Natural Resources
FORUM

Natural Resources Forum 27 (2003) 68–77

Informal coal mining in Eastern India: Evidence from the Raniganj Coalbelt

Kuntala Lahiri-Dutt

Abstract

Unauthorized mines are not uncommon in mineral-rich regions of poorer countries, and India is no exception. Whether they constitute merely a law and order problem including safety issues, or there are important social and economic questions involved has yet to be thrashed out. The mining industry, at regional, national and international levels, is ambivalent towards such mining, tending to draw attention away from their informal nature to the size factor.

This article looks into the problem of such informal mining in the light of empirical surveys in eastern Indian collieries. These are called peoples' mines and they serve a significant purpose in local economies. The article's thesis is that peasant communities are trying to claim back a portion of the local resources lost to them through appropriation by mining companies thus re-asserting their traditional rights to local mineral resources. In conclusion, the need for a new moral economy for mining regions is stressed: an economy in which local communities will play a powerful role.

Keywords: Informal/Unorganized mines; Raniganj collieries; Community mining; Indian collieries.

1. Introduction

1.1. Coal mining in India

India is now the third largest coal producing country, extracting about 300 million tonnes (Mt) per year, according to official statistics made available through the Government of India's webpages[1] and reports. These statistics refer to the operations of formal coalmines, that is, those officially sanctioned and licensed by the appropriate authorities. These mines can be large or small, though due to the drive to remain competitive, large opencast mines with their large footprints, are becoming the norm for extracting coal.

Informal mining is an unofficial and unsanctioned activity, often labelled as illegal by officialdom and certainly so in India. This form of mining is largely absent in the industrialized world but can be extensive elsewhere, wherever coal is readily available, and can constitute an important part of the local economy. It occurs in many locations and employs a large number of people in several poorer mining countries of Africa, Asia and South America.

The ILO (International Labour Organisation) recognizes that grinding poverty has led to the development of small-scale economic activity, including small-scale mining, which enables poor people to survive, despite low profits and high risks (Alfa, 1999). Alfa also subdivides mining into 'artisanal' and 'semi-industrial' and goes on to say that artisanal mining and quarries appear to be liable for fewer taxes and duties than small-scale mining, thus differentiating these practices as two categories. The same author also states that small-scale artisanal operations are used, but in a formal and legal manner, suggesting that the difference may lie not in size but in the formality or the nature of operations. Martinez-Castillo (1999) has in fact described such mining as 'traditional' and 'informal', and traces the cause to "the economic crisis, urban unemployment in the cities, poverty in the agricultural areas and the violence that prevailed in the 1980s gave rise to a growing social phenomenon — individual, family or collective migration to zones other than the place of origin, searching for safety and economic survival" (p. 31). Such informal mining generated up to 64% of Peru's gold production in 1991–1997. In official texts, however, such mines become 'encroachers' drawing attention to the diverse representations of 'miners', 'mines' and 'illegal mines'.

This article discusses the nature of informal mining in an established coal mining region, Raniganj, in eastern India and its impact on and relationship with the local communities

Kuntala Lahiri-Dutt is a research fellow at the Research School of Pacific and Asian Studies, Australian National University, Canberra. E-mail: Klahiri_dutt@hotmail.com

[1] See for example http://www.coal.nic/vscoal/abtcoal.htm and http://www.coal.nic/in.

and its coexistence with the formal mining sector. The exact number of people involved in informal mining is unknown but may exceed 200,000. This estimate is derived from discussions with union leaders and personal observations of the extensive distribution network for coal produced from these mines (see Section 3). Raniganj is not the only region in India where informal mining is carried out. The coal deposits in Raniganj extend northwestward into Jharia and Karanpura. There, too, 'illegal' mining is a fact of life, probably for over 500,000 people. These people are living on the fringes of the money economy, surviving largely on subsistence cultivation and grazing, supplemented by scavenging for coal.

Total aggregate production in India from this type of illegal mine is likely to be impressive, though no specific data are available. Estimates of its volume come, for example, from coal-starved neighbouring Bangladesh, until recently without legal trade relations with India. Many brickfields around Dhaka use 'Indian coal', mainly from these mines (Williams, 2001). In Raniganj, with an annual formal coal production of about 28 Mt, yield from informal mines may amount to 1Mt according to a union leader.

