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Battles over Bauxite in East India: The Khondalite Mountains of Khondistan

By Samarendra Das & Felix Padel (Article for 'The Global Economic History of Bauxite', Canada 2010)

Most critiques of the aluminium industry focus on refineries and smelters, which are among the worst culprits of global heating. But bauxite mining excavates a huge surface area, and has caused environmental devastation in Jamaica, Guinea, Australia, India and recently also in Vietnam.



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Perhaps no bauxite deposits are located in more sensitive areas than those in India, whose most significant deposits occur as cappings on the biggest mountains in south Orissa and north Andhra Pradesh. Tribal people live in hundreds of communities around these mountains, which they regard as sacred entities for the fertility they promote. Appropriately, the base rock of these mountains was named 'Khondalite' after the region's predominant tribe, the Konds. Early geologists noticed the perennial streams flowing from these mountains, and modern evidence suggests that their water regime is severely damaged when the bauxite cappings are mined.

Bauxite has probably never been sold for a price commensurate with the damage done by mining it. For Konds and other small-scale farmers in East India, the aluminium industry brings a drastic disturbance to their way of life and standard of living that amounts to cultural genocide. If mainstream society sees these bauxite cappings of India's Eastern Ghats as resources standing 'unutilised', Adivasi culture understands them as sources of life, and sees mining them as a sacrilege based on ignorance.

Bauxite Cappings of the Eastern Ghats

India's most extensive bauxite deposits lie on top of a series of mountains in Orissa and Andhra Pradesh. The special geology of these mountains was noted by British geologists at the start of the 20th century. T.L.Walker named their base rock Khondalite in 1902, 'in honour of those fine hill men the Khonds', since the mountains based on this rock ('garnet-sillimanitegraphite schist') had almost exactly 'the same boundaries as Khondistan'. In other words, the Kond tribe (also called Kuwinga, Kondho, Kondh and Khond), who now number about a million, inhabit the very region where India's best Bauxite deposits occur.

Walker noted the abundance of fresh water coming down from these mountains, and the use which Konds made of it.

The frequent occurrence of perennial springs of clear cool water from beneath these laterite caps has been mentioned by both Ball and Smith. A very good example occurs south of Korlapat, where in March, in the dry season, I noticed a tiny rill which dashed down the precipitous face of one of these hills, to be utilised to irrigate a second rice crop in the fields of the valley below. (1902)

p.13)

ARCHIVE

2003 2002 This detail is significant. One of Orissa's bauxite mountains, Panchpat Mali, has been mined since 1980. Konds living in villages below it describe how they used to rotate crops and grow two a year. Since bauxite mining started on the mountain, this is no longer possible.

Our water sources are drying, because of mining. We cannot to rotate our crops. I, Sri Lasu Jani, speaking on behalf of my community, say we are struggling to survive. (Das 2005)

Bauxite cappings maintain fertility over a wide surrounding area. Aluminium's capacity for bonding with other elements, that makes it so versatile in industry through an extensive range of alloys, is also evident in its natural form in the earth, where it is present everywhere in the soil, and forms 8% of the earth's crust.

'Without aluminium there would be no fertile earth' (Pelikan 1973 p.151), due to Al's bonding with H2O, which is fundamental to the soil's capacity to retain moisture. Bauxite is a very special ore for its high aluminium content the alumina content of bauxite varies from 31-52%), and the regions where it is concentrated include some of the world's largest forests, with the most biodiversity, including the Amazon rain-forest, Cape York in Australia, and areas in West Africa, and East India. India's bauxite deposits are counted as the world's 4th largest.

Since Nalco was formed (National Aluminium Company) in 1980, as an Orissa-integrated company based on mining Panchpat Mali, there have been repeated attempts by other mining companies to gain access to most of the other bauxite-capped mountains in this region. Every attempt so far (2010) has been thwarted by local campaigns protecting them.

'Khondalite' is a peculiarly appropriate name, since these mountains occupy a central place in Kond economy, culture and religion. Gopinath Mohanty, one of Orissa's best known writers, records in his autobiography a conversation with an official undertaking the 1941 Census, to the standard question 'What is your religion?' The official found Konds' reply of '*Dongar'* (Mountains) is hilarious.¹ Yet this answer reflects Konds' recognition of their mountains' ecological importance, for maintaining the fertility of their fields. Each Khondalite mountain is a sacred entity to the tribal people, and often also to Hindus too, who live in its vicinity.

Of all these mountains, the best forested is Niyam Dongar. This is because the Niyamgiri range has its own tribe, the Dongria Konds, who live only within the range, and have maintained a strict taboo on cutting forest on the mountain tops – as opposed to the mountain sides, where they practise swidden cultivation at a steep gradient. The summits are held to be sacred to their principal deity Niyam Raja, 'King of Law', and necessary for preserving numerous perennial streams. Niyam Dongar is the largest in size and by far the best forested in the Niyamgiri range.

This is the mountain sought by Sterlite Industries, which first signed a Memorandum with the Orissa Government for mining it in 1997, and launched itself on the London Stock Exchange in December 2003, with a plan for building a new refinery and smelter in Orissa, based on this. Articles in the *Financial Times* in 2003-4 gave the mistaken impression that mining rights had already been secured. This was far from the case, and the majority of Dongria have repeatedly demonstrated their opposition.²

Current plans to turn Orissa's poverty into wealth through mining its bauxite and other minerals have been brewing for a long time, and date from the colonial era. 'Khondistan' was invaded and conquered by the armies of the East India Company during the 1830s-60s (Campbell 1864, Padel 1995). Following surveys by British geologists from the 1860s-1900s, Cyril Fox, in publications from the 1920s, spelt out the blueprint for resource extraction that has surfaced as a new invasion by aluminium companies. He mentions most of the Khondalite mountains whose fate now hangs in the balance, highlighting Karlapat, one of the remotest, which has been sought recently by BHP Billiton among others. He also highlights the region's hydro-potential – now realised in a series of massive dams and reservoirs built from the 1950s-1990s – and the co-ordination of new railways to meet at Vizag (Vishakhapatnam), now India's biggest port (Fox 1932 p.136).

If Khondistan's first invasion was legitimised in terms of Pax Britannica, the new one is justified by 'giving the tribal people the fruits of development'. The first step in its realisation was an Eastern Ghats Bauxite Survey made by the Geological Survey of India in 1975-6 (Rao & Raman 1979) of the deposits in south Orissa and north Andhra Pradesh. This named the deposits India's 'East Coast' deposits, not because these mountains are near the coast (which they are not), but because the rail-lines to Vizag facilitate transport to one of India's biggest ports, used by Nalco for export since the 1980s, as well as for steel exports to Japan etc. The name also advertised the deposits' accessibility – though in fact, many of the mountains are extremely remote, and the network of new railways and roads was still rudimentary. Accessibility was the key focus in a World Bank *Investment Analysis of aluminium* (Brown 1983), that rates the world's deposits and plants according to this criterion.

