people took compensation for these losses. After signing this document, which villagers innocently did for 1 or 2 lakhs...after that they can no longer complain. Because they have signed documents saying they are ok with mining operations because they have received compensation. I told them this beforehand. But people don’t understand the long term consequences. We kept complaining against mining operations, but the people who were getting large compensations didn’t listen. Many people even got trucks from the companies. Gurdas Naik, the Sarpanch of one village did this. He took the trucks as well as became the contractor. They (the mining companies) also gave the local temple 4 lakh rupees beforehand. Overall they spent over 1 crore on the temple. This is all an appeasement tactic.

Q: What have been your experiences with direct action which you employ against mining companies here?

A: We have stood in front of trucks to stop transportation. We regularly organize protests when illegal transportation is going on. The first time I did this, they would keep calling me. Since I am the leader, I am always caught. And they always track my movements. They know I show outsiders around. So they call me whenever they see them getting or taking any new person around. I never took their money, when I used to visit their offices, they used to offer me water. I haven’t even had a drink of water from them, forget taking money.

Note: During the time of my visit, a local agitation against ore transportation was going on, which we passed through. This was noted by the local police. As soon as we reached home after a day-long tour around the village, the local police called Mr. Velip questioning about the reason of my presence, and threatening arrest or ‘other consequences’ to myself and/or Mr. Velip. As a result, Mr. Velip advised me to leave for Panjim and return a few days later, after the protests have subsided).

Q: How have the local Catholic-Hindu differences played out in the anti-mining protests?
A: The local priest (of the local Church) helped out a lot and also prevented the Hindu and catholic communities from falling apart when the temple got the large funding. The Pandits (Hindu priests) take money. The pandits have no importance in the community. They have no role in communities, and also consistently take bribes from the mining companies. But Brothers and Fathers have a lot of importance to the community.

Q: What are the advantages, in your opinion, of tribal people in Goa versus in some other states?

A: Our land rights are in a much better state than other tribal people. Because during liberation, our properties were handled in a better manner. The benefit is that the land documents were drawn earlier, I got my property documents in 1982. We got all the property that we cultivated. The benefits with the proper documentation is that my land cannot be taken away from me at least.

The property sale started with the comunidades. They had a lot of land which they started to sell in bits and pieces. Earlier we followed the gaonkari system, where land used to be managed by the entire village, the plantations used to be common. And the land belonged to all. They would just have to pay a small tax to the local temple. Like a land rent. But you could also construct houses within the land you rented. Then they started to sell them off slowly and gradually. And now the system is not in place anymore. Space was even allocated for construction of schools etc. which the communities paid to the temple.

Q: What are the other anti-mining related movements going on in this area?

A: Here a big pig iron facotry is being made. Despite of the mining ban. There have already been two agitation regarding this. And we have also filed a court case which is ongoing. It belong to some dilliwalla. The construction goes on and off. But they keep coming back and building. This factory has been here for something last the past 10 years. It opens for a year, closes for the next 2 or 3 and then they restart construction.

Q: Are there any other issues that people are struggling with here? What have been previous experiences with compensation for displacements?

A: Yes, there is the case of the dam built on the Saoli river. This is the Saoli river. There is a dam here, and that is what supplied the entire South Goa with water. This drinking water has not yet been affected by the mines, but all the agricultural water supplied have been affected. Here the people that are living are people displaced due to the Saoli project. One person got a 400 sq km plot plus some (10-20 thousand rupees) money. Now because it is the second
generation, how will 4 brothers spilt that and how can that amount of land be sufficient for future generations? As compensation people were paid 1 or 1.5 Rs per meter square of land. That time the value of land was very less so people took it. This was in the early 1980s. Also the compensation is only one time, whereas land is forever. With this form of compensation, there is only a one-time payment which does not sustain lives and livelihoods beyond a point of time. There were also some people who took no land but took 4 lakh rupees, those people suffer even more. At least the people who took land are better off. Because land is a long term commodity. I tried to tell a lot of people about this, to not opt for the money but for the land, but some people don’t listen. Earlier 10, 000 rs used to be a lot so people took the money. Now they are stuck.

7. Local Activist
Name: Rahul Gaonkar (name changed)
Date of interview: 23/03/2016
Location: Colomb
Transcript of interview (translated from Konkani to Hindi by Mr. Velip and then to English)
Q: What is your profession?
A: I have some agricultural lands. And I also have this small shop here.
Q: What made you become involved in the anti-mining protests?
A: It was seeing the thousands of trucks going by every day. The dust and noise pollution was unbearable. We would not be able to seep in the afternoons and even at night. Our children would also face so much disturbances. Apart from this, there is the red mud which flows into our field, and the entire nalla would become red. Our livelihood depends upon these cashew plantations, and other agriculture. If this is destroyed, then what will we have left? I became involved after discussions with Rama Velip, when he made us realize the long-term consequences of mining operations, and became involved in all the protests.

Q: What were your experiences with direct action?
A: We have been involved in so many protests. Some are ok, but sometimes they turn violent. many times there are police. Earlier we used to be scared, but then when a lot of people came out to join the movement, we became more and more confident. We have protested against the ore transportation and against mining operations. And we have also spoken to mane reporters, and researchers and the Shah Commission to speak about our problems. But we are so happy that the mining has stopped. We are very happy that our efforts paid off. We have a beautiful place here, it is green, and there is good soil, and we have many rivers
and streams, and springs. These would all be destroyed by mining. But we have fought to preserve our culture, our land and rivers, and our rights.

8. Local mining affected person
Name: Ramji (name changed)
Date of interview: 24/03/2016
Location: Rivona

Transcript of interview: (translated from Konkani to Hindi by Mr. Velip and then to English)

Q: What was the problem which this gentleman faced?
A: He took the compensation from mining companies and now he has nothing left. That time there was lesser damage, but later the fields got destroyed. And he eventually sold it off the mining companies.

Q: Has he made some attempts to speak to the representatives of mining companies?
A: He is very scared. He now has no resources left, and he stays here with his brothers family. He now feels totally lost and has nothing to do. He is also very scared to talk to you, he does not speak about this to anyone outside of the family. But I have told him you will not take his name anywhere and that you will not inform any officials or any mining people. He is extremely petrified and does not want to engage with anyone anymore because the first time he did it, he lost everything. Now he does not want anything to do with anyone.

Note: (It took a while for this particular individual to even open up. He was petrified of the foreign woman thinking it was a mining representative and that he would be harassed further by the company individuals if he spoke to me. As he opened up, throughout the conversation, he was sobbing. His brother and brother-in-law were constantly trying to console him, telling him things will be ok and that he could stay with them).

9. Lawyer
Name: Advocate John Fernandez
Date of interview: 26/03/2016
Location:

Transcript of interview:

Q: What, according to you, have been the central reasons for anti-mining protests in Goa?

A: The reason why people are protesting is because of the way the mining is going on is totally illegal. Illegal in the sense while mining certain conditions are put, but not even a single condition is being complied with by the mining companies. As a result this causes environmental damage, water shortage, pollution, destruction to agriculture which ultimately affects those in the vicinity. People are not benefitted out of it, on the contrary they are affected. People are bound to oppose and protest.