International decision-makers have indeed noted this kind of mining, but at the same time, much attention has been drawn to small mines in different countries, especially the developing ones. The Government of India recognizes only 'small-scale' mines, which are actually different from unauthorized mines, as they have legal status.

Coal, once on the surface, does not have a stamp telling from where it originates. The 'black economy' thus has ramifications over the entire spectrum of geography, economy, society and politics. Although the global focus on small-scale mining misses the aspect of legality, it encourages us to take a closer look into unauthorized mining and ask why it occurs and persists in developing countries, in spite of the best intentions of governments and mining companies. What factors force ordinary humans to turn into unlawful citizens or criminals? Is it the lure of quick and large profit or some other compulsion that drives illegal mining? Are such mines compatible with the notion of 'development' that mining is supposed to bring to mineral-rich areas of poor countries? Also, the time has come to explode a few myths surrounding the illegal mining activity. Who are these miners? Why do they take such immense risks? What are the linkages between the formal and informal mining sectors?

This article looks into these questions in the context of the author's past research in eastern Indian collieries and research-oriented fieldwork in the region for over a decade now, including personal contacts with people at various levels. Many of the following observations, therefore, are based on subjective knowledge of social and economic issues within the Raniganj region. There may be other ways of looking at the problems dealt with in this article; nevertheless, the views expressed here are different from those of the mining establishments within India or at the international level.

1.2. Coal mining in Raniganj

Informal mining usually has a long history, rooted in an era before government regulations came into force and overlapping the period of dramatic expansion of mining associated with modern industrial development and the demand for electricity. The oldest collieries in India are located in the Raniganj region some 250 km northwest of Calcutta, and it is here that the British colonial administration first started collieries in the late 18th century.[2] The region still contributes significantly to national coal production. Over the years, its share has declined to the sixth position among the eight subsidiaries of Coal India Limited (CIL)[3] — the public sector company that controls India's collieries — though its absolute production has risen significantly. In the early days of mining, local landlords or *zamindars*[4] were enthusiastic about opening collieries (Rothermund and Wadhwa, 1978), but gradually much of the ownership passed into the hands of private companies. At one time, Raniganj coal fuelled the British Empire on the Indian subcontinent — and even now it has some specific characteristics that make it indispensable for particular industries. There are 121 coal mines located in Burdwan, Bankura, Birbhum and Purulia districts of West Bengal, and in Dhanbad and Godda districts of Bihar. As is typical of an old mining region, Raniganj's economy, too, shows signs of aging: unproductive underground mines manually operated by a highly unionized labour force. Underground voids, frequent occurrences of land subsidence and mine fires are common problems. At the same time, Raniganj has an element of novelty, too. New mines are constantly coming up, indicating that the region is not yet mined out, and several large-scale, foreign-funded opencast operations have been initiated during the nationalized existence of the industry. The region has a complex history of gradual social transformation along with the changes in its landscape. When the state took over mining, it was an area of single rice crop cultivation with only patches left of the previous *jungle mahal*. Raniganj

[2] Actually coal mining did not pick up until the mid-19th century, when it was recognized that instead of importing British coal, it was best to use local coal to run the railways, steamships, jute mills, arms factory and the urban industries in the backyard of Calcutta.

[3] The Indian coal mining industry was nationalized in several phases since 1971–72 in the public interest using the Coal Mines (Nationalization) Act, 1973 which is now the piece of legislation determining the eligibility of coal mining in India.

[4] The *zamindars* were local landlords of Bengal. The colonial British administration introduced a new order of land tenure commonly known as permanent settlement in 1793. The Burdwan *raj* model of hierarchical subinfeudation under this system has been described as *sui generis*, the leading species of what developed to be a large genus (Bhattacharyya, 1985). Major changes kept taking place in the region during the nineteenth century: a rise in the production, prices and exports of food grains; in the rentals; in production, prices and exports of each crops; tenancy legislation; coal mines; railways expansion and growth of the market in general; expansion and growth of the market centres; and decay of river borne trade bringing down a number of older settlements along it with the rise of railways and new urban centres.

today has a significantly higher level of urbanization than the rest of the state of West Bengal, or India (Lahiri-Dutt, 2001).