The 'East Coast' survey was published in time for an international conference on Laterite/Bauxite at Trivandrum in 1979. Panchpat Mali, as the largest deposit, was made the source for Nalco, a new public sector aluminium company, vertically integrated in Orissa, which currently provides about 40% of the bauxite mined in India ('Orissa's Aluminium Complex' – Rajagopalam et al 1981). A few years later, the UNDP (United Nation Development Programme) provided about half the funding for a research institute at Nagpur, the Jawaharlal Nehru Aluminium Research Development and Design Centre (JNARDDC). This was inspired in part by the Jamaican Bauxite Institute, set up through Norman Girvan's seminal work on bauxite during the 1970s, as part of a move to try and ensure that Jamaica got a fair price for its bauxite. By contrast, research at the JNARDDC has been restricted to servicing the needs of mining companies, Questions asked in Parliament in 2002 highlighted the institute's 'languishing and pathetic conditions...due to lack of funds'.³

Dams and Bauxite Business

When Nalco's aluminium complex was being set up in Orissa during the early 1980s, an article in the leading intellectual journal *Economic & Political Weekly* gave a range of economic arguments against it, in particular the low price for bauxite enforced by external pressures – in effect the aluminium cartel – plus excessive consumption of electricity and water, and excessive pollution. Another commented that to understand the effects of setting up Nalco, one must comprehend 'the past, not very



pleasant, history of the Indian aluminium industry'.⁴ We would add that is impossible to understand the effects of opening bauxite mines and building greenfield aluminium factories in Orissa and Andhra, unless one has an overall understanding of the aluminium industry and its effects worldwide, and in several countries in particular.

In India, a number of refineries and smelters were set up during the 1950s-70s as Joint Ventures with foreign firms. Each complex was built near a new dam/reservoir complex, to draw hydropower and water. Indian Aluminium (Indal) and Alcan (taking over from the British Aluminium Company), built refineries and smelters in Kerala, Maharashtra and Bihar, with a smelter at Hirakud in northwest Orissa, constructed between 1950 and 1956, and a principal customer for Hirakud hydropower. This dam's foundation stone was laid by Nehru, and it displaced at least 150,000 people, causing immense hardship, with two government administrators reportedly killed during unrest.⁵

Three other refinery-smelter complexes were set up: by Malco (Madras Aluminium Company), with Italian help near the Mettur dam on Kaveri river, in Tamil Nadu: by Balco (Bharat Aluminium Company), with Russian and Hungarian help, at Korba, for which the Hasdeo Bango dam was built, in what is now Chhattisgarh; and by Hindalco (Hindustan Aluminium Company) at Renukoot, near the Rihand dam, which made one of India's biggest reservoirs, in the south of Uttar Pradesh, on the border with Madhya Pradesh (now Chhattisgarh).

Hindalco represented a joint venture beginning in 1959 between G.D.Birla and Henry Kaiser's son Edgar – the largest US investment in India to that date. The Rihand dam was one in a succession of Kaiser-built dams in India. It was designed to supply Renukoot, and was financed through World Bank loans through the influence of George Woods, shortly before he became President of the Bank in 1962. An estimated 200,000 people, mainly Adivasis, were displaced by this dam, without proper warning or compensation, and the electricity price, guaranteed for 25 years, was a twentieth of the normal rate.⁶

Before this, Nalco's refinery at Damanjodi and smelter at Angul were built in collaboration with Pechiney, and though these factories have often been cited as outstanding examples of rehabilitation and environmental management, closer inspection shows they are nothing of the kind. Bauxite mining on Panchpat Mali, now at six million tonnes per year, has seriously affected the mountain's water-holding capacity (as mentioned above). About 400 people work the mine, using about 70 'dozer-rippers' and trucks. The work-force is divided into unskilled, semi-skilled and skilled labourers. A notice at the mine entrance lists the daily wage for each—

between 55 and 117 rupees (between \$1 and \$3). Like most bauxite mines, this is open-cast. The mined-out area on top of the mountain stretches for several km already. It is 'relandscaped', which means putting the overburden and topsoil back and planting trees, but most of these are eucalyptus, notorious for desiccating the soil, and large areas are sterile pits. At the foot of the mountain, several Kond villages including Kapsiput and Gortili receive the full impact of noise and waste. Lasu Jani and other villagers walk up the mountain most days to labour in the mine, but the dust pollution from blasting, and the rapid deterioration of their land, which had been exceptionally fertile, coupled with the authorities' refusal to deal with a host of extreme difficulties and unmet promises, has affected peoples' lives profoundly. As Lasu says,:

We have been writing applications to the authorities three or four times. Still they don't care. The Collector [senior administrator] invited a few elders of our community and then abused them by calling them goats, sheep, bloody fools and they were beaten by the security forces. We had to run away from there. The police told us before not to come with arms, otherwise it would have turned violent. Still they charged and fired gas on us. 70 of us had false cases made against us. 15 of us still have court cases pending against us for the last five years. They don't listen or give us any job. (Das 2005)

A conveyor belt 14.6 kms long takes bauxite from Panchpat Mali to the Damanjodi refinery. It was completed in 1985, displacing at least 3,000 people from 19 villages. Nalco had a book written about this displacement process and their 'action programmes', meant to ensure that

people who were happy peasants enjoying fruits of their labour amidst natural surroundings yesterday are not rendered homeless and unemployed today leading the life of destitutes because of their sacrifices in the national interest. (Muthayya 1984, pp. 1–8)

Yet this is exactly what has happened. In the words of a young tribal woman in Amlabadi, the main resettlement colony at Damanjodi:

I loved my village, it was very pleasant though remote.... We had cattle, and I used to look after them. We had goats and sheep, a kitchen garden. It was so nice when I was little. We used to cultivate vegetables on our own... They kept us here. An asbestos roof, and everything else is earthen, only a thin layer of cement. It is unsafe to live in... In Damanjodi people are living with hardship, some even have not enough to eat a meal. It was nice before, at least they had land, nobody was starving. Now, no land and no cattle. So no food... Unemployment and even educated unemployed are everywhere... We have lost everything... Nalco is death for us. (Das 2005)

Jobs invariably promised to 'Land Displaced Persons' (LDPs) rarely if ever materialise in practice without a bribe. This was attested to us even for the lowest level of labouring and bauxite mining jobs. Statistics on poverty show that Koraput, where Damanjodi stands, is one of India's most poverty-stricken districts (CSE 2008). The effects of pollution, as well as industrial disease among workers, are notorious, though virtually unrecorded.

Damanjodi refinery was built alongside the Upper Kolab dam, which provides it with electricity and water. Construction on this dam started in 1976, and continued until 1992, when it started to generate electricity. It was built by the Central Water and Power Commission (CWPC), which had also built Hirakud. Lobbying from the electricity sector and industrialists played a decisive role in the decision to build it, and Damanjodi refinery is among its main customers. The dammed water flooded an irregular-shaped area between hills that are now bare and badly eroded. At least 14,000 people from 60 or more villages were displaced between 1984 and 1990, as the water level rose. Estimates vary wildly, as with most dams, since the administration has not kept a proper count. Most 'oustees' now live in povertystricken rehabilitation villages, or had to resettle themselves, suffering severe neglect (Jojo 2002). To pay for this dam, 3,769 million yen (c. \$20 million) was loaned by the Overseas Economic Cooperation Fund of Japan.

During these same years, a new railway line was built from Koraput to Damanjodi, then on to Rayagada, in order to carry Damanjodi's alumina to the smelter which Nalco was building at Angul in central Orissa, as well as for export via the port of Vishakhapatnam. This railway snakes high through Orissa's bauxite mountains, with stations at convenient places for future mines and factories. The line cost an estimated .\$400 million, of which \$80m (80 crore rupees) came as a loan from the Saudi Fund for Development. These investments are signs of long-

term Japanese and Middle Eastern interest in Orissa's bauxite.