Q: Do you think these income poor people fighting against giant corporations. How does the power balance plays out?

A: It is very easy to bend those are violating the law, those that are doing illegalities, it is very easy to show them the way and to make them bend. The only thing is you have to be consistent. Only through consistency can this battle be won. Now I have been involved in this since 2006. Since the first public hearing, since then it has been 7-8 years. This has been not just to stop mining, or stop illegalities, but to obtain some actual control of the situation.

Power dynamics they certainly play out. They (the mining companies) have a lot of resources. Because they have made the resources through illegal means. Using this power and resources they have various strategies to control agitations. Their first strategy is to try to bribe the protesters or the agitators. Through such tactics, they get some people to leave the mobilization. Their second strategy, if the first does not work, is that they try to strong-arm the protesters. They harass them, or threaten them through mining mafia and hired goons. If this too doesn’t work, then they employ the third strategy. This involves using police force along with the mafia. This has been, for instance, the recent case with Ravindra which has just happened, with the police breaking his arm in custody because he was protesting iron ore transportation. And, finally, even if that does not succeed they use the mafia to threaten people or to physically harm them. They have used all these tactics against me also, but it hasn’t worked.

If people are combined, and united, they can fight against the mining mafia or baron. The mining companies know this and this is what they try to attack. Normally the policy of every government is to divide and rule. British came here and did the same. The same tactics are being used by the mining mafia. Divide at home. And divide and make profits. This is the policy of the mining barons. People need to be aware of these tactics and stick together.
Q: Since you regularly defend cases against activists, what is your view on how, and why these cases against activists are registered by the police?

A: These are baseless criminal cases, just to push the process, and to buy time. Also to intimidate and harass activists. There are cases against me also, which I am still fighting in court. The allegations are generally totally baseless. The police benefit from this because they are being bribed. Even those that are ruling parties are involved, because the minister has been paid from the illegal profits that have been accumulated. The cases are not filed with a motive to convict them. It is just to threaten them to discourage them from continuing their activities. They get demoralized. In the long run this filing of cases, and threats make people very demoralized. The motto of these companies is to demoralize people. And I take up these cases.

Q: Since it has stopped, there has been no activity to start, or a push to restart operations?

A: The mentality of any mining company is just to make more and more profits. They are only waiting for another opportunity to restart.

Q: And what will be the process of auctioning from now on? Will it will be auctioned?

A: Well, yes and no. The mining leases will fall in the hands of the same people. The location still remains in possession of the same people. Only that the mining activity has stopped for a while. After all, who else has the money? Only the old mining companies do. The state has to auction but the leases have been given to the same people, who can actually afford to buy it. Now people from Caurem are asking for mining to be run through the cooperative society. They are asking for mining leases to be given through the cooperative society. Is this happening? Has the government accepted the proposal? No.

Q: In terms of the illegal operations which have been going on for a long time. Do you see these companies paying off the money to the people and the state?

A: State is run by the mining companies. Even Parrikar when he was the chairman, he said the money would be brought back. Now that they are in power they never talk about it and have closed the matter.

Q: Does the Supreme Court not mandate payment back to the people?

A: Although I have not minutely gone through the details but I know this will never happen. The State government has no guts to get it back. At best, if the ghotala is about 35,000 crores, maybe they will take back 10,000 crores and close the matter.
Q: What about the people who have lost jobs because of the mining ban?

A: The state has paid this from the public exchequer, not from the mining companies that have actually looted. This should not be taken from the public exchequer. They have not recovered any money from the mining companies. It is the duty of the company to pay to the affected people, not the public exchequer.

Q: Do you not think that mining actually results in employment and that stopping operations is such a big deal with respect to employment?

A: Only those that have no option, those that have sold their land to the mining companies, those whose agricultural land has been destroyed. These are the only people affected.

Q: Back to the cooperative mining proposal, do you think that is feasible with regard to the government allowing it?

A: Is it feasible practically? Absolutely, yes! If the government gave them the acceptance, the mining can be run through the cooperative society. More people will get benefits out of it. But will it happen? I don’t know.

Q: But the environmental damage component remains, doesn’t it?

A: Yes environmental damage will be there, but it will be curtailed. The impacts should be limited. At least it is under control of the people. I will not dig under my own house. People will take more care of it than these companies.

Q: Can you comment on commons and implementation of FRA in Goa?

A: Tribals are always in opposition to the government. It the FRA is settled, then all the land will be taken away from the companies. And mining leases will be given away to tribals. That is why the FRA has not been implemented. If the FRA will be settled, all that land that mining companies are eyeing will shift under tribal control. Government will not implement forest rights, the government is run by the mining companies so they never will actually accept it. Because they want to protect the interests of the ruling class. Even if the laws are made in the interests of the people, if they are not in the interests of the ruling class, they will never be implemented. In Goa it is intentionally not being implemented because of the interests of the mining companies.

Q: With capping and reduction, do things change at all? Or do other things replace it?
A: They just want to divert the issues. They bring other laws in place to replace one with other. Eg: making coconuts grass. Also, after mining are the development projects. One replaces the other, the classes that benefit remain the same.

Q: Do you see a change in government help at all?

A: Political classes are the same, maybe some small difference. This is why people have to be vigilant

Q: Do you see the people in the coastal regions of Goa, the middle classes concerned about mining at all?

A: Those who are affected directly are the only ones concerned. Everyone is concerned only about short-term gains and not for long term consequences, or consequences on others. They are not concerned and they don’t realize that, for instance, if water is polluted it will affect all of them.

Q: They don’t have information? They don’t even know how it will affect them? Is there a role for the media then? What can create awareness.

A: Awareness is there. In the modern world is connected, they are concerned about all kinds of things, they are not concerned about the society. Even religious institutions are like this now. They are more concerned about the economics.

Q: The tribals in Goa seem to be better off than tribals in other parts of the country, in general. What is the primary reason for this in your opinion? Because the issues are similar, but the people are better off financially and socioeconomically.

A: Normally, this has been because of education, and people being conscious of their rights and duties. When the first government came into power, they made efforts to set up schools in villages. That may be the key. Also, people have good agriculture. They earn well and are better integrated into markets and get fair prices for their produce. Another aspect is the smallness of Goa. Goa being so small, everybody knows each other. I think that is an important factor, and tribals are connected because of smallness of the state.

Q: Do you see education playing out a negative role at all? It can take one away from their tribal culture and the desire to protect and preserve spaces and environments?

A: It is not enough to only be educated in reading and writing. Until and unless you are fully educated, unless you know about your roots. The ruling class try to take these people from
when they are young to turn them and benefit from them. So that they may not remain with their people and not be that concerned about these issues.

Q: What all fed into the Shah commission? What was the reason they came here? Was it activists?

A: There was a lot of pressure from the center which travelled through a lot of activists who made a lot of noise. The activism comes from the issues of rights, protecting the economy, protecting the culture, or livelihood. And from a sense of community, society and culture. When you have the power of your community, power of your culture, you try to protect it. If somebody tries to you get irritated. And you resent them. And you try everything to protect it. There was so much resentment locally against these mining companies that it could not be held back much further by the government.
Annexure III- EDCs

1. Iron ore mining in Dantewada, Chhattisgarh, India

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Dantewada, one of the most iron ore rich districts in India faces the 'resource curse'. Indigenous adivasi communities are forced to live amidst violence, harassment, and intimidation by police, heavy militarization, and Naxalite presence.

