Geographies of mining, contestation and indigenous rights: A comparative study of two hilly mining regions in Chhattisgarh and Odisha (India)

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Many emerging economies like India still rely on extraction, processing, use and export of minerals for economic advancements. Besides a growth in absolute and per capita consumption, India is also among the top five countries for extraction and export of several minerals and metal ores (fifth for extraction and second for export of iron ore; Indian Minerals Year Book 2018).

The mining belt of India largely coincides with forested and mountainous regions categorised under the Indian Constitution as Scheduled Areas which have a high indigenous population concentration, classified as Scheduled Tribes. In the pre-independence period, these communities were identified by the British colonial government by various denominations, like "Animist" (Census Report 1901), "Primitive Tribes" (Census Report 1931) and "Backward Tribes" (Government of India Act, 1935; Verma 1990). The constitutional drafting committee in independent India accepted it against the suggested "Adivasi" (meaning tribal or first settler in Sanskrit and Hindi) due to the need of numerically classifying the number of communities (Saksena 1981). Moreover, these communities were differentiated from "mainlanders" with regards to language, culture, religion and physical features, among others (Ambagudia 2007).

There are two main legislations which have shaped the way India's tribal communities are governed. The first is the Panchayats (Extension to the Scheduled Areas) Act (No. 40 of 1996; PESA), which was enacted to include the Scheduled Areas as a part of the administrative and political decentralisation process which happened in 1992 through the introduction of Panchayati Raj (*Panchayat* means village local self-governance unit and *Raj* means rule). PESA was enacted to give power to *Gram Panchayats* – the elected village-level government institution, in line with the tribal traditions of self-rule. To further strengthen the *Gram Panchayat*, PESA stipulated the formation of *Gram Sabha* (village council comprising every adult member of the hamlet).

The second critical legislation was passed in 2006: To clarify the status of Scheduled Tribes and their rights, the "Scheduled Tribes and Other Traditional Forest Dwellers (Recognition of Forest Rights) Act" (also called the Forest Rights Act) was enacted. This legislation was supposed to correct the historical injustices regarding access to land and other forest resources of indigenous communities starting from the colonial era. Objectives were political decentralisation of forest management and the election of local authorities in charge of the transfer of resources, including discretionary power (Ribot 2003). Forest-dependent indigenous communities were supposed to benefit through an equitable and sustainable management of natural resources (Agrawal et al. 2008, Ribot 2003). However, in practice, the Forest Rights Act fails to effectively devolve such decision-making to democratically elected local institutions (Bose 2011).

Fig. 1: Iron ore mine in Chhattisgarh state (photo: M. Chaturvedi 2017)

According to the Forest Rights Act, the transfer of land among Scheduled Tribes, regulation of business activities (including mining) and allotment of land is restricted. No corporate entity is allowed to acquire land for business activities without the consent of the *Gram Sabha*. However, in many mining projects, conflicts over environmental commons like water and air and the impact of open cast mining have emerged. Communities and their spokespersons have asked for better compensation for mining in their traditional lands and the very notion of development has been challenged and a different system of values than the one advocated by the government-industry cooperation is demanded (Mishra 2010).

Indigenous land acquisitions through corporate projects are in direct violation of international legal principles which state that indigenous communities enjoy the same rights as other humans and their lands should not be taken without free and prior consent (Colchester & MacKay 2004, Doyle 2015).

Nevertheless, international law also provides for justifications for infringement on those rights by the state and combined with subterfuge and use of force by the state, the indigenous communities are at risk for further alienation. The lacking ripple effect of benefits to the local communities, the consequent 'voicelessness', ignoring their agency and disempowerment of marginalised people are reasons for negative impacts by extraction (Cleaver 2001).

This essay seeks to address the questions: Do mining companies have a responsibility to protect and safeguard? What differences in modes of resistance can impact contestation by indigenous communities to assert their rights? Approaches of Marxist Geography and Political Ecology to study the impacts and reactions to mining in indigenous areas with a long history of oppressive practices and lack of access have been used (Harvey 2004, Watts 2002).