The informal mines that operate in Raniganj may give us a clue to understanding some of the urgent issues of mineral resource management that need to be made transparent. It may help us understand the role of the community in mining; how development has impacted on people in the third world; how local communities enforce their traditional rights over the land in the absence of a participatory process; and how, in the mining sector of less developed countries, the formal and informal sectors continually supplement and complement each other.

The ownership of land in the Raniganj region had passed from local *adivasis*[5] (indigenous peoples) to agricultural castes long before coal mining caught on as a popular business enterprise with the *zamindars*. Yet, the *santhals* (one of the indigenous communities) and the *bauris* (a low caste),[6] continued to remain closely attached to their lost land and used to leave the mines during the cropping season for agricultural work. In the past, this encouraged mine owners to bring in outside labour, who later came to dominate the formal industrial labour force. Consequently, when the agricultural sector receded, due to the expansion of large-scale mines, local inhabitants were forced to seek jobs elsewhere. Where could they go in this single industry region? This will be explored in the course of this article. Let us first try to understand the various types of mining in the region.

1.3. The honeycombs of Sangramgarh

Sangramgarh is an opencast coal-mining operation in the Raniganj belt with an 8 foot thick coal seam near the surface that has been left untouched by the Eastern Coalfields Limited (ECL), the state-owned subsidiary of CIL operating in the region. The mining company has instead chosen to work on a lower, 20 foot thick layer, which yields more easily to heavy modern machinery. Where the upper, 8 foot thick layer of coal has been exposed by mining of the lower seam, it has been cut into a maze of honeycomb-like labyrinths, which often extend for considerable lengths under the surface. These hollows were driven into the seam by locals — ordinary villagers. On this land stands the village of Samdi, containing the homes of people who have lived here for generations as well as migrants, and similar villages are found all around. The land also holds railroad tracks, roads, and quarters of the ECL's officers and staff. The ECL workers are, however, 'official' whereas those who work the leftover upper seam are *personae non gratae*. Both operations — on the lower as well as the upper layers — go on simultaneously, though the honeycombs of the upper seam are not exactly intended collieries. The near-symbiotic relationship of the honeycombs and the large coal mines that coexist in this region is similar to the relationship between the formal and informal sectors of the Indian economy. The peoples' mines are, however, known widely as illegal mines. When they come into the news, or indeed get mentioned at all, they are described as illegal; local people call them so, and the administration knows them as such.

News of such mining, as practiced in Samdi Village, makes it into the newspapers when there is a big enough accident and lives are lost. The number of lives lost usually determines on which page the newspaper will carry the sensational item, and the level of media exposure determines for how long the district administration and the mining company will be engaged in a verbal battle over whose responsibility it is to stop this activity. When such an accident attracts media exposure and the attention of officialdom, there are no takers for the dead bodies when they are eventually dug out of the rubble, if found at all. This is because of people's unwillingness to be related to an 'illegal', as it may lead to harassment by the police and other officials. Thus, relatives of the deceased have learnt to mourn in silence, something most unusual to Indian traditional cultures.

The mining company — the largest landowner, the prime employer and mover of resources in this single-industry region — prefers to overlook the existence of such mining, or sees it as a law-and-order problem. From time to time, the company complains to the local district administration of 'theft' from its premises. The bureaucratic reply is usually that the company has a large fleet of security guards and a specialized industrial security force, and should be able to look after its own premises and property.[7] More often than not, the matter ends there after an exchange of letters or at best one or more 'high level' committee meetings. No special measure is initiated, and the case remains as opaque as ever. Life goes on as usual in the Raniganj coalbelt. Those whose lands have been leased by the mining company do the rounds looking for a job, and some even manage to get one. Trade unions organize meetings, protests and token

[5] I prefer to use the term *adivasi* (meaning original inhabitants) to other names for subaltern groupings of indigenous populations of India including tribals, untouchables, *vanvasis*, *dalits* and *harijans*. I have used *adivasi* throughout this article to mean the Scheduled Tribes of the region as identified by the Constitution of India.