The Bailadila Hills of Dantewada district in southern Chhattisgarh are one of the largest deposits with the best quality of iron ore in the country. The NMDC began mining operations in the regions in the 1960s, and currently has operates over 14 deposits in the area (Kunjam, 2016). The presence of mines have coincided with militarization in the region, harassment of villagers, spread of Naxal influence (Thaindian New, 2009; The Pioneer, 2012), and gross violations of the constitutional rights granted to the adivasi (tribal) communities granted under FRA (Forest Rights Act (2006)) and PESA (Panchayat (Extension to Scheduled Areas) Act) (Nithin, 2006; Kaushal, 2014; Bhattacharya, 2016). This implies that the first rights to the land belongs to the local tribal communities, and any expansion of mining operations or opening a new mine requires permission of the local communities. However, the public notice for conducting the public hearing which is constitutional right of the predominantly tribal community in the region was not provided.

The mining operations have impacted over 52 villages in the region who are largely dependent on farming (Foil Vedanta, 2016). Farming in the region has been severely impacted owing to flow if iron ore tailing from the hill, rendering them barren. Water bodies in the region—which represent the source of both domestic consumption, as well as the small scale farming operations conducted by the villagers, have been severely impacted (Kunjam, 2016; ). Additionally, the forests and land hold religious and cultural significance for the tribals (Oneindia, 2008), and mining represents a form of desecration of this cultural heritage and way of life.
The tribals in the region have been protesting the iron ore mines in the region with no fruition. In May of 2008, a two day padyatra, in which close to 5000 tribal people from over 25 villages participated was organized against these environmental injustices (Oneindia, 2008). Protests against the water pollution, loss of agricultural productivity and cattle death, was submitted by the villagers to the District collector in 2013, upon which some compensation—deemed inadequate by the villagers—was provided (The Hindu, 2014). On 18th of May 2014, a protest rally outside the NMDC office was organized by the tribals. This was the result of permission for forest clearance of a new deposit-Deposit 13, granted by the Union environment ministry on the 29-30th April (Kaushal, 2014). 2,500 tribals from 55 villages, including women, held placards expressing their resentment against environmental and health hazards generated by the iron ore mines in the region. The villagers have been facing acute difficulties given the pollution of their water sources, which has resulted in the death of their cattle as well as in the contraction of various diseases by people. The leader of the protest Ramesh Samu stated, “We will not tolerate this anymore...The mining corporation has fooled us by promising jobs. Our children are dying because of the polluted water. Our field are becoming barren and the cattle are dying too. The mining must stop.” The villagers stated that the pollution of water sources, which they depend upon for domestic consumption and watering their fields, has become so severe that the “water has turned red” (Kaushal, 2014). This has impacted close to 35,000 ha of land around the mines. In 2014, a protest with over 2000 villagers from 55 villages around the NMDC mine was organized owing to loss of agricultural productivity owing to the “red water” being generated by the mine (The Hindu, 2014). The organization Badidila Khadan Prabhavit Jan Sangharsh Samiti (Coalition for the Struggle for Citizens Affected by the Badilia Mines), at this protest submitted a 33 point charter to the NMDC. Demands included compensation for damages by the “red water”, setup of a water treatment facility for the existing polluted water, and reduction of release of iron ore particles into the local water supply channels (The Hindu, 2014). The villagers also demanded compensation for the damages suffered, healthcare and education facilities, and employment opportunities. In addition to protesting the existing mining operations, villagers protested the proposal to build a railway track for facilitation of ore transport in the region, which they believe with further facilitate mining operations, and result in ecological degradation and loss of land from the tribal communities.

Despite complaints of pollution by existing ores, forest clearance for mining operations were granted to Deposit-13 in 2014. In this new mine, spread over 317 ha, NMDC is expected to extract over 10 MT pa of iron ore-nearly half of the current overall NMDC extraction of 25 MT pa (TIE, 2014).
Similar agitations were held by members of 25 villages in 2015 against expansion of the NMDC mines (Bharadwaj, 2015). Despite this, in July 2015, a meeting was called to seek approval from the villagers for likely environmental pollution generated as a result of a slurry pipeline which was to pass through their village. The villagers stormed out of the meeting, citing a breach of their democratic rights given that the entire proposal was drawn out before consulting them and refused to give their consent. Instead, they began protesting against the decision, raised slogans, and called for cancellation of the pipeline (Bhattacharya, 2016). In late November 2015 deposit 10, operated by NMDC, which currently extracts 3.2-4.2 MT of ore per annum, recently held a public hearing in the region in order to obtain permission of the villagers for the expansion to production capacity to 6 MT pa. Given the region falls under Schedule Area, PESA [Panchayat (Extension to Scheduled Areas) Act] applies in the area. According to the villagers, prior information for the hearing was not provided even to the village head—the Sarpanch. In light of this gross violation of the constitutional rights of villagers, on the 15th of November, 2016, a large protest rally composed of the villagers from Bade Kameli gathered in front of the district administration (Kunjam, 2016). A letter was written to the Chhattisgarh Environmental Protection Agency and a meeting was conducted with the District collector (Kunjam, 2016).

The issue of iron ore mining has resulted in disturbance and threat to the daily lives of villagers both from the threat of disturbance from Naxals, as well intimidation and harassment by the ever increasing deployment of paramilitary troop in response to the Naxal presence (Bhattacharya, 2016; Sakal Times, 2010). In July 2010, a bandh called by the Naxalites again resulted in major losses in terms of ore transportation to NMDC (Sakal Times, 2010). A series of bomb blasts were conducted by the Naxals in the region, along with violence which resulted in the death of 150 people—including paramilitary, Naxalites, and villagers, in the state in 2010 (Sakal Times, 2010). 2010 also witnessed the largest Naxalite attack on paramilitary personnel, resulting in the death of 75 CRPF (Central Reserve Security Force) personnel (DNA, 2015). In 2011, the Naxals organized a series of protests. A two day long bandh in January which resulted in a 20% loss in terms of ore transported by NMDC, and a week-long bandh in in July (Siliconindia, 2011). The week long bandh which resulted in a 30% drop in the quantity of iron ore transported by the NMDC—a substantial hit to the company given that close to 80% of its total extraction of 21.15 MT in 2010-11 came from the mines in Dantewada (DNA, 2011). In 2012, two paramilitary personnel from the Central Industrial Security Force (CISF) were killed by Naxalites, as a result of the iron ore mining operations in Badidila (The Pioneer, 2012), which resulted in a further militarization by the state machinery. In March of 2016, seven CRPF (Central Reserve Police Force) personnel were
killed by Naxalites. Following this, on the 4th and 5th of May, a bandh was called, and a Naxal group attacked the mines, and conducted a bomb blast setting an NMDC conveyer belt on fire and disrupted ore transportation (IBT, 2016).

As of 2016, intimidation, harassment, illegal and random detainment of citizens, disregard for constitutional rights of adivasis, and iron ore mining expansion is ongoing reality for the villagers of Dantewada.