The larger resource curse arguments have mostly been focussed at the level of the nation and arguments surrounding the local level of discourse on the subject have been focused on resource enclaves' formations (Auty 2006, Cardoso & Faletto 1979). Significant research on impact of mining on communities living in resource-rich areas have indicated that social risk impacts most acutely the communities living closest to the mines (Littlewood 2013, Saha et al. 2011). Existing market systems in mining economies are often unable to control the health risks associated with mining and large-scale development towards the communities which are most affected by these activities. Therefore, a stakeholder analysis is needed to identify and further address these risks. Through qualitative research methods, namely field observation, personal interviews and focus group discussions, it emerged that in the research areas, this process has not taken place thus far.

The two case studies were selected on the basis of the nature of mining, the geography and ecology of the area, the demographics and civil administration structures. In the first case study of Bailadila in Chhattisgarh, resistance to iron ore mining has failed while in the second case study of Niyamgiri in Odisha, despite pressure from the government-corporate nexus in favour of Bauxite mining in the Niyamgiri Hills, the local resistance movement succeeded. In this essay, I assess the differences in the modes of resistance to understand the difference in the outcomes of protests in the two areas.

In India, policy developments that relate to ensuring the welfare of mining communities have generally been company-focused, although, the actual responsibility for such issues is often shared with the state. Recommendations have been made to adopt more community focused approaches (e.g. Ranängen & Zobel 2014). The communities' weak position within the market geopolitical dynamics of global capitalism, where the power balance is in favour of mining companies allows the state to impose monetary valuation over the environmental commons and needs of the local population (Martinez-Alier 2003, Watts 2005).

Case study one

Chhattisgarh state in eastern India is one of the biggest mineral producing states in India. Iron ore (Banded Hematite Quartzite) is among its largest - in terms of quantity - mined mineral ore. The area selected for this research is Bailadila mountain ranges in Dantewada district of South Bastar division and is roughly in the south of the state, closer to the border with Odisha and Andhra Pradesh (Fig. 2). The National Mineral Development Corporation (NMDC), a public sector undertaking, is primarily involved with mining of high-grade reserves in the south-side of this lower mountain in Kirandul and Bacheli towns (NMDC complexes) with 15 deposits between them (Fig. 1). The average purity level of the ore from these deposits is 68% which is well above the international trading quality. These mines were commissioned in 1968 after initial exploration for an estimated deposit of 1200 million tons of high-grade iron ore.

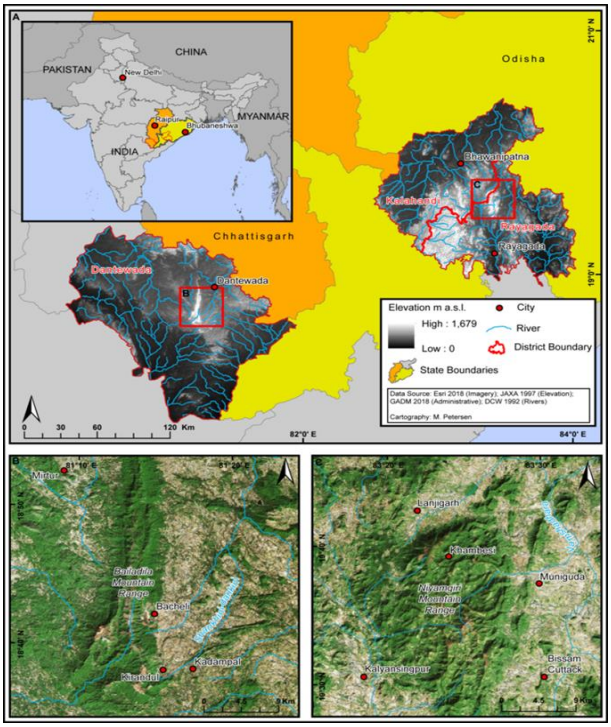

Fig. 2: Location of case studies (Layout: M. Chaturvedi, Cartography: M. Petersen)

Dantewada district is one of the Schedule V districts of India and has a high intensity of Left-Wing Extremist violence (Ministry of Home Affairs, government of India 2019). There are about 65 villages around the Bailadila mining site which are severely affected by the by-products of this process. The water sources have seen a severe contamination by iron ore slurry and other chemical effluents (Fig. 3). Air pollution has also been reported from these areas. Being a predominantly tribal district, there is a large

number of indigenous traditional forest dwelling communities who have become victims to the large-scale contamination in the area.