[6] The *bauris* later became known to colonial administrators as 'traditional coal cutters of Raniganj' (Paterson, 1910).

[7] In his letter no. 9627-P dated 20.9.93, the Superintendent of Police of Burdwan District wrote to the Chief Managing Director of ECL: 'The response of the ECL authority in mentioning that the responsibility and authority in curbing down antisocial activity rests with the district administration and state police being true but the ECL authority should also not avoid its responsibility of guarding its property lying abandoned in open especially when ECL is provided with over 1,000 armed Central Industrial Security Force personnel and over 5,500 security personnel. Nearly 1,700 guns/revolvers are available with the security staff also.' Note the accurate numbers mentioned but the overall reluctance to share the responsibility of tackling the problem.

hartals (strikes). People wander in from surrounding states, lured by the brisk business opportunities thrown up by the rapidly transforming mining-urban settlements. Experts from the Coal Mines Planning and Design Institute Limited (CMPDIL),[8] another subsidiary of CIL, research how and where some imported technology can be used to improve productivity. Officers of the Directorate General of Mines Safety visit the area and declare it one of the 'unsafe' areas of the region. In the faraway capital city of Delhi, the Ministry of Coal traces new policies of restructuring and liberalization, and the World Bank prepares mitigation plans for large-scale displacements that will accompany big investments in the coal sector, now that India is inviting economic globalization, after about 50 years of restrictions. In local headquarters of ECL, various consultative committees (see GOI, 1992) and advance environmental planning groups[9] lay environmental designs, which remain beyond the access of ordinary citizens and gather dust on office shelves.

Another type of illegal mining occurs, not on leasehold land of the mining company, but on land owned by individuals but with coal occurring close to the surface. The Indian Constitution says that the state owns all mineral resources occurring underground. One of the problems of small-scale mining in India is the multiplicity of laws and acts it has to comply with, especially in view of the generally low level of technology, capital investment and small size. The temptation for an individual to circumvent the laws is immense.

Haradhan Roy, the leader of Colliery Mazdoor Sabha India (CMSI) that looks after labour interests, estimated that in 2001 there were at least 33 identified sites of unauthorized mining. Some of these mines are opencast whereas others are underground, with many instances of formal and informal activities going on simultaneously. Of the 33 sites, seven are outside of ECL's leasehold land, and the company has no responsibility to control them. There are also cases of collieries, like Pahargora, that strangely did not get included in the official list that was made of collieries to be brought under government ownership at the time of nationalization. Similarly, Saltora in the nearby Purulia District was overlooked and omitted. This, too, was a way, though unusual, of ensuring the illegitimatization of these mines.

Underneath the formal processes and procedures put in place by the Government of India for the establishment of mines, lies an underground, unacknowledged, illegitimate, informal coal economy. It constitutes not just one particular sector within mining, but a complete economy by itself, with its own intricate networks and complex linkages going deep into every aspect of life in the regions where it is found. Not mentioning it does not amount to the elimination of this informal economy, however, at least in real life. Such mines remain, leading a subterranean life, so to say, breaking through to the surface now and then. Things repressed have a way of emerging from the depths, however, and their re-emergence almost always takes distorted and ugly forms — such as collapsed grounds, mine fires, or unclaimed rotting bodies — often not acknowledged by the administration.

2. Small mines and informal mines in India

Although it has been pointed out that small mines are not synonymous with informal mines, except in terms of scale, it is probably useful to discuss this issue a little further. In regard to smaller mines, the Indian national mineral policy states:

> "Small and isolated deposits of minerals are scattered all over the country. These often lend themselves to economic exploitation through small-scale mining with modest demand on capital expenditure and short lead-time, they also provide employment opportunities for the local population. Efforts will be made to promote small-scale mining of small deposits in a scientific and efficient manner while safeguarding vital environmental and ecological imperatives. In grant of mineral concessions for small deposits in scheduled areas, preference shall be given to the scheduled tribes."