References

Bharadwaj, S., Sabrang, 7th December 2015, ‘Has India betrayed its indigenous peoples, the Adivasis?’ https://sabrangindia.in/article/has-india-betrayed-its-indigenous-peoples-adivasis (last accessed 17th December 2016).


2. **Lloyd Steel iron ore mine, Gadchiroli, Maharashtra**

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Caught between police brutality, paramilitary forces and private corporations, tribals bear the brunt of ‘development’ amidst ongoing blatant disregard of constitutional rights.

In 2007, Lloyd Steel—a Mumbai based Private company, received clearances to begin iron ore mining operations in Surajgarh hills of Gadchiroli—a predominantly tribal (adivasi) district with large reserves of high grade iron ore. Of the estimated 270 MT of iron ore in the state of Maharashtra, Gadchiroli has about 180 MT (Routary, 2016). However, the project has been stalled multiple times since being granted approval primarily owing to two reasons a) the protests by local villagers, and b) strong Naxalite (a banned organization, and an armed group) presence in the area. The region has been heavily militarized, with the presence of a large number of paramilitary troops for ‘industrial security’. In 2013, in a highly publicized event, the Naxalites in the region shot dead the Vice-President, and two other employees of
the Lloyd group (TIE, 2013; The Telegraph, 2013). Following the logjam, Devendra Fadnavis, the Chief Minister of Maharashtra, in August of 2015, requested the home minister to increase the presence of paramilitary troops in the region to help facilitate the process of continuing mining operations (DNA, 2015). In a press conference, Fadnavis states that, "Gadchiroli is mineral rich and along with mining we also want to push for setting up of industries to process the minerals. For that, we discussed as to how much additional security is required...We also want to impart skill training to local tribal youth to include them in this development process and along-side a strong road network should also be in place.” In February of 2016, a protest organized by the local tribals against illegal felling of trees for the purpose of construction of a road, resulted in halting construction briefly (Goyal, 2016). Extraction finally began in March of 2016, but were shut down within days, owing to opposition lead by members of political parties (TOI, 2016). On its first day of operation, the mine employed to 300 people as laborers, but soon a much larger number of people flocked to the mine demanding employment—which has been the key benefit promised to local people in return for ceasing their opposition of the operations (TOI, 2016).

There are multiple reasons as to why the local adivasi community has been protesting against the mining operation, despite strong state repression. This includes loss of physical space, dispossession and displacement, loss of cultural ways of living, and fear of further economic immiseration given the forest dependent means of living of the community. Lalsu Soma Nagote, the first Madia-Gond lawyer explains that their community is a hunting-gathering one and would lose its way of life upon destruction of the forests. He further adds that the socioeconomic conditions of the Gadchiroli tribals is not bad, and that “no one ever hears of deaths related to malnutrition” (Goyal, 2016). Another important factor is the sacredness of the shrine of Thakurdeo—the God of Gods, to the Madia Gond community, which would be destroyed in the mining operations. The Surjagad mountain ranges, which houses Thakurdeo, is the location where people from over 500 neighboring villages gather every year for celebrations. Opposition also stems from the experiences of other parts of the country where mining operations have been conducted with the promise of development and employment, with the end result dispossession and immiseration of tribal communities. This can be captured by the testimonial of the tribal activist Mahesh Rau who states that “The general experience across the country is that all that is promised is not delivered. What pro-people initiatives can these firms take when most basic things people here need are all in the ambit of government responsibilities?” (TIE, 2015).

The local adivasi community has been caught in between the Nalaxites and the State—facing harassment, brutality, and threat of life on a daily basis from both sides. A local youth, Raju
Sedamake, was killed by the Naxalites for persuading villagers to agree to the project (DNA, 2016). On the other hand, the villagers also face harassment, arrest, and torture at the hands of the police and paramilitary forces if they are vocal about their anti-mining stance. Such people are commonly known to be branded ‘naxalites’ by the local police and arrested, detained, tortured and even killed. By July of 2015, six ‘naxalite’ women were killed in the region (Iqbal, 2016, The Hindu, 2016). For instance, in May of 2016, a local youth was captured by the paramilitary (called the C60) and beaten in front of the entire village for two hours. In a piece on The Wire, Iqbal related this incident following an interview with the local youth and states that during the two hour torture, “the C60 managed to break two sticks on him...(he) lost consciousness twice...they beat his wife when she protested.” (Iqbal, 2016). The president of the Surajgad Bachao Sangharsh Samiti (collective for the protection of the Surajgad hills), Gota recounts an incident on Martys’ Week (organized by the Naxaites), “on the 28th of July, 2016, close to 250 people were detained for eight days across various police stations of Etapalli tehsil” (Goyal, 2016). Another group of people was detained within the premises of the forest department during the same week. Lawyer Nagote recounts his conversation with people from this group who were released three days later. He states “People said they were not allowed to go home despite pleading that they had kids and cattle to take care of...how can you just detain people like this for three days without notice” (The statesman, 2015). Later that year, the Naxalites released a pamphlet appealing to civil society and citing 191 cases of police brutality between January and June of 2016 (Iqbal, 2016; DNA, 2015; Routary, 2016). The government responded to this by proposing the Maharashtra Protection of Internal Security Act (Bill), 2016 (MPISA)—the proposal for which was withdrawn by the state government within days of public circulation, upon being heavily criticized by members of the civil society, political opponents, and even political allies. The objective of the new law can be gauged by a particular section—Section 14 (6)—which states the following: “Any Police Officer may use such force as may be necessary, in order to stop the commission of any offence under this Act, within his view” (Naved, 2016).

Additionally, the process of obtaining approvals did not follow the law, as per the tribals. According the the Forest Rights Act (2006) and the PESA (Panchayat (Extension to Scheduled Areas) Act), tribals need to be consulted and grant their approval through the Gram Sabhas before their land is used for any projects. However, in a Tehelka report, tribal leader Gota states that of the 70 villages in the region, 60 villages voted against the mining project. However, brutality, harassment, and intimidation by the state machinery, and to a less reported extend by the Naxalites, continues in this iron ore rich district.
References


The Telegraph, Nagpur, 13th June 2013, ‘Maoists kill steel official in Gadchiroli—Naxalite passenger recounts hour of terror in Bihar train, 3 die in Maharashtra’.

TERI SAS, Ph. D. Thesis, Arpita Bisht, April, 2018
3. Rowghat Iron ore mines, Chhattisgarh, India

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Suppression of an environmental justice movement by adivasis through police brutality, and militarization in Chhattisgarh in order to maintain supply of iron ore to the Bhilai Steel Plant.