Building the smelter at Angul involved a history of intimidation and displacement that has barely been told, and involved a desperate act of resistance, when a local man stabbed to death the Additional District Magistrate Gopabandhu Pattnaik, as he was addressing a crowd on 23rd December 1987.⁷ Officially, the smelter displaced 4,000 families from 40 villages. Like Damanjodi refinery, it has its own coal-fired power station, but also draws power and water from a dam, in this case Rengali, which displaced at least 224 villages, and was almost certainly built to supply the smelter. Agitation against this dam between 1972 and 1978 faced ruthless suppression by police. The history of pollution from this smelter includes major spills of toxic waste from ash-ponds during the cyclone in 1999 and on 31st December 2000, when a containing wall broke, damaging land and buildings over 20 villages and causing many deaths. National TV news on 13th September 2004 reported fluoride contamination over 500 acres of fields, leaving the crop unfit for consumption, and interviewed villagers, who complained they could not get medication for their bone disease because Nalco officially denies this exists. Inhabitants of nearby villages, as well as their few remaining cattle, show severe signs of skeletal fluoridosis from the smelter. The Nandira and Brahmani rivers near the smelter, into which smelter effluents run, are seriously polluted, and all fish are said to have died in them for a stretch of at least 30 km. A report from the Supreme Court Monitoring Committee on Hazardous Wastes, whose team visited Nalco's smelter in June 2006, lists numerous violations of pollution levels and confirms that fluoride and other emissions into air and water remain unacceptably high, while toxic Spent Pot Lining (SPL, classed as a hazardous waste) was not being properly disposed of.⁸

In mid-2002 there was an outcry in Orissa at the proposed privatisation of Nalco – one of India's most profitable companies, 'pride of Orissa'as well as of the public sector. Nalco's huge profits stem from the quality of Orissa bauxite, whose low silica content allows it to be refined at a lower temperature than most.

Gandhamardan was the next mountain marked out for bauxite mining – probably the best forested bauxite-capped mountain after Niyam Dongar. It was saved by a people's movement in 1984-7, that united tribals, dalits, Hindu devotees and nationwide activists, and managed to prevent the project even after Balco had constructed a 9 km road up the mountain as well as a new colony for hundreds of officers and workers, now a ruin. Among Dalit women leaders, Jambubati Bijira from Dungripalli village was prominent, encouraged by her husband, who worked for Balco, and got fired. When most of the men had been arrested, she and other women laid their babies on the road in front of mining vehicles, shouting to run them over, since they would have no future if the mountain was mined. The Ministry of Environment and Forests eventually sided with the protestors, after a high level enquiry. The US company Continental Resources has retained a provisional mining lease, and there have been reports of

Nalco and Vedanta interest, while plans for a Lower Suktel dam nearby are linked to a planned refinery to process Gandhamardan's bauxite. Villages marked for displacement by this dam have already faced severe police repression in the form of lathi charges and intense pressure to sign away their land.⁹

Five years after the saving of Gandhamardan, a new alumina project in



the Kashipur region of Orissa emerged, facing intense opposition, and inaugurating an era of conflict over bauxite and alumina that has continued ever since. The Utkal project started out as a joint venture between Tata, Norsk Hydro and Indal. Alcan was a prime mover, but joined a little later, manoeuvring a takeover of its subsidiary Indal by Hindalco in 1998. After seven years of protests against the proposed invasion and takeover of of tribal and dalit land and villages, police repression culminated in police opening fire on a group of tribal protestors at Maikanch village in December 2000, killing two men and a boy. Hydro withdrew, after Tata had already withdrawn. This incident was alluded to by India's President in his Republic Day speech on 25th January 2001:

The mining that is taking place in the forest areas is threatening the livelihood and survival of many tribes... Let it not be said by future generations that the Indian Republic has been built on the destruction of the green earth and the innocent tribals who have been living there for centuries.

An enquiry into this firing delayed the project another three years, but after police repression started again in 2005, Alcan withdrew in April 2007, under pressure from Canadian

campaigners over numerous violations of law and human rights, just before it was taken over by Rio Tinto in July-October. 10

Nevertheless, the refinery is being built on a site cleared of several tribal and dalit villages, in an atmosphere of repeated demonstrations and sustained opposition. The Utkal project is based on mining Bapla Mali, which surrounding tribal people are determined to prevent. There is outrage too at the refinery's plan to take water from Baro and Sano Nadis (Big and Little rivers). These flow towards the Upper Indravati reservoir, built with aluminium interests in mind using World Bank loans in 1989-1997, at the cost of many workers killed in a terrible accident on 28th July 1991, over 40,000 villagers displaced, repression of a movement against the Indravati dams, and vast deforestation. The river's water was channelled north instead of south, and since 2006 has been piped to supply Vedanta's Lanjigarh refinery. The villagers displaced by this dam are among the most neglected in Orissa, witnessing a long line of broken promises. 'If I starve, you also bear responsibility', as a villager told a World Bank consultant.¹¹

Hindalco and its sister company Aditya Aluminium (both controlled by the same Birla dynasty who built Rihand dam) are also negotiating to open new mines on other mountains: Kodinga Mali – where another refinery is planned – and Mali Parbat, where intense opposition has come under escalating repression, with the area invaded by several thousand armed police targeting Maoist rebels. Here an organisation called Chasi Mulya Adivasi Sangho (Cultivating Labour Tribal Society) forcefully took back tribal land illegally taken over by traders, at the same time as organising resistance against mining companies. Maoist support was fairly open, so when CMAS men and women protested outside Narayanpatna police in tribal villages, police marksmen shot dead two of its leaders, and these atrocities intensified, with over 100 leaders arrested.¹²

The first Birla factory in Orissa was Orient Paper Mill (1940), whose pollution of the Ib river was the subject of a letter to Birla's friend Gandhi (1946). This became in effect Orissa's first Public Interest Litigation (1950). The judgement finally went against Birla in Orissa's High Court. This was then negated by a River Pollution Act passed by the Orissa Assembly (1953), that took away Courts' jurisdiction on matters of river pollution.¹³ Meanwhile, *Mystery of Birla House* (Burman 1950) is a tax commissioner's exposure of the Orient Paper Mill's history tax avoidance. There is an irony of history here: G.D.Birla, Aditya's grandfather, was a staunch friend of Gandhi, and Gandhi's assassination took place in the grounds of Birla house. Yet this Birla factory could be said to have set a glossed-over trend of corruption and pollution that culminates in recent events surrounding Hindalco's invasion of Adivasi lands in the Kashipur and Koraput region, orchestrated under the aegis of G.D.'s grandson Aditya.

While the Utkal project was stalled, another company called Sterlite made a move to build an alumina refinery at Lanjigarh with a view to mining Niyam Dongar, and registered on the London Stock Exchange in December 2003 as Vedanta Resources, after promotion by J.P.Morgan and many other banks. Sterlite had already bought controlling shares of Malco and Balco, the latter a highly controversial privatisation of a public sector company with many irregularities (Bidwai 2001). Intense opposition to the Lanjigarh refinery has met with vicious repression.¹⁴ In Septmember 2005, the Central Empowered Committee, advisory body on forests to India's Supreme Court, released a long report detailing numerous violations in the project. This report recommends strongly against the refinery and mine: the refinery should never have been approved, because it was sited right on the banks of the Bansadhara river at the point where it forms below Niyam Dongar, and because application for the refinery was delinked from the mine, which would involve felling a huge area of primary reserved forest on top of the mountain (CEC 2005). The J.P.Morgan report detailed large numbers of deaths on roads around the Malco and Balco projects, and pollution from the factories - a pattern that has been repeated with interest at Lanjigarh. It mentions Niyamgiri, but concentrating on economic factors, failed to notice the mountain's superb forest cover, or the Dongria who have preserved this, so failed to foresee today's intense opposition.¹⁵

The CEC's recommendations were sidelined, partly by commissioning more reports, from the Wildlife Institute of India – which concluded, until 'leaned on', that the mine would cause great harm to the mountain's water regime and wildlife – and the Central Mine Planning & Design Institute, which argued against this that during mining micro-cracks would form on the side of the mountain that would 'facilitate run-off' and help 'recharge ground water' (CMPDI August 2006 pp.18-20) – a monstrous distortion of science: during the monsoon, rain water runs straight off the mountain, but the water-holding capacity of the mountain during summer months is ruined, as with Panchpat Mali.