These are lofty statements, indeed. How far these policies are actually followed on the ground is questionable, as certain minerals, like coal, are placed under exclusive state ownership and are thus outside the scope of the above policy.

About 55 minerals (excluding coal) are being exploited in India in about 3,600 working mines. Of these, about 400 may be considered as large mechanized, opencast or underground mines. The rest are small mines, or class B mines. It has been roughly estimated that the share of the small-scale sector is only about 8% of the monetary value of mineral products, but 18% of the total employment in mining (NISM, 1993, 1994). However, no data are available on total production from informal mines.

[8] A subsidiary of Coal India Limited set up in 1975 to advise on the development of mining technology and conduct research into the needs of the Indian coal industry.

[9] These are inventions of CIL apparently to satisfy the number of guidelines laid by the Government of India, Ministry of Environment and Forests (MoEF). EMPs are prepared and applications for forestry clearance made for coal projects for approval of the MoEF. For example, a Consultative Committee Meeting of the Ministry of Coal on 'Environmental aspects of coal mining' in 1992 had predicted that by the year 1999–2000 the bulk of coal in India would come from opencast mines. For this, overall perspective plans in relation to environmental degradation due to mining activities are drawn up for the major coalfields in the country and the measures to be taken to mitigate the adverse effects as well as steps that are required to ensure that coal is exploited in an environmentally compatible manner. Advance EMP for 10 major coalfields have been prepared and submitted to the MoEF, to act as guides for better implementation of individual projects (GOI, 1992).

Whatever their size, all mines in India fall under a plethora of government rules and regulations[10] — the Mines and Minerals (Regulation and Development) (MMRD) Act, Mines Act, Forest Act, Environment Act. With their, mostly inadequate, technology and problems of mobilizing financial resources, they suffer from innumerable handicaps leading to major inefficiencies, noted by Vicziany (1998), among others, as one of the main factors in their lacklustre ecological performance. The immensity of the mining sector bureaucracy encourages informal rather than formal operations. However, it is emphasized here, that the case of unauthorized or informal mining has nothing to do with small mines in general. Though many of the former may be described as the latter, not all small mines are illegal.

The International Labour Organisation is aware of unauthorized mining and lumps it together with other types of small-scale mining (Jennings, 1999; ILO, 1999). This is in tune with Indian planners who divide the minerals sector itself in terms of major and minor minerals, bringing up the size aspect as a logical corollary. How are small mines defined? Sahu described them as:

> "those whose production, or excavation quantity is limited in tonnage and not very large, mostly manually operated and sometimes employing machines to small capacity. Such mining activities are usually confined to deposits which are shallow in depth and small in extent" (1992, p. 8).

The salient features in this definition are small production, labour intensiveness, shallow nature of deposits and low technology deployment. Interestingly, many so-called large collieries of ECL would qualify as 'small' under this definition, especially if compared to the mines of other important coal producing nations.

Labonne and Gilman (1999) use the term 'artisanal' mining for the type of mining discussed here, but this term does not necessarily imply unauthorized. Artisanal mining operations share certain characteristics with informal mines — such as low levels of mechanization, labour intensiveness, and causing lesser social and environmental devastation. Labonne and Gilman identify artisanal mining operations as characterized mainly by low safety standards, poorly trained miners, large influx of migrant workers, low pay, low productivity, chronic lack of capital, mining ventures operating without concessionary rights, little consideration of environmental impact, and ignorance of mineral reserves. Informal mines share all these qualities, and are also not acknowledged by the law. The fact is, that informal mining has a specific and inherent value, especially for poor local people — it allows them to develop within their own capacities and potentialities, and to meet the demands of limited access to subsistence resources.

The questions, "How big is it?", How long does it last?" are the ones one usually asks in trying to define anything. These questions are so common to our society's accepted ways of conceptualizing, that the implied bias is not easily visible. The questions suggest, that size and duration — qualities that depend on scale — have a special value. Scale is indeed important — especially when dealing with physical structures. However, for an economic activity like mining in India, with its close social linkages, considerations of scale lead to no clear understanding at all. Relying on notions of scale conveys the impression that a large colliery is just a scaled-up version of a small one. This may be true of purely physical phenomena — a small hill and a larger one — but it certainly is not so in the case of human phenomena.