The Rowghat mines, in Kanker district are the second largest deposit of iron ore in the state of Chhattisgarh with an estimated reserve of 731.93 MT. Of this, SAIL (Steel Authority of India Ltd.) has possession of the largest block—Deposit F. This contains an estimated 476.45 MT or iron ore, and is expected to supply ore to their major steel production unit—the Bhilai Steel Plant (BSP) for the next 20 years. Mining operations are essential to feed the BSP, located about 200 kms north of Kanker, which is running out of iron ore in its current mines. The deposit-F is spread out over an area of 2029ha along Rowghat hills. The Rowghat deposits were discovered in 1983, but received in principle environmental clearance from the ministry of forests and environment only in 1996. After delays in environmental clearances by the ministry in 2000, BSP was asked to submit fresh clearances by the ministry in 2004, which were submitted in 2006. In 2007, after receiving the renewed proposal, the matter was forwarded to the empowered committee of the Supreme Court. In 2008, the Supreme Court of India gave the final consent for forest clearance for mining deposit-F spread to SAIL and BSP.
The mines have faced local opposition, both by villagers as well as by the Naxalites—the banned armed group operating in large parts of Central India, specifically in tribal dominated regions. Opposition to the mines by the tribals is mainly owing to environmental, religious, and livelihood sustenance reasons. Another major concern has been the loss of biodiversity. The hills which are set for clearance represent only 0.26% of the total forest area of Chhattisgarh, but house close to 13% of its flora (Sharma, 2015). Apart from this, this region is part of an important wildlife corridor stretching from southeastern Maharashtra to northwestern Odisha. The forest department has even identified the presence of tigers in the region. The hills also hold cultural and religious significance for the tribal Gond community who celebrate their three-day Sesa festival in the hills. The Nurudi, Dugea, and Gond adivasis pay homage to Raja Rao—a deity housed in a temple near the Rao Dongri block of Rowghat mines, and believed to be protector of the region. This festival attracts thousands of adivasis from close to 300-400 villages from the region every year (Sharma, 2015).

However, since at least 2011, the region has been plagued with fear and violence, and the anti-mining mobilization which had sprung up was brutally, and systematically squashed using police, and paramilitary force. A local resident was quoted as stating that, “It is because of the forces that opposition to the Rowghat mines has been successfully quelled”. Forms of intimidation and violence which have been reported on conditions of anonymity by local adivasi (tribal) residents include arbitrary arrests, tortures, and sexual harassment of women. In 2011, the local Hindi newspaper Dainik Bhaskar carried a report citing that officials of the BSP offered to pay close to 50 Cr INR (75 million USD) to set up a local division of the police force for “industrial security”. Although these reports were denied by representatives of the company, who stated that, “Our job is mine for ore and make steel, not to raise battalions...All our mines and premises are currently protected by the CISF [Central Industrial Security Force] and this shall continue”. However, the story was corroborated by an anonymous local police officer who stated that the company has “informally” been inquiring whether such a special force of the government for industrial security could be raised if the company bore the costs (The Hindu, 2011).

A local journalist reports the case of two farmers involved with the Rowghat Sangharsh Samiti—the platform of social mobilization and resistance against the iron-ore mine. One farmer was arbitrarily picked up by the local police and kept under custody without filing any reports, and without informing the family, for a period of ten days. He was ‘made to squat on the floor, and kept tied to a table...and forced to sign on a blank sheet of paper’. Another farmer was similarly arrested for a period of 28 days, and when his approached the police for information, she was sexually abused. As can be expected, none of the allegations against the
local police, or the paramilitary stationed in the area are acknowledged by the relevant
government authorities. Two other farmers, prominent members of the Samiti, and leaders
of the political opposition—Gawde and Korche, were also arrested. Gawde was arrested in
January 2014, and kept imprisoned without conviction for close to a year before finally being
sentenced to a 7 year imprisonment in June 2015 by a local court. Around June 2015, Korche
was also arrested. Apart from citizens involved in anti-mining committees, even residents who
are vocal about their political rights in public hearings are discouraged by through random
arrests and police intimidation (Kumar, 2016).

The villagers were often termed as Naxalites or Maoists—the rebel insurgent group in the
region to facilitate and justify arrests. An example of this can be observed from the following
excerpt from an article published in The Hindu on the 29th of January regarding the arrest of
Gawda: "On the direction of his senior cadres, Gawde, a self-styled social worker, had founded
an organisation ‘Rowghat Bachao Jila Sangharsh Samiti’ to mobilise villagers against the
proposed Dalli-Rajhara-Rowghat Rail Line meant to haul iron ore from the proposed
Rowghat mines, the SP said. He had also arranged secret meetings of NGO workers with top
Maoists, during which they chalked out strategies to oppose the project.” Most villagers picked
up for random arrests such as these, are branded Naxalites, and slapped with close to 7-8
arbitrary charges. As lawyer Bharadwaj states: “Most cases were bogus and they don’t stand
in court. But that’s after the accused has spent 2-3 years in jail. That’s enough to break a
human being.” (Ghosh, 2014).

In 2014, following years of brutal suppression of the local resistance against mining, the
construction of support infrastructure was initiated. Eventually in 2015, the iron ore mine
began operations. The support infrastructure includes a railway line by Railway Vikas Nigam
Ltd., connecting Rowghat to Bhilai, which implies further displacement of local adivasi
communities, and ecological degradation. This has resulted in another level of deprivation of
the local communities—those related to compensation, which can be allocated only upon
proof of residence and/or property ownership. In order to protect the compensatory right of
the communities, the NGO Disha, ensued on a mission to file for Community Forests Rights
(CFR) under the Forest Rights Act (2005)—an important tool for protection of tribal rights.
According to the Forest Rights Act (2006), ‘no tribal can be evicted from forestland unless the
recognition of forest rights is complete in that region’. Over a period of three years, Disha
managed to file documentation for CFR for 20 of the 104. However, early in December 2015,
the NGO was informed by the Sub-Divisional Magistrate that owing to ‘wrong
documentation’, all the CFRs filed were null and void. Subsequently, the Chhattisgarh
government began the process of filing the CFRs themselves. Through this process, large
sections of land were lost to the communities by filing the CFR under different sections of FRA as those filed by Disha. An example is that of Totin dangra, which according to the Disha documentation had about 6000 acres of land, but under the new documentation, was finally allotted less than 700 acres (Kumar, 2016). Given that operations have only recently commenced, the full scale of impacts on the lives and livelihoods of local communities in Rowghat are yet to be seen.

References


4. Iron ore mining in Saranda forest, JH, India

Published in: EJAtlas; link: [https://ejatlas.org/conflict/iron-ore-mining-in-sanranda-forest-jharkhand](https://ejatlas.org/conflict/iron-ore-mining-in-sanranda-forest-jharkhand)

Iron ore mining causes devastation of pristine Saranda forests which are home to over 36,000 adivasis (tribals), dense sal forests. The forests also house a large number of flora and fauna, and serve as an important elephant corridor.

The Saranda forests in the hilly regions of West Singhbhum district of Jharkhand are dense forests that stretch over an area of 82,000 ha. These forests were one of the most pristine in India, and are the largest sal forests in the country (Priyadarshini, 2008; Sethi, 2014). They support a large variety of floral and faunal biodiversity, and are an important elephant corridor (Priyadarshini, 2008). An expert panel appointed by the Government of India in 2011, identified 480 new species of fauna and flora in the region (Chakravarty, 2014). The core area of these forests are also ancestral home to the about 56 villages (Deogharial, 2013).
which are mostly composed of the Ho and Mundi adivasi (tribal) communities. The 36,000 strong tribal communities have lived sustainably within the forests for centuries and have played a key role in the maintenance and protection of the forests (Bera, 2012). The ecology of the forests is closely intertwined with the spiritual and cultural practices of the tribe (Lambert, 2016). The cultural integration and the importance of the forests to the tribal communities extends from birth to death—the Ho community custom dictates burials be conducted under the shade of trees within the Saranda forests. The impact that the loss of forest has on adivasis can be gauged by the statement of a part time labourer captured by Bera, 2012: “I just hope they leave some forests for our graves” (Bera, 2012).