By this stage, the Niyamgiri case was being heard in a succession of hearings at the Supreme

Court. In a session on 6th September 2007, the Judges called for a report from the Ministry of Environment and Forests that was submitted on 5th October by India's Attorney General about the situation of bauxite mining leases in Koraput and Kalahandi districts. This report is full of inaccuracies, and outlines a selection of ten mountains with a combined total of 54 memoranda of understanding by various companies, showing the extent of bauxite mines being planned. The case also sidelined the Konds, who have been vocal in their opposition to mining, not least in a public hearing held in Belamba village on 28th April 2008 for a sixfold expansion of the refinery, from the 1 million tonnes per year originally applied for to 6mtpy. Nearly everyone present spoke strongly against the refinery, which has already heavily polluted the Bansadhara river and caused enormous suffering for villagers displaced as well as those near the refinery; yet the hearing was reported in a way that implied people gave their consent!¹⁶ The company's attempt to mine Niyam Dongar received a setback when the new Environment Minsiter Jairam Ramesh drew attention to extensive tree-felling without permission on the basis of highly questionable 'provisional clearance'.¹⁷

The authors witnessed three sessions of the Supreme Court case, where many things amazed us. Among the most extraordinary were the argument made by pro-Vedanta lawyers about how the project would alleviate the region's poverty, giving everyone in Kalahandi 'two square meals a day', and sidelining Dongria Konds from the case, despite this tribe's role in preserving forest on the mountain summit at 4,000 feet. Also, the idea that the forest, wildlife and impact on local people can be compensated by making the company pay large sums for reforestation, a wildlife management plan, and tribal development. The judges admitted that a recent report from the Norwegian Pension fund had blacklisted Vedanta, but called on Sterlite to set up a Special Purpose Vehicle with the Orissa Mining Corporation and Orissa Government, when the report actually mentions Sterlite alongside Vedanta for numerous violations of the law at numerous sites in India and other countries.¹⁸

While the Vedanta drama has unfolded from 2003 to2010, several other major bauxite projects are in various stages: Alcoa, BHP Billiton and Rio Tinto have mentioned an interest several times, Larsen & Toubro has a joint venture with Dubal (Dubai Aluminium) for mining Kuturu Mali and Siji Mali with a refinery near Kalyansingpur, IMFA has designs on Sasubohu Mali, Jindal has designs on mountains in south Orissa and north Andhra Pradesh (with a refinery at S,Kota in Andhra), where RAK (Ras Al-Khaimah, another Dubai-based company) also has plans for mining the Jerrela range.

Meanwhile, Vedanta's new smelter in north Orissa has started production, while Hindalco/Aditya Aluminium has advanced plans for a new smelter nearby. Both these draw from the Hirakud reservoir, which has been refurbished with aid from the DFID. 30,000 farmers held demonstrations there in November 2007 against the diversion of water from Hirakud to these new smelters. After police *lathi*-charged the crowds, Orissa's Chief Minister invited the movement's leaders to a meeting, announcing that some of Hirakud's water would go to farmers, though if all the deals for supplying aluminium and steel plants go through, evidence suggests that water reaching farmers along the (highly inefficient system of) canals is likely to diminish still further.²⁰

Invasion and Resistance: the threat of Cultural Genocide

Analysing the social structure of the aluminium or steel industry, the clash of ideologies emerges as a key fault line. The tribal viewpoint is powerfully expressed by Bhagaban Majhi, a leader of the Kashipur movement against Utkal:

> Agya, unnoti boile kono? (Sir, what do you mean by development?) Is it development to displace people? The people, for whom development is



meant, should reap benefits. After them, the succeeding generations should reap benefits. That is development. It should not be merely to cater to the greed of a few officials. To destroy the millions of years old mountains is not development. (Das 2005)

Resistance became focused through the Gandhamardan movement, and intensified with the Kashipur movement that stalled Utkal for more than ten years. The Maikanch police firing, which killed three tribal people in December 2000, showed the depth of polarisation. All the bauxite mountains are protected by local tribal and non-tribal villagers, who see them sacred entities for the life they give through their perennial streams.

It seems to be hard for mining executives, and many government officials, to comprehend the strength of resistance to these projects, and people's attachment to their mountains. The mainstream belief, that the aluminium projects will bring development and wealth to a region long sunk in poverty, looks on those resisting these projects as 'anti-development', driven by ignorance of the benefits of industry, and instigated by outsiders. Yet the mainstream view of 'educated people' often seems ignorant of the history of aluminium, briefly summarised in this paper, and extremely ignorant about the tribal villagers, their culture and values.

What is actually happening over large areas of East India is a process of cultural genocide, carried out by people who do not understand what they are destroying. Driving them is a 200 year old ideology that powered forced industrialisation from Western Europe to the USA to the USSR and China. In India, industrialisation has displaced an estimated 60 million villagers within the last 60 years, more than 2 million in Orissa alone, of whom a majority are Adivasis and Dalits.20 Very few have been properly compensated, let alone improved their standard of living, especially since most lost their livelihood as cultivators, and therefore their food security. This is why most of these people consider these projects have been the opposite of development.

This reality contrasts starkly with companies' rhetoric of 'generous R & R packages', 'Sustainable Development' and 'CSR', in the present rush to make deals for mineral resources and construction projects. Whatever wealth is generated for the nation as a whole, or for its business elite, the people displaced face a worse poverty than anything they knew before: 'projects meant to reduce poverty are the ones adding to the numbers of the poor.'²¹

According to World Bank and other international standards on involuntary resettlement, if a project really constitutes 'development', then '*the first rule is that all parties to the project should be better off.*' ²² In practice however, it is clear to everyone, and easy to demonstrate, that most of India's 60 million displaced people are not better off at all.

There is a strong tendency among those implementing displacing projects to simply deny these risks that their projects are bound to make most oustees poorer.²³ When forced to admit the hardship which displacement causes, they tend to justify it in terms of 'sacrifice' – a sacrifice of the few for the many, or 'for the national interest'. This usage has western roots: indigenous areas affected by uranium mining in the US are known as 'National Sacrifice Areas' – to which Russell Means, a leading American Indian activist of the Lakota tribe replied '*We are fed up with being called a national sacrifice people!*²⁴

When so many people's lives have been ruined, how can so many more displacements be planned 'in the name of development'? 25 As Bhagaban puts this:

We have sought for an explanation from the Government about the people who have already been displaced in the name of development. How many have been properly rehabilitated? You have not provided them with jobs; you have not rehabilitated them at all. How can you again displace more people? Where will you relocate them and what jobs will you give them? You tell us first. The government has failed to answer our questions. Our fundamental question is: how can we survive if our lands are taken away from us? We are tribal farmers. We are Earthworms (Matiro poko). Like fishes that die when taken out of water, a cultivator dies when his land is taken away from him. So we won't leave our land. We want permanent development. Provide us with irrigation to our lands. Give us hospitals. Give us medicines. Give us Schools and teachers. Provide us with lands and forests. The forests we want. We don't need the company.... But the government is not listening to us. (Das 2005)

The whole issue of displacement has been routinely neglected in development projects. While Environment Impact Assessments have often been rudimentary, their shortcomings have at least been frequently attacked by campaigners and in the courts. Social Impact Assessments are given far less importance still, and administration of R & R is normally relegated to highly unsuited personnel, in a low-status Govt post, when their task requires the utmost sensitivity.²⁶ Officials' usual response to the inevitable complex difficulties that arise, since almost every displaced family faces huge trauma and injustice, is to deny the problems. Much energy goes into masking painful realities and abuses of power – a deliberate manipulation of the economic and cultural risks inherent in displacement.²⁷

Economic risks are evident wherever people have been resettled. Even World Bank studies admit that 'income restoration' remains elusive: the hard fact is that most oustees' standard of living declines drastically.²⁸ As for cultural risks, tribal culture exists through relationships ordered in a carefully maintained social structure, which traditional anthropology analyses in terms of distinct domains, each of which is torn apart by displacement:-

* The *Economic System*, along with the whole tradition of cultivation is completely destroyed with people's removal from their land, and the termination of their existence as farmers.