The concept of scale is so widely used in mining that it is hard to break out of the habit. Yet, instead of accepting the nomenclature as a *fait accompli*, we may rethink it. In popular language, scale classifications usually tend to obscure the unity or diversity across scales. Categorization often misleads and gives rise to a false dichotomy. Mining is an activity where humans interface with environment and development in complex and intertwining ways. Therefore, such categorization into large scale and small scale may not be useful.

3. Sharing the same space

If one travels around the Raniganj collieries, off the main roads, and talks to local villagers, one gets a feel of the enormous underground activity that goes on in the area. Several legal mines also have an illegal counterpart operation, with which they work in tandem. This is one aspect of the coexistence of informal mines, shadowing the formal ones, as in the case of Samdi and Sangramgarh. There are also cases, like that of Bansra, where 44 local brick kilns purchase the illegal coal mined from the 7 foot upper layer, whereas the 18–20 foot thick lower layer is worked by ECL. The important fact is that, besides individual mines on private land or operations in old abandoned mines, pilferage of coal from working mines, either on a holiday or in the darkness after working hours or from coal dumps, is a common feature. The space sharing between formal and informal mining thus goes far beyond the obvious physical aspects, and includes economic bonds as well.

There are other close linkages, too: formal and informal activities are integrally related to one another. In case of other informal activities, Joshi and Joshi (1976) noted the

[10] According to a Handbook on coal published by a local district administration, there are as many as 16 laws covering the entire gamut of mining activities. Important environment-related legislation relevant to mining includes: The Water (Prevention and Control of Pollution) Act, 1974; The Air (Prevention and Control of Pollution) Act 1981; The Forest (Conservation) Act, 1981; The Mines Act, Coal Mines Regulation and Circulars issued by the Director General of Mines Safety; The Environment (Protection) Act, 1986; Mines and Mineral Regulation and Development Act amended in 1988 making it obligatory on the part of mine operators to take environmental safeguards including reclamation of mined land.

existence of a large number of small producers operating on narrow margins in highly competitive product markets, selling a variety of goods and services mainly to low-income groups. The informal sector is also characterized by labour-intensive indigenous technology, low productivity of labour, lack of finance and credit from the banking sector, and the lack of official protection and benefits (ILO, 1992, 1972; Papola, 1981). There are clearly two distinct types of mining in Raniganj, and the fact that the informal mines are less visible, or illegitimate, does not necessarily mean that they do not fulfill an economic purpose, nor that the two types are not interlinked in many ways. According to Stavenhagen (1968), the two sectors represent the functioning of a single society in which two poles are integral parts, as they originate within the same historical process.

In Khaerbad colliery, for example, the two kinds of mining go on so close to each other that it is difficult to distinguish them. Extensive mine fires rage in Khaerbad, many since the mid-1980s, when an ECL bulldozer, endeavouring to stop illegal mining, sparked it off by causing a leakage of oxygen into the underground coal seams. The air in the entire surrounding area is thick with smoke and the ground is too hot to stand on for a significant length of time, even with shoes on. The ground has cracked in many places to let out the gases produced by spontaneous combustion. A nearby patch of sal trees — Rashulpur jungle — died of desiccation due to the fire underground. Mine fires have also been triggered by unauthorized mining in nearby Itapara and Begunia collieries, and in the Shankarpur colliery in the Bankola area. To keep a fire under control, the mine needs to continue operating and thus Jambad, previously an underground colliery, has now been turned into an opencast mine.

Another linkage that connects the formal with the informal is the distribution network. In Raniganj, large groups of men can be seen with their bicycles loaded with sacks containing some 150 kg of coal. They do not ride their bicycles, but push them, for tens of kilometres. In neighbouring Jharia, bicycle loaders typically carry 250 kg each, and may even take two days to travel from source to end-user, where they will sell the coal for about Rs150 ($3). All of this coal may not be illegally mined. It could also have been pilfered from the company depots or mines, or even dredged from coal washery wastes. Often this is accomplished with the connivance of officials, who take their commissions along the way.