The hills also hold large deposits of high grade iron ore. Until 2016, close to 1,200 ha of land within the Saranda forests have been granted for iron ore mining to 85 companies (Lambert, 2016). As a result of mining operations large stretches of forest land which served as an elephant corridor, agricultural land belonging to and sustaining livelihoods of villagers lies waste. Streams which serve both domestic and agricultural purposes of the villagers now flow red with mining waste, polluting drinking water sources and resulting in loss of agricultural productivity (Priyadarshini, 2008). Forests, and mountains which are sacred to the adivasis lie degraded due to iron ore mining operations.

Various political actors, including the then Union Minister for Environment and Forests Jairam Ramesh, expressed their intentions to not allow mining operations to be carried out in the region, specially by private actors (Business Standard, 2012). However, in 2012, SAIL was granted permission for expansion of mining operations over and additional 273 ha (Chakravartty, 2014). In 2013 mining operations were granted further forest clearances. SAIL (Steel Authority of India Ltd.) expanded into an additional 351 ha (Chakravartty, 2014). The SAIL proposal for forest clearance included the felling of 40,000 trees, 26,000 of which had a girth of over 70 cm—an indication of forest health (Chakravartty, 2014). Apart from state owned SAIL this also included various private actors, such as Jindal Steel Works (JSW), Vedanta, and Rungta mines which were granted permission to start exploration within the elephant corridor. The Jindal group was granted approval for the diversion of over an area of 1500 ha and the clearance of 80,000 trees (Deogharial, 2013; Shrivastave, 2013), whereas Rungta Mines were given clearance for 100 ha involving clearance over 2800 trees (Shrivastava, 2013). This raised much discontent amidst the villagers in the region (Deogharial, 2013). However, in 2014 permissions for further forest clearances for mining operations in the region were granted by the Ministry of Forests and Environment (Chakravartty, 2014). The situation was aggravated in 2016, when well-known human rights campaigner and the leader of the movement to protect the Saranda forests—Gladstone...
Dungdung was denied permission to travel to the UK to participate in a conference to present the case of the resistance movement against anti-mining protests in the region (Lambert, 2016).

Various anti-mining protests have been organized by the local villagers over the years, but to no avail (Openspace, Dungdung). The post-master in Saranda, Bhismen Gop describes the issues that villagers—mostly farmers, and gatherers of non-timber forest produce—by stating, “What use are development programs when our land is turning barren and perennial streams are drying up” (Bera, 2012). Mining waste has turned the rivers red, and mining operations have resulted in the drying up of a 5 km stretch of a perennial stream in the region (Bera, 2012).

The juxtaposition of accumulation of wealth by a small minority in the region and the income poverty of the majority of the population who are the owners of the lands can be gauged by the analysis of economist Ramesh Sharan who states: “It is a paradox that West Singhbhum has the highest per capita income in the state, but also figure on the list of 100 worst districts of the country in terms of human development indices” (Ganguly, 2015). The mining operations, and the woes of the villagers continue.

References


5. Vediyappan Hills, Tamil Nadu, India

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11 year struggle to protect Kavuthi-Vediappanmalai Hills from iron ore mining. The hills hold religious significance, serve as the source of various springs, and support local livelihoods of 51 villages were allocated for Iron ore mining in 2005.

In March 2005, the state-owned Tamil Nadu Industrial Development Corporation (TIDCO) entered into a joint venture with the Jindal groups’ Jindal Vijayanagar Steel Ltd. (JVSL) to form TIMCO (Tamil nadu Iron ore Mining Corporation Ltd.). TIMCO was formed with the agenda of mining the approximately 75 Million tons of low grade (47%) of iron ore from the Kavuthi, and 35MT from Vediyappan hills near Tiruvannamalai, in Northern Tamil Nadu [8].
The initial forest clearance applied for by TIMCO was for clearing 638 hectares of forest land in Kanjamalai Reserved Forest in Salem district, and 325 hectares in Kavuthimalai Reserved Forest in Tiruvannamalai district—potentially resulting in the felling of over 200,000 naturally grown trees in the dense forests.

The mining operations, if conducted, would have impacted close to 51 villages which have had a flourishing agricultural economy. Additionally, the proposed mine would destroy 325 ha. of undisturbed Reserved Forest [3]. The mining would also have had negative impacts on agriculture, water sources, trees and herbs, and local wildlife. The Kavuthimalai hills of Tiruvannamalai region also hold religious significance for local villagers as well as thousands of devotees who take a 1km parikrama (a religious walk that involves circumambulating along the sacred mountain) every year around the Tiruvannamalai hills which are considered the abode of god in Tamil literature dating back to the 7th century. The proposed mine is located 8 kms away from the giri valam—the path that the devotees walk along the foothills of the holy mountain [2].

The protesting parties against iron ore mining in the hills ranged from local villagers, to NGOs, to politicians, and independent professionals. Several citizen groups were formed during the process of mobilization against the proposed mine, benefication and pelletisation plants. Forms of protest included protest rallies, signature campaigns, and awareness campaigns through the potentially impacted villages, and court cases against TIMCO.

In 2008, the regional ministry of forest and environment, after reviewing the case, proposed that the project not be granted approval [4]. On 27th December 2008, a group of over 1000 protesting farmers gathered at the public hearing for the project. They emphasized the importance of perennial springs which serve as sources of water, and which have allowed the villagers to manage farming operations through the drought seasons. Focusing on multiple dimensions of significance that the mountains hold to the local villagers, one farmer from Andiyur village was quoted as stating, “One needs to know the significance of the hills and its role in shaping the lives of the farmers to understand our anger…Vediappan (after whom one of the hills is named) is our ‘kuladeivam’ (family deity)” [1].

Given the level of opposition, the Supreme Court of India, formulated a Centrally Empowered Committee (CEC) which published its report in 2009. The CEC report strongly advised against allowing the project to start citing ecological degradation of the pristine dense forest, the presence of various springs that originate in the hill which supply water for agricultural needs, and generation of soil, water and air pollution which could have potentially negative impacts on the lives of locally residing villagers.
In April of 2014, the Dravida Munnetra Kazhagam (DMK), one of the most significant political parties joined the cause of the protesters with DMK treasurer, M.K. Stalin stating at a protest rally that "they would not allow mining operations to begin since the project would “destroy water resources, farming, (and) environment”[8]. In May of 2014, representatives of TIMCO came forward with a proposal to use 23 ha. of undisturbed Reserve Forest, instead of the initially proposed 325 ha. in Kavuthimalai hills. In response to this suggestion, a motorcycle protest rally through the villages which would be potentially affected by the mining operations, was organized by the Tamil Nadu Vivasayigal Sangam. L. Alagesan—the joint secretary of the organization, stated that they would “not allow even a fistful of soil to be mined as the project would affect people living in the vicinity in a bad manner and also destroy several trees, affect wildlife, herbs and birds. It would affect biodiversity, environment and livelihood of people”.