* The Kinship System is fractured by displacement from villages, where social relations follow the pattern of a village's traditional layout, and spatial distance from kin in neighbouring villages. In every area where a project causes displacement, there is a split in long-standing relationships, and tension between those who accept compensation and move, and those who remain opposed.

* The *religious system* is undermined by removal of sacred village sites, as well as the mining of venerated mountains. As a woman from Kinari village said to us days after being moved to Vedantanagar colony to make way for the Lanjigarh refinery, after seeing bulldozers flatten her village and its central earth shrine, "Even our gods are destroyed." Losing her land means she can never grow her own food again, so the whole *system of values* attached to the customary way people have supported themselves is undermined.

* The *material culture*, through which people make most of what they need, is destroyed as soon as the houses people built from local earth and wood are knocked down and replaced with a concrete house.

* Above all the *power structure* is transformed. From being in control of their area and its resources, people find themselves at the bottom of extremely hierarchical structures of power and authority. Traditional tribal society is remarkably egalitarian, and women have a higher status than in much of mainstream society, which they lose when new, corporate forms of domination invade their area. In many ways women have even more to lose than men, which is why they are often at the forefront of campaigns against displacing projects.

In other words, tribal people's economic and political systems are fundamental to their culture, and when dispossessed of their land these systems are effectively destroyed. This is why adivasis often say they would rather die than leave their land. Losing their land brings the death of all they value, including the sacredness of nature, respect for elders' knowledge, ritual contact with the ancestors, growing their own food on family land and making their own houses and tools, exchanging food with neighbours with an egalitarian spirit. These things are swept away by corporate values, which emphasize money and financial power. '*We're being flooded out with money*' is how adivasi elders describe the process.

Actual Genocide involves physical extermination – all too evident in the civil war situation in neighbouring south Chhattisgarh, where over 600 tribal villages have been burnt with countless atrocities by Salwa Judum, in areas where steel companies require huge tracts of land. In south and west Orissa, direct killings, e.g. by police in the Maikanch and Narayanpatna incidents, may be relatively few. But they symbolize a psychic death for Adivasis that non-tribal people rarely understand. Underlying this Cultural Genocide is the invaders' total lack of respect for tribal people's traditions and connection with the land. Mainstream culture, in India as in the West, ceased a long time ago to be rooted in the soil: most elite and middle class families (as well as many working class ones) tend to move around a lot, buying and selling distant properties over the generations rather than staying put in one place. As land prices shoot up, collective attachment to the land a village has worked over successive generations has no value in newcomers' eyes, which focus only on profits the land can generate – a completely novel attitude to land for tribal people.

Few outsiders listen to what Adivasis actually say – even when claiming to support them. When they are interviewed on TV, the intimidating superiority assumed by interviewers brings out only stereotypes. The authors have witnessed countless Adivasis transported to meetings around India as spokespeople or symbols of resistance, being completely sidelined in the road shows, rarely even asked to give their views, simply sitting in dignified silence in the meetings, and returning to their villages sad at the confusion among people who say they want to help them. Elders in a Kond village once asked us: 'Where are the saints in your society? We are all saints here.' This is a culture that emphasizes sharing, with low but equal consumption and minimal wastage.

Belief in markets was as strong in the 1830s as it is in the 2000s, and shows in the first colonial writings on the Konds. In 1836 the Honourable G. E. Russell, senior civil servant of the East India Company in charge of the first stage of British conquest, advocated setting up markets for the Konds on the grounds that

giving them new tastes and new wants will, in time, afford us the best hold we can have on their fidelity as subjects, by rendering them dependent upon us for what will, in time, become necessities of life.

As his superior put it, Lord Elphinstone, Lieutenant-Governor of the Madras Government: 'with the extension of this commerce their wants will increase.' 29

Spreading consumer values is at the heart of the new market-driven invasion of Kond land by mining companies. A terse Kond counter-view comes in an improvised song recorded from Salo Majhi, a blind singer in Kucheipadar, the village at the forefront of the Kashipur movement.

'They are flooding us with money They are coming to take our Mountain... The lazy people are invading...' (Das 2005).

The ideology opposing the invasion is one of standing firm, and resisting displacement. It could be called an ideology of sustainability, in contrast to the ideology of material development through mining and industrialisation. It is this ideology of sustainability that has checked a succession of projects in East India. In West Bengal, Tata's nano-car factory and Indonesia's chemical giant Salim Industries have been stopped in their tracks; while in Orissa the anti-Posco and Kalinganagar movements are two out of many opposing iron-ore mining and mega-steel projects. In the words of Kishen Pattnayak,

Orissa has enormous mineral reserves. This is considered to be the biggest asset to increase the prosperity of Orissa. This is really a myth. Mining areas of Orissa have never been known for being rich or developed. Now the condition is becoming much worse.....A few national/multi-national companies and their contractors and those ministers and officials helping these companies in unlawful, unethical manner become the owners of huge property. Orissa as a state is not going to get any benefit from this.³⁰

The Real Price of Bauxite

Aluminium executives admit that getting bauxite at a cheap price is the starting point of value creation for their companies.³¹ The need for subsidies on electricity and other materials for producing aluminium has often been stressed (e.g. Graham 1982, Gitlitz 1993, Switkes 2005). Less so with the price of bauxite. Basically, if this cannot be kept low, the price of aluminium will rise.



The industry in India defines itself by *increasing consumption*. A policy shift took place in India from 1990/1991, just after the Bureau of Industrial Costs and Prices recommended keeping a check on aluminium consumption in India due to the high costs of electricity and environmental impacts (BICP 1988). A few years later, executives at INCAL conferences of the Aluminium Association of India (1998 and 2003), lamented the 'dismally low level' of consumption in India, which averaged 0.65 kg per capita per year, and aimed to increase output as fast as possible, towards the average of 25 kg consumption in 'developed' countries. A proliferation of aluminium foils and tetrapaks, use in construction, in cars and trucks, and in the arms industry, have recently boosted the consumption of aluminium in India, though the emphasis in new projects is on export, e.g in the huge Utkal/Hindalco and Vedanta/Sterlite factories going up in Orissa now. Nalco set the trend, starting to export over 50% of its output around the year 2000.

Orissa's new refineries and smelters make no economic sense if these companies cannot obtain local bauxite cheaply. Since starting operation in 2007, Vedanta's refinery in Lanjigarh has had to bring bauxite from Chhattisgarh and even Australia, and has claimed to be losing \$100,000 a day due to the delay in getting clearance to mine Niyam Dongar (*Times of India* 2 March 2009).

There is no set price, let alone free market, for bauxite. Different companies get it for wildly different prices, and how much royalty and other taxes they pay varies greatly around the world. Nalco calculated its raising cost of bauxite in 2007 as 236/- rupees per tonne, of which 64/- is royalty and 172/- extracting cost. |Rs.236/- is about \$6, less than half the world's average. Compared with the price of bauxite, the price of commercial information about bauxite is costly indeed. A copy of CRU's *Analysis Report: Bauxite mining costs* (2007) costs £9,950.