Fig. 3: Tailings dam used for slurry deposits in Kadampal, Chhattisgarh (photo: M. Chaturvedi 2017)

Case study two

Niyamgiri Hills is an area located in Odisha state in Eastern India. This is also a Schedule V area in between Kalahandi and Rayagada districts with a high potential of Bauxite mining. The Odisha Mining Corporation Limited (OMC) signed a Memorandum of Understanding with Sterlite Industries (India) Limited, a subsidiary of UK-based Vedanta Resources Private Limited Company in 2003 to mine large reserves of Bauxite there. The proposed plan included setting up a refinery in Lanjigarh village, in the foothills of Niyamgiri. This would also have required clearing out more than 150 villages in the hills and relocating the tribal communities living there. Although, the refinery was set up with an understanding that OMC would ensure sufficient ore available for processing to keep the refinery running, due to a ten-year long struggle led by the local communities and followed through civil society engagement led to the Indian Supreme Court to order Odisha state to conduct an a referendum in selected 12 *Gram Sabhas* to verify the consent which was documented by the company and the state to gain environmental clearances for acquiring this land. In this case, all the *Gram Sabhas* unanimously voted against the project and there was a stay imposed by the Supreme Court on any further construction or mining activities in the hills (Sahu 2008).

The main indigenous community which inhabits the Niyamgiri hills is the Dongria Kondh, an approximately 6500-people strong community. They consider the Niyamgiri Hills sacred and have remained resolute in keeping the mining efforts at bay so far. The refinery, however, continues to operate at medium capacity and has been a source of air and water pollution in the area (field observations and personal interviews).

The mining company has cited establishing a campus for the employees of the company in Lanjigarh, with facilities like schools, hospitals and concretised roads as development initiatives there (field observations and personal interviews). This kind of "Development Aggression" (Sahu 2008: 19) is common in areas where the state authorities and corporates are against the local communities. Vedanta has intensified its development initiatives in Lanjigarh town by employing the locals in the refinery, albeit, only in manual labour capacities. According to locals, however, the problems of industrialisation have already started appearing in the form of red dust and heavy asphalt fly-ash in addition to water contamination.

Results and Discussions

There is sufficient empirical evidence from resource extraction in other developing or under-developed countries for example, Canadian mining companies in Latin America that indigenous communities almost never benefit with major extractive activities on their customary land and it is more likely that these activities cause severe negative impacts (Gordon and Webber 2007). The increasing move of nation-states towards neoliberalism will only lead to greater inequalities because the trickledown effect of gains accrued from such liberalisation of markets is negligible to the lowest strata of the society. The maximum benefits remain in the hands of those on top - a growing crisis of over-accumulation and larger inequalities. In depleting global environmental commons like land, air and water and destroying natural habitats has led to commodification of nature, history, culture and intellectual creativity. The state is often used to force this kind of dispossession which is completely against the will of the local populations (Harvey 2004).

With rising impetus to capitalistic profiteering in nation states, especially those with a colonial past and a history of state behaving like a neo imperialistic ruler like in India, this kind of tendencies only stands to exacerbate the predatory practices followed by corporate entities in the extractive industries sector.

During the most recent field work in Bailadila in February and March 2019, I collected five water samples of surface water and five of ground water samples from the areas surrounding the mines. In collaboration with Pandit Ravishankar Shukla University, Raipur (Chhattisgarh, India)[1], these samples were tested for heavy metals like iron and manganese, acidity, nitrates, sulphates and presence of bacteria (indicator of coliform bacteria, pathogens and salmonella: no absolute values). It was found that the amount of non-soluble iron in water sources, which, according to WHO standards is permissible at 0.3mg/l, is as high as 19mg/l. This also aids in growth and sustenance of Coliform Bacteria

[1] Collaborative testing with Ms. Princy Dugga (PhD candidate) and Prof. Shamsh Pervez (Senior Professor) at the Department of Chemistry at Pandit Ravishankar Shukla University, Raipur (Chhattisgarh, India).

(when combined with iron, it is called iron bacteria) which was also present during testing and causes many acute stomach illnesses.