In February of 2015, a massive forest fire erupted in the Kuvuthi-Vediyappan Hills—in the region which was allocated to the iron ore mine, benefication and pelletisation plant, which raged for more than two days and destroyed much of the forest cover [9]. In April of 2015, following years of petitions and protests by citizens groups and peoples’ mobilization, and a case filed by Advocate S Ganeswaran, the Madras High Court denied permission for iron ore mining in the region [4, 5, 13]. However, representatives from Jindal group, after the declaration of the verdict by the High Court, stated that the group would continue with its attempts to pursue mining operations pending a final decision by the Supreme Court of India—the apex court of the country.

References


6. Illegal Sand Mining in the Chakki riverbed, Himachal Pradesh, India

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Illegal sand mining, ecological degradation, and the mining mafia in Himachal Pradesh.

Over the past few years, the Chakki riverbed in the North Indian state of Himachal Pradesh has been suffering from illegal sand mining operations. Massive quantities of sand is mined from the Chakki riverbed, and transported to other regions of the country for real estate development and other construction related activities. Sand mining has serious implications
for the sensitive local ecology of the Himalayan state which has large sections of its population dependent upon access to natural water and agriculture. Impacts of this illegal sand mining includes massive economic losses to the state exchequer. Sand mining has also resulted in negative impacts on the local environment, pedestrian paths, Pasteur-lands, and water supply schemes. The sand mining operations pose a dire threat to the local ecology, and likely to have negative consequences on hundreds of acres of fertile agricultural land surrounding the riverbed. According to available figures, close to 26000 acres of land in the neighboring villages have been rendered barren owing to sand mining in the region (Atri, Divya Himachal, 2014).

Outside of the impacts on agricultural lands, sand mining has resulted in the reduction of the chakki riverbed, which originally was over 1 km wide, to a 10 meter wide nallah (Atril, Divya Himachal, 2014). Mining of large boulders in the region has also resulted in the destruction of various hillocks. The villages which suffer the most from mining of boulders are Bangarh, Chatara, and Jakhera (Kanwar, Divya Himachal, 2014). According to local people, and photographic evidence, entire hillocks in these regions have been levelled. Boulders are usually extracted by digging up 20-30 foot deep into hillocks using machines (Kanwar, Divya Himachal, 2014). In this region, severe impacts have been felt along the Swan River. As a result of mining of these boulders, which are further crushed using large crushers, various nallahs and river in the area have completely dried up.

In recognition of the ecological impacts, and loss to state exchequer due to illegal mining operations, the National Green Tribunal, in August 2013 a blanket ban on any mining activities in the region without prior environmental clearances (Jitesh, 2013; Mahajan, 2014). The NGT order banned sand mining operations in the region unless appropriate environmental clearances are obtained by miners. However, local agents, villagers, as well as local officials claim that despite the mining ban, illegal mining continues unabated in the region bordering Haryana and Punjab (The Tribune, 2014). This can be evidenced by thousands of vehicles continuing to carry extracted minerals to adjoining states. According to local people, illegal transportation is conducted by overloading trucks. It has been observed that overloading of trucks is a common sight in the region. According to estimates, trucks with 9 tons carrying capacity permits, overload and carry close to 25 tons (Divya Himachal, 2014). In Nalagarh, nearly 2800 tractors are notified for commercial use to carry material like sand and gravel. The tractors used for transporting illegal ore are often registered only for agricultural activity. However their registration as ‘commercial vehicles’ are an acknowledgement and approval for illegal use by local government authorities (Sharma, Divya Himachal, 2014). Additionally there are irregularities with respect to the subscribed
standards of mining. For instance, as per orders, mining of the river bed is required to be monitored once it increases beyond the depth of one meter. However, JCBs and stone crushers have dug more than six meter ditches in the whole area causing a threat to adjoining cultivable land and ecology (The Tribune, 2014).

As a result local villagers have been protesting the illegal mining operations by communicating with local authorities. However, pleas have gone unheard by local authorities and have left them in a desperate situation. One of the most active organizations in the region is the Bharatiya Kisan Sangh (Mahajan, 2014). Bharatiya Kisan Sangh is a local unit which has been leading the movement against illegal sand mining, and has been active in bringing the issue to the light of local authorities. Under this banner, villagers from the upper Khanni region submitted a memorandum to the state government in 2014. The complaints included loss of agricultural productivity of surrounding lands, and impacts on the local water supply channels due to reduction of the local groundwater levels. Villagers also submitted pictures showing damage to their agricultural lands. In the villages of Talwars Jattan, Kandran and Mirthal villagers have been complaining regarding the disturbance in their sleep owing to high decibel noise generated by heavy digging machines operating illegally in the region (Dhaliwal, 2014). However, villagers claim that their complaints to officials in the region have not resulted in any action. An official in the region stated: “is this unabated plunder of the river bed does not stop, a time will come when its level with go down. This is a sure recipe for ecological disaster. Criminals are carrying out their activities in the absence of clearances from the Ministry of Environment” (Dhaliwal, 2014).

The illegal operations have also resulted in the creation of a strong sand mining mafia in Himachal Pradesh, and the neighboring states of Haryana and Punjab. The amount of profits earned, and the presence of mining mafia has resulted in various attacks on government officials like the SDM, and the police officers which were checking this illicit activity in the recent past. In light of this, in 2014, the former MLA Rakesh Pathania demanded a Central Bureau of Investigation (CBI) inquiry into the illegal operations, the presence of mining mafia, and the collusion of local police and government actors (Mahajan, 2014).

In 2014, 25 people from a Hyderabad college who went into the Beas river bed through an approach road built for illegal sand mining, were swept away following a sudden release of water from the Lahri hydro-power project. Following this, the Industries Minister directed the closure of all link roads used for illegal operations and to ban the dumping of any debris within limits of the hydro project area. Immediately post the drowning incident, all illegal approach were ordered to be shut down (News18, 2014). However, illegal mining operations
still continue in the region. An anonymous official disclosed that “the Mirthal belt has nearly 70 crushers and is a major contribution of sand and gravel to other parts of the country. The chakki river flows through this belt and remains a lucrative business for criminals” (Dhaliwal, 2014).

References


Annexure III-B: Odisha

Photojournalistic dissemination on social media

Location: Keonjhar, Odisha

Instagram: indrajeetrakhowa

A small scale iron ore mine in Odisha, India; 20/06/16

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Co-existence of densely forested regions with iron ore mines. This also shows the locations of up-hill mines. This mine, for instance, is located near an elephant corridors; 16/06/16
A high-tech fully mechanized mine in Keonjhar, Odisha
Mountains with ore body include interspersed elements of varying degrees of iron ore content. This ranges from blue dust (rock with high iron ore content such as those seen in the extremely dark areas), high grade ore, low grade ore, to bodies with no ore content (or chalk and slate formations such as those seen in extremely light or white areas). Therefore, production of a ton of ore results in the displacement of much larger quantities of subterrestrial elements. These are segregated as what are referred to as waste 'dumps' which are often seen rising to the height of tens of meters near mining sites. During monsoons, these dumps often runoff into low lying villages thus resulting in the reduction of agricultural potential of landmass, reduction of local aesthetics, surface water pollution, and ground water contamination—negative externalities borne by poor income households, indigenous wildlife, and the local ecology.
Sirrajuddin Mine in Keonjhar, Odisha
Annexure III-A: Goa

Sacred grove of tribal Velip community. Sculptures and Idols (Hinduism influenced) spread across the forest and integrated into the ecology.