If a proper Cost Benefit Analysis was done of any bauxite project, conventional estimates of revenue and benefits in triggering employment and other industries need setting against 'externalities': if subsidies on electricity, water, infrastructure, transport etc were included in costs, the price of aluminium would have to rise exponentially. Costs of dams and coal mines would have to be included.

The Wuppertal Institute for Climate, Environment and Energy in Germany, which the authors visited in July 2006, calculates the *material intensity* of producing one tonne of aluminium at 85.38 tons of abiotic material (i.e. overburden, bauxite waste etc), 9.78 tonnes of air (i.e. basically GHG emissions), and a staggering 1,378.6 tonnes of water consumed (Ritthoff *et al* 2002 p.2002).

The externality cost of carbon emissions is calculated at \$85 per ton by the Stern report, while producing a ton of aluminium is estimated as emitting between 5.6 and 20.6 tons of CO2, depending on whether a smelter uses coal or hydro-power (most in Orissa use both), which would give an externality cost of over \$1,000 per ton of aluminium for these two factors alone.21 Also to be included in this calculation are SO2 and many other factory emissions, methane and other GHGs from reservoirs, and emissions from coal mining and captive power plants. What this does not include, and would be impossible to assess financially, is the effect of bauxite mining on mountains' ecology and water regime, the loss of forests and their biodiversity, and the impacts on people whose environment is being rapidly impoverished to feed an escalating demand for aluminium consumption.

Yet in many ways, it is these non-economic costs that are the highest. The judgement in the Indian Supreme Court case, delivered on 8th August 2008, emphasised the idea of 'striking a balance' between environmental and economic needs through the concept of 'sustainable development'. In particular, the Judges drew on the concept of 'green accounting', by which the Net Present Value (NPV) of forests can be calculated to determine compensation. This project was undertaken by a team from the Green Indian States Trust and TERI, financed in particular by Deutsche Bank (Gundimeda, Sukhdev et al 2005, 2006). Implementing the 'polluter pays' principle has introduced a new level of threat to India's environment, by reducing natural resources to an artificial monetary value - often a gross underestimate - in effect subverting the principle into a licence to pollute. The judgement laid out a Rehabilitation Package, by which Vedanta, supplied from the mine by a Special Purpose Vehicle run by the Orissa Mining Corporation, Sterlite Industries (Vedanta's subsidiary), and the Orissa Govt, would have to pay the forests' NPV + '5% of profits before tax and interest from Lanjigarh project or rupees 10 crore whichever is higher'. Local reports showed that the first traffic to make much use of the new roads into Niyamgiri was the timber mafia. If Niyamgiri's forests are being felled like this, what trust can be placed in authorities' reforestation plans?

Net Present Value of forest or biodiversity becomes a formula that blurs the elementary distinction between primary forest and plantations. Lado Majhi, a Dongria of Lakhpadar village, put this point most powerfully at the Belamba Public Hearing on 25.4.09, where he was the first to speak:

Niyamgiri is our Mother. Our life depends on the mountain. Can you pay five lakhs for each tree? Our Sarkar [Govt] should not sell out to a foreign company. Even if everyone else accepts the project, we won't allow mining on Niyamgiri.³²

In other words, biodiversity – especially in a forest on top of a mountain, protected as inviolate by local people – cannot be costed or compensated in financial terms. The GIST-Deutsche Bank enterprise of working out the NPV of forests becomes a pretext for selling them off. The Niyamgiri case makes this clear – not least because Deutsche Bank has been a prominent promoter of investment in Vedanta.

The basic waste of bauxite is red mud. In March 2008, Vedanta joined an international Red Mud Project, whose website reveals that despite use of red mud in bricks being banned in Australia after tests by the Health Department in 1983 found that radiation levels were unacceptably high, vast quantities are used to make bricks in China, while in India, 2.5 million tons of red mud were used for cement in 1998-9 alone.³³ We have seen, and photographed, red mud lakes leaching into streams at Muri refinery (Jharkhand) and at Korba (Chhattisgarh). Red Mud contamination is not only from caustic soda, but from at least 14 rare earths and 22 radio-active elements, all of which are present in bauxite as destabilised minerals, including uranium.

At least the Orissa State Pollution Control Board has pointed out Vedanta's violations at Lanjigarh, which figured in the Norway government report blacklisting Sterlite/Vedanta (Council on Ethics, 2007). Residents of Chatrapura and other villagers have attested that the refinery regularly discharges highly toxic chemicals into the river, writing a letter to the OSPCB about this on 9.9.08. Many people and animals have developed body sores after bathing in the river, and at least two people have died, covered in sores. Meanwhile, residents of Bondhaguda and other villages close to the refinery and approach road are suffering from lung diseases. Yet, once again, in June 2009, Vedanta won a Golden Peacock award for excellence in its

environmental record! 34

In effect, with the closing of many refineries and smelters in 'developed' countries, aluminium production is being 'outsourced' to 'developing' countries such as India, where environmental and human rights legislation is circumvented on a regular basis. In March 1996, for example, R.C. Das, Chairman of the Orissa State Pollution Control Board (OSPCB), wrote a report recommending against any further bauxite mines, refineries or smelters in the state, having studied in detail the excessive pollution from existing plants (a refinery and two smelters), and knowing by experience the ease with which the companies involved avoid correcting the situation (Das 1996). For this, he was dismissed by the Orissa Government. The Global **Reporting Initiative, used by Vedanta and promoted by the International Aluminium Institute** and other bodies, was set up to avoid proper regulation, and facilitates a deception of figures.³⁵ For example, deaths in factories and on roads around them, is grossly underreported, due to the system of sub-contracting. Vedanta's annual reports have Sustainable Development reports attached, and each of the 'big four' London-based accountancy firms in turn have 'verified' these, based on the most superficial analysis.

The history of other countries' experience of bauxite-based industrialisation is vital to understand forthcoming impacts in Eastern India. The exploitation at the heart of aluminium economics starts from the aluminium companies getting bauxite cheap. If the true costs of mining bauxite were taken into account, India's bauxite would have to be sold for far more than it is now.

Jamaica's experience is relevant here. Michael Manley's bauxite levy in 1974 increased the price of Bauxite immediately by about \$10, from \$8 to \$19.94. But this feat has never been repeated, and savage reprisals from the US exemplify the influence that keeps the price of bauxite low, in India and worldwide. Jamaica also exemplifies the heavy environmental and social costs of bauxite mines. Recognition of these costs is behind a campaign to save Jamaica's Cockpit Mountains from bauxite mining – a movement analogous to the movements in India.³⁶

Brazil's wealth in bauxite, water, forest, coal and iron is similar to Orissa's, though on a vaster scale. The way Japanese companies and banks sold the Tucurui dam in a scheme that impoverished the state's electricity company has parallels with the privatisation of Orissa's electricity companies and their complex debt-relationship with aluminium companies, with villages around e.g. the Indravati reservoir lacking the electricity they were promised.³⁷ New dams and smelters in Iceland and Trinidad have many parallels with Orissa, including circumvention of laws protecting the environment, and harsh repression of community movements against these projects.³⁸

Of all the world's bauxite deposits, those in India probably have the greatest population density around them – a largely tribal/indigenous population, whose spiritual bond with their mountains is simultaneously economic, since their livelihood and cultural survival depends upon them. What this means is that the consequences of mining bauxite in Orissa and Andhra are likely to involve more upheaval than anywhere else where bauxite has been mined.