Water is not the only environmental common which is polluted by mining activities. With the fly-ash produced from the refineries, air quality has also declined in both, Bailadila and Lanjigarh (refinery in Niyamgiri). Inhalation of this polluted air, rife with particulate ore dust may result in Siderosis or Welder's Lung and may be injurious to the cell tissue with prolonged exposure.

The medical records from the state health department indicate an unusually large incidence of malnutrition among children born with pre-existing iron poisoning, serious cases of acute stomach illnesses like lethal diarrhoea in adults and children, skin diseases and a high incidence of sickle-cell anaemia which comes with a large host of related problems (personal interviews). A physician at the district hospital said that the communities living in this area have low immunity to and tolerance of any kind of intestinal disorders because of the protracted exposure to non-soluble iron in their day-to-day lives, they have extremely weak intestines and with even the slightest infection, they tend to collapse. This happens due to the Fenton reaction within the human membranes when it interacts with the dangerous Ferrous Iron which initiates harmful radical-chain reactions on lipid or DNA (Fontecave & Pierre 1993). Despite evidences, reckless dumping of by-products continues in both the case studies leading to severe health and environmental consequences for these indigenous communities. Despite some efforts, the preponderance of evidence points to a vast majority of actions directed towards capitalistic accumulation (Harvey 2004).

The reason why Niyamgiri succeeded in resisting big mining can be linked to the modes of resistance employed by them to respond to the imminent threat to their land and culture. Lack of leadership from within the community has proven to be an undoing for the movement in Bailadila which remains scattered and small-scale. Another significant reason for the success of Niyamgiri movement as opposed to Bailadila is effective representation of all stakeholders. Not only did the tribal communities, but also the wildlife conservationists, rights activists, ecologists and even the legal system of the country came together to protect Niyamgiri.

A crucial reason for the success of this movement is the traction it got due to international attention. International investors in the project like the Norwegian government, the Church of England and Martin Currie Investment Management boycotted Vedanta based on their internal fact-finding reports and sold off their shares in the company on the grounds of human rights. This emboldened the struggle further. With big names like Barclays UK, Standard Chartered and Deutsche Bank backing Vedanta financially on this project, the level of scrutiny was high and the violations that Vedanta committed did not go unnoticed. Free and fair media and NGO interventions, hence, proved crucial in disseminating this information and building external pressure points. People's movements gain power with the will of the people and when they originate from within a community. The situation in Niyamgiri did not erupt due to a sense of relative depravation explained by psychologists and theorists of social movements (e.g. Davies 1962, Gurr 1970).

In summary, there are four primary reasons for the success of this movement: First, it originated from within the community with grassroots level leadership and minimum interference from outside and remained largely incorruptible. Second, all the stakeholders, be it ecologists, wildlife conservationists or activists, came together independent of party lines and ideological differences. Third, the movement used the tools at their disposal rather than demanding for changes in an existing system. Thus, the movement could find resonance with the judiciary. Fourth, the international attention generated external pressure on Vedanta by putting it in the spotlight. Discrete means of circumventing the law or committing violations became almost impossible.

Conclusion

Opencast mining is a highly technical and machine-heavy process which requires clearing out vegetation and creating artificial plateaus. A study about wide-ranging environmental impacts of metals production with 63 metals showed that iron and aluminium ores processes are the biggest polluter with extensive effects globally (Nuss & Eckelman 2014). As observed in Chhattisgarh, this process has devastating long-term consequences for both ground water and surface water resources and if the processing waste, like chemical treated ore slurry is not responsibly disposed, the entire lower riparian region gets severely contaminated water. Protracted exposure to such contaminated water may cause slow and lethal damage to vital organs like intestines, liver and heart and continued use of this water may prove to be detrimental to human and animal health, although, the overall damage that causes organ failure is not yet fully known (Ponka et al. 2007). Therefore, resistance to this process comes as a natural response by those dependent on these environmental commons which are deeply affected by mining.

While the modes of resistance in both case studies differ vastly, the potential for damage is nearly the same. It is imperative for not only an evidence-based empirical research to point out the deficiencies of the current system of governance in indigenous lands with mineral resources, but also for the state machinery to take note. Once all the stakeholders can be brought to the table, a dialogue on how to better respond to this gross violation of basic human rights can be started.

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