4. Questions of safety and legitimacy

The main goal for the nationalized coal industry was to ensure a scientific approach to exploration and exploitation of coal deposits with due attention to safety, conservation and environmental aspects while accelerating the production level through substantial investment (Kumarmangalam, 1973).

An intricate network of organizations, institutions and officials in a hierarchical order was set up to ensure safety. In this elaborate arrangement, the question of risk perception on the part of villagers is never mentioned. It is never asked why people endanger their lives to the extent of going down into a mine without basic precautions.

There are four main reasons for accidents in informal collieries:

- Roof fall: either at the entrance, or at the work face, or related to blasting; or sidewall fall;
- Presence of toxic gases (CO_2 and/or CO) and lack of oxygen;
- Fire due to seepage of oxygen; and
- Inundation.

In Mahabir colliery, in a flooded mine abandoned by the ECL, local people cut coal standing in waist-deep water. As a result, the illegal collieries have a rather short-life span — never over five years. The most common accident is roof fall when the mine operations become deeper and bigger.

The legal–illegal nexus is evident in the cases of accidents too. Take, for example, the fact that the mining company still follows the conventional board-and-pillar system in most underground operations. In this system, the entire coal can never be lifted, as a significant amount of leftover coal has to remain to provide the structure. Neglect of proper sand-stowing of underground hollows often adds to the serious risk to the local built environment above ground (Lahiri-Dutt, 1999). Moreover, ECL leaves a mine as soon as it becomes uneconomic. The remaining coal is thus left for local villagers to scavenge upon, enticing them into a seriously risky situation. Instead of enforcing the existing legal safety net, the approach of the authorities is to illegitimize local communities.

Breaking open of sealed underground mines is quite common in Raniganj. What is significant is that the underground cavities, which should have been sand stowed, are often found empty. In New Kenda colliery in Jamuria, the presence of carbon monoxide in an abandoned underground colliery killed three members of a *santhal* family in November 2001. This happened close on the heel of the accident in Lalbandh, Barabani. At New Kenda, ECL had stopped work some time earlier, but had neglected to fill up the voids properly with sand.

5. Whose resource is it anyway?

Who are the illegal miners, scraping a living from the pits of peoples' mines? Thousands of people are involved in this economy. Although newspapers refer to the role played by the coal 'mafia', those involved are actually mostly ordinary villagers, mostly poor, struggling to eke out a livelihood at any cost. Immigrants and poor locals, men, women

and children, *adivasis* and caste Hindus are all part of the workforce. The work is undoubtedly labour-intensive, and the use of machines remains unknown, although explosives are often used to cut through the coal. These informal mines have extremely poor working conditions resulting in a high incidence of disease and mortality. There is a general lack of safety awareness. Indeed, safety is a word not often uttered where survival is at stake. Dust- and waterborne diseases are common among the labourers who often live in surrounding villages. Some diseases also occur from environmental causes (high levels of dust, for example, may lead to bronchial problems). The nature of the location and operation also leads to a high incidence of snakebite. Alcoholism is another major problem among the workers. Many local labourers are also inexperienced in handling cash, and often fall prey to local cheats. The low profit margins of these mines ensure that there is no regard for environmental regulations.

In Gourangdi Village in Raniganj, about 5,000 people work in shifts at a large unauthorized opencast mining operation. During the monsoon season, many of the mines are flooded and mining activities come to a halt. Most workers then move to agricultural work as wage labour. Migrants from Bihar go back to plant rice and the *santhal adivasi* switch back to their traditional role as agricultural labour in local fields. Thus there is an inherent seasonality in the nature of the work that suits the rhythm of the traditional local agrarian economy.

There are significant gender differences in the assignment of work. Women are usually restricted to lifting coal from old abandoned pits and quarries and some surface jobs. The family system of labour (Roy Chaudhury, 1996) that prevailed in the region till the early decades of the 20th century has survived in the collieries. Men cut coal, whereas women and children scavenge pieces from the overburden dumps. Women workers are usually concentrated in areas where the risk is less apparent, such as carrying the coal in headload baskets.

Wages are also unequal — Rs 25 ($0.50) per work day for a woman, going up to Rs 