Vietnam's tribal highlanders face a similar and simultaneous threat as those in Orissa and Andhra Pradesh. The country claims to have 8 billion tons of bauxite (even more than India), lying on mountains in the Central Highlands, where Chalco and other companies are currently trying to set up mines, despite protests by a wide range of leading citizens, who point out the threat to the Hill Tribes and to the long-term health of the country's environment and economy,



including tea and coffee plantations, lakes and rivers.³⁹

Another incalculable cost is the escalating resource war. Maoists attacked Nalco's Panchpat Mali mine on 12th April 2009. They numbered about 100 and killed ten security staff hostage, losing four themselves, after which production dropped from 14,000 tonnes per day to 9,000, and security has increased.⁴⁰ We have seen how Hindalco's move towards mining Mali Parbat has been opposed by the tribal organisation CMAS, which was supported by Maoists, and has therefore been targeted by an incursion of at least 4,000 armed police, and numerous arrests after the police firing that killed two members in November 2009. The situation in Dantewara district of Chhattisgarh, where Tata and Essar are trying to set up steel plants based on new iron ore mines, is far worse, with an estimated 300,000 tribal refugees from over 600 villages burnt by the pro-mining tribal militia, Salwa Judum, armed by the police to fight against

Maoists. There have been several well-reported atrocities by Maoists, as against hundreds of unreported atrocities by Salwa Judum and the security forces. 'Peace Committees' are similar militias springing up in Orissa on the Salwa Judum model.⁴¹

The 'Operation Green Hunt' war currently escalating across Eastern-Central India against the Maoist insurgency has many features of a resource war, since the region's concentration of tribal people, its forests and minerals, and its Maoist strongholds are largely coterminous. The violence in Kandhamal district, when about 50,000 Christians were driven from their homes, also has a hidden connection with bauxite deposits on mountains in the south of the district known as the Ushabali plateau: this was announced in July 2008, just six weeks before the Swami Saraswati's murder by Maoists. In the aftermath of this violence, there have been calls to build a railway to the district, whose real purpose is clearly to facilitate extraction of this bauxite.⁴² Increasingly, non-violent movements against factories and displacement are being analysed as Maoist-instigated, even when they are not.⁴³

And how does one calculate the cost of corruption? During 2009-2010 Orissa was rocked by mining scams, mostly related to iron ore mines in the north, but bribes seem to be a regular feature of mining deals, and the effects of corruption are visible at every levels around a project.⁴⁴

The metal factories going up in Orissa now are raising India's GHG emissions exponentially. When Indian or Chinese business or government representatives argue that as 'developing countries' they have a right to increase their carbon emissions, this suits business interests in London and other capitals. The picture painted in Anderson's 1951 essay still holds: the environmental costs are too high, and it makes sense for the most powerful countries to outsource most aluminium production. But side by side with this imperative is the strategic need for aluminium. As Anderson says, no war can be waged or won without consuming and destroying vast quantities. The metal has had a central place in the military-industrial complex since the First and Second World Wars (Padel & Das 2006).

Aluminium's claims to be a 'green metal' do not add up (Mathias 2003). Bauxite reclamation, where we have seen it in Orissa and Chhattisgarh, consists of little more than eucalyptus or jatropha plantations. For tribal people in villagers near Lanjigarh, the heating of the climate and decline in rainfall from the new refinery and its captive coal-fired power plant is something obvious. Knowledge, here, is a continuum still rooted in the earth – a different basis of knowledge, that the modern mind struggles to comprehend (Padel 1998). The importance of intact mountains and forests for the earth's climate is something tribal people 'know' because they know their environment thanks to uncounted generations of ancestors who lived and worked in this landscape.

Notes

1.Gopinath Mohanty: *Sroto Swati* 2000 (his autobiography, in Oriya) Part III p.324. 2.*FT 5* November 2003, and 3 November 2004, Samantara 2007, and *The real face of Vedanta* **documentary** www.youtube.com).

3.Parliament of India: Rajya Sabha nos. 66 and 80 (March and December 2002). The UNDP gave Rs 17 crore and the GoI, 19 crore. Among JNARDDC's first functions was an international meeting on bauxite (Bauxmet) in 1998, and studies of bauxite from several mountains in Orissa.

4.Articles in Economic and Political Weekly: Rajagopalam et al 1981, Subramanian 1982. This section of our paper summarises arguments presented in our forthcoming book: *Out of this Earth: East India Adivasis and the Aluminium Cartel* (2010)

5.Viegas (1992) summarises the outline of this dam's history – though not its connection with the smelter. The violence is referred to in an article '*Sarkar Javaab Diantu*' ('Government,

explain') in *Dharitri* newspaper by B. Krishna Dhalo, 23 October 2007. 6.Madhu Kudaisya (2003), pp. 334–35; Gita Piramal 1996.

7. Mohanty *et al* 2004, p. 33, in an article by Golak Bihari Nath. Samarendra visited this man's family in 2005, shortly before he was due for release.

8. This SC Monitoring Committee report is item 34 in Environment Protection Group Orissa's website freewebs.com). Newspaper reports on the toxic spill of 31.12.2000 in *Indian Express* and *Asian Age*, 1–11 January 2001.

9.Bahuguna 1986; *Onlooker*, 1–15 July 1986: 'Adivasis up in Arms to Save Nature'; PUDR 1986; and Meena Menon in *The Hindu Survey of the Environment* (2001), p. 148. On Lower Suktel: *Dams, Rivers and People,* January 2005, p. 9–10, Das 2005.

10.Extensive coverage in Barney et al 2000, PUDR May 2005, Das 2005, Goodland 2007, and our forthcoming book, *Out of This Earth.* On Alcan's withdrawal from

Utkal: http://www.corpwatch.org/article.php?id=...

11.Caufield 1998 p.227; see also a documentary film about this dam: Sahu 2009.

12. Amnesty International index ASA 20/021/2009, 2 December 2009.

13.G. D. Birla, *Towards Swadeshi: Wide-ranging Correspondence with Gandhiji*, ed. V. B. Kulkarni, Bombay: Bharatiya Vidya Bhavan, 1980, p. 118, and Karunakar Supkar 2007, pp. 28–32.
14.PUCL May 2003, Padel and Das 2004, Das 2004.

15.E.g. Sukru Majhi's death on 27.3.05, and the Assistant Sub-Inspector of Lanjigarh police station, killed on his motorbike by an alumina lorry on the road to Lanjigarh (Sambad 24.1.08 p.1). Many deaths have been mentioned in the local Oriya press, but very few in Vedanta's Annual Reports (2004-8), due to the system of subcontracting, which allows the company to shrug off responsibility and record a much lower number than actually take place. Vedanta's PR companies Finsbury and CO3 have carried on a battle against Survival International and others (see http://www.pressreleasepoint.com/dongria..., and a Survival website 'Behind the lies', exposing Vedanta's PR offensive at www.survival-international.org). On villagers thwarting Vedanta's attempts to take vehicles up the mountain to start setting up the mine from January 2009, see Action Aid International-India www.minesandcommunities.org). 16.http://epgorissa.blogspot.com/2009/07/protests-against-vedantas-miningof.html, www.youtube.com Recorded in Proceedings of the Public Hearing for Vedanta Aluminium Ltd held on 25.4.2009 for expansion of refinery capacity from 1 millions tons per year to 6mtpy, held at Belamba village under P.C.Rauta, Regional officer of the Orissa State Pollution Control Board, Rayagada, and Chudamani Seth, Additional District Magistrate, Kalahandi.

17.'Vedanta flouts rules in Orissa, central government wants to know why, http://www.indiaenews.com/business/20091...; and 'Vedanta flouted Centre's norms, http://www.hindustantimes.com/india-news...