A village spring in Netrvali Wildlife Sanctuary
Common spaces and communal kitchens in a village

Abandoned mining pit with groundwater polluted with iron ore in Colomb, Sanguem
20,000-30,000 year old rock carvings at Usmailgal. Site of conflict since area had been lease and designated for mining. Due to intervention by tribals it was recognized and has been designated a Protected site by the Archaeological Survey of India.
Ancient tribal temple in the sacred water body which is currently restricted to local tribals owing to ownership of abandoned mine and dump area by private party

Sacred water body flowing through the area of the private abandoned mine
Abandoned mining pit (on account of complaints filed by tribal leader Rama Velip) close to Vagha Deo Sacred Grove.

Preserved remnants of an ancient tribal sacred site. Temple of Lord Shiva and Goddess Shantadurga

Integration of water with religious constructions: Ancient tribal temple in the sacred water body.
Sacred Grove located less than 100 meters from an abandoned mine.

Temple of the *Vaghya Dev* (Lord Tiger) less than a kilometer from the mine

Abandoned mining pit (on account of complaints filed by tribal leader Rama Velip)
Ancient tribal temple in the sacred water body which is currently restricted to local tribals owing to ownership of abandoned mine and dump area by private party.

Abandoned mining pit in summer (indicating level of groundwater and quantity of water which dewatered from pits), Colomb, Rivona, South Goa, Goa.
Annexure V- References for database of EDCs (Table 3.1)

   http://www.business-standard.com/article/current-affairs/sand-mining-ban-in-
   dakshina-kannada-from-june-15-116060700370_1.html (last accessed 17th February
   2017).
   http://www.thehindubusinessline.com/todays-paper/tp-economy/girijans-protest-
   against-bauxite-mining/article1619249.ece (last accessed 16th February, 2016).
   http://www.thehindubusinessline.com/todays-paper/tp-economy/pampa-among-
   rivers-threatened-by-sand-mining/article1628874.ece (last accessed 18th March 2017).
   http://www.thehindubusinessline.com/news/national/campaign-against-laterite-
   mining-in-east-godavari/article3859196.ece (last accessed 16th February 2017).
   granite-mining-in-tn-has-caused-rs-11-lakh-cr-loss-panel/article8064649.ece (last
   accessed 18th February 2017).
20. CC, 2000 (December 25). Illegal mining carried out in Pali region. December 2000,
    Green Files, Center for Science and Environment
    clearance of Khub Limestone mine 9.66 ha (amalgamated) at Village Lumshong, Telhi-
    Klieriat, District- Jaintia Hills, State- Meghalaya being developed by Cement
22. Center for Science and Environment, 2005 (December 7). Resistance is widespread:
    Three study reports.
   http://www.cseindia.org/userfiles/Resistance%20is%20widespread--three%20study%20reports.%20Mathrubhumi,%20December%207,%202005.pdf (last
   accessed 16th February, 2017).
    demand early implementation of PESA provisions.
   http://www.counterview.net/2013/03/illegal-mining-in-south-gujarats-tapi.html (last
   accessed 18th March 2017).
24. Counterview, 2013 (March 26). Illegal mining in South Gujarat’s Tapi district causing
    havoc to environment: Adivasi Ekta Parishad.
   http://www.counterview.net/2013/03/illegal-mining-in-south-gujarats-tapi.html (last
   accessed 18th March 2017).
   http://www.indiaenvironmentportal.org.in/content/244035/desam-begins-padayatra-
   to-oppose-mining/ (last accessed 18th February 2017).
   http://www.deccanchronicle.com/nation/crime/210316/illegal-sand-mining-rampant-
   in-godavari.html (last accessed 17th February 2017).
27. Deccan Chronicle, 2016 (May 11). TD may revive plan for bauxite mining in Andhra
    Pradesh. http://www.deccanchronicle.com/nation/current-affairs/110516/td-may-
    revive-plan-for-bauxite-mining-in-andhra-pradesh.html (last accessed 16th February,
    2016).


95. State Pollution Control Board, 2014 (November 12). Proceedings of the environmental public hearing conducted for the renewal of limestone mine lease (existing Mellacheruvu limestone mine) of M/S My Home Industries Limited located in R.S.Y.NOs. 876 (P) and 874(P), Mellacheruvu (V) & (M), Nalgona district held on 12.11.2014 at 10.00 AM near the existing mine premises.  
http://www.environmentclearance.nic.in/writereaddata/Public%20Hearing/12012015VID3MVH0Annexure-MLMPHminutes.pdf (last accessed 16th February, 2017).

96. Tehelka, 2010 (August 14). Santhals on one side. Stone quarry owners on the other. Birbhum is the latest minefield where Adivasi lives are at stake.  


98. Tehelka, 2012 (May 5). Crushing the Aravalis to dust.  


100. TEL, 2002 (February 28). Picket to protest illegal mining.  


103. The Economic Times, 2012 (June 19). Protests by local organizations bring chromite mining at Sukinda to a halt.  
https://article.wn.com/view/2012/06/19/Protests_by_local_organisations_br.png (last accessed 7th March 2017).


110. The Hindu, 2003 (April 27). Even farmland is not spared. 
(last accessed 2nd December 2016).


118. The Hindu, 2008 (December 9). Keonjhar witnesses uncontrolled mining. 


120. The Hindu, 2009 (March 29). Court stays mining leases in Balaghat. 

121. The Hindu, 2010 (May 19). AIADMK cadres protest against illegal mining. 


144. The Hindu, 2014 (October 28). Illegal sand quarrying irks villagers. 


147. The Hindu, 2016 (July 17). Residents prevent illegal sand mining. 


150. The Human Rights Defenders (HDR) Alert-India, 2016 (February 19). Letter to the National Human Rights Commission, New Delhi from HDR. 

151. The Indian Express, 2009 (November 16). How they struck gold in Orissa’s iron mines. 

152. The Indian Express, 2012 (August 12). Villagers block state highway to protest against illegal mining. 

153. The Indian Express, 2014 (September 18). To help Vedanta, Orissa nudges Centre for Karlapat bauxite mines. 

http://www.indiaenvironmentportal.org.in/content/364340/illegal-mining-threatens-similipal-ecosystem/ (last accessed 2nd December 2016).

155. The New Indian Express, 2015 (June 23). MP journalist burnt to death by mining mafia, 3 arrested. 

156. The Pioneer, 2007 (September 6). In Kerela, paddy fields fall prey to sand-mining. 
September 2007, Green Files, Center for Science and Environment.

TERI SAS, Ph. D. Thesis, Arpita Bisht, April, 2018