18.Council on Ethics 2007, IA no.2134 of 2007 on Writ Petition no.202 of 1995, of petitioner T. N. Godavaraman Thirumulpad (petitioner) versus Union of India and others (respondents), in the matter of Sterlite Industries (applicant), at the Forest Bench of the Supreme Court of India, 8.8.08.

19.Articles in *New Indian Express*, Bhubaneswar, from November 2007: 'No Hirakud water for industries', 8.11.07 front page, 'Industries eye other dams too' 26.11.07 front page ('Currently 13 industries are drawing water from Hirakud and another 20 are in agreement with the Government to do the same'), 'Naveen's water woes overflowing', 27.11.07 p.3, 'Farmers reject Naveen largesse', 28.11.08 p.6, 'Industries default on water cess' 28.12.2007 p.6. Also POKSSS 2008.

20.Fernandes 2006 pp.110-111.

21.Mathur 2006 p.2.

22. David Pearce quoted by Cernea in Mathur ed. 2006 p.22.

23.Cernea 2006.

24.Moody 2007 p.127, Russell Means 1982.

25.Padel 2000 Ch.8

26.Mathur 2006 pp.48 & 69-70.

27.Cernea 2006 pp.26-28.

28.WB OED Report no.17538, cited in Mathur 2006 pp.61-2.

29.Russell 1836, Elphinstone 1841, cited in Padel 1995 p.179.

30.Kishenji was a great political leader of Orissa and India. He wrote these unpublished words shortly before he passed away in 2005.

31.Rolf Marstrander's paper in INCAL 2003 (Aluminium Association of India).

32.Proceedings of the Public Hearing for Vedanta Aluminium Ltd held on 25.4.2009 at Belamba, and www.voutube.com

http://www.downtoearth.org.in/full6.asp?..., and OSPCB reports to the Central Pollution Control Board in Delhi, 1995 and 2002.

35.Moody 2007 pp.16-19, 156-60.

36.Blum 2003 p.263. On Jamaica's hike of royalty see Bonnie Campbell 1995 p.199, and Jamaica Information Service (jis at jis.gov.jm) 14 March 06; also Jamaican Bauxite Environmental Organisation at www.jbeo.com; Switkes 2005, p. 11; John Maxwell (18 February 2007), 'Is Bauxite Worth More than People?' (jankunnu at gmail.com, 2007); Oli Munion, 'Corporate Crimes in the Carribean: How Jamaica and Iceland Face a Common Enemy,' in *Voices of the Wilderness*, Saving Iceland www.savingiceland.org), summer 2008. 37.On Brazil: Gitlitz 1993; Switkes 2005; Barham, Bunker and O'Hearn 1995; Bunker and

Ciccantell 2005 p. 67 ff. On Orissa's electricity reforms: Prayas et al 2003.

38.On Iceland: Rose 2008, Sigurðardóttir (forthcoming). On Trinidad: Kublal-Singh 2008, and 'Trinidad: Anti-Smelter Camp may be a Permanent Fixture', 31 October 2008 (Peter Richards at http://ipsnews.net/news.asp?idnews=35314).

39.Sergei Blagov in *Asia Times*, **24 May 2006**, **at** www.atimes.com and 27 October 2008 **at** www.tradefinancemagazine.com 10 April 2009 'About 1,000 Vietnam Catholics hold antigovernment vigil' *Brisbane Times* **27 April 09**; http://www.thefirstpost.co.uk/47848,news...; Lam 2 June 2009; Mydans 29 June 2009; John C. Wu on Vietnam, in US Department of the Interior for US Geological Survey, June 2007 at the http://minerals.usgs.gov/minerals/pubs/c..., and vietnamnews.vnagency.com.vn/showarticle.php?num=01IND080406.
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State-sponsored violence at Narayanpatna' 24.12.09; PUDR April 2006: *Where the State makes War on its Own People* (www.pudr.org).

42. *The Hindu* 12.7.08 http://www.hinduonnet.com/businessline/b...). Railway suggestion: http://www.orissadiary.com/ShowOriyaColu... (5th January 2009)
43.Sudha Ramachandaram: 'India drives tribals into Maoist arms', 16.1.2010 at http://www.atimes.com/atimes/South_Asia/...
44.Pravin Patel: 'Mining Scam of Orissa: a tip of the iceberg',

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Samarendra Das, from Orissa, studied maths and computer science at Berhampur and Indore Universities. He is a film-maker and political activist with the Samajvadi Jan Parishad (Socialist People's Council). His film about the aluminium industry in Orissa (Das 2005) gives an Adivasi perspective. Felix Padel is a freelance social anthropologist who obtained his doctorate from Oxford University, after studying also at the Delhi School of Economics. Padel's first book analysed British rule over the Konds in Orissa (1995). Their book *Out of This Earth: East India Adivasis & the Aluminium Cartel* is published in 2010 by Orient Blackswan.

On Saving Iceland's website you can also read two articles by Samarendra Das written in conjunction with Felix Padel: Agya, What Do You Mean by Development? and Double Death – Aluminum's Link with Genocide and a press release on their book: Out of This Earth: East India Adivasis and the Aluminium Cartel

6 Responses to "Battles over Bauxite in East India: The Khondalite Mountains of Khondistan"

Battles over Bauxite in East India: The Khondalite Mountains of Khondistan | London Mining Network says:

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October 14, 2010 at 20:21

[...] Saving Iceland » Battles over Bauxite in East India: The Khondalite Mountains of Khondistan Posted on August 25, 2010 by dmacc502 via savingiceland.org [...]

Karunakar Supkar says: May 11, 2012 at 06:24 Dear Sir, Thank You very much for mentioning my article in Odiya.



The first PIL from Sambalpur (Odisha) goes unnoticed. You have kindly mentioned the case. Many Thanks. Karunakar

Bruno says:



May 19, 2012 at 11:58

Good morning to all, my name is Bruno Tamiozzo, i'm a professional photographer from Italy.

I work on photography that reflects international social issues.

By chance, turning on the internet looking for issues related to the country of India, I found your good article about the mining of bauxite.

If you had any idea of a photographic project interesting to describe some social issues, I would be happy to help you.

I wish to you all a great day.

Bruno T.

Jay Kumar Pradhan says: October 13, 2012 at 21:21 Dear Sir,



Today searching for information about bauxite I suddenly discovered your article. Though I am a broadcaster I really finding my self at loss now as I was in Bhawanipatna near Kashipur from 1999 to 2002 and I knew very little till I read your exhaustive article. Though I knew some thing was brewing in the hills of these areas. There were no demand to build the railway to Koraput though the demand but it was built in a very short time. There is lots of demand from lots places of Odisha for railway conductivity since Independence but nothing has happened.Till few tears back I knew from a friend that railway in our part is not built for passengers its for goods & mines.

Your article has really opened my eyes.

It is now very sorry state of affairs as we will be just onlooker as our National Wealth is already sold to few National & International crooks a called industrialist with full support of the state. We should be now be prepared to become Unknown National Marty's to be killed by our own bullets, our own guns and our own relatives in uniform with the support of our elected Governments. We have make Supreme National Sacrifice in the interest the Nation. Another interesting thing I found in the Internet that UAE a small desert country without any water is producing Aluminium nearly equivalent to India. Where from they are getting the bauxite ore? How market economist are are brain washing using media, one glaring example I saw one in TV CNBC news one very high level research faculty of an reputed university was speaking on commercialization of News. As per his research it is now time to consider even News as product and there will be market for it. As per him the Social media will be like just another media with unknown entity creating News without any credibility. Public service broadcaster will be their but will have funding problems. So days are coming we will be viewing Glossy News Product in different packages like cold drinks. Cola News.

May be our dead bodies will be shown one day in these News Products.

Thank You for the article. Do write Sir. Salute You. Jay.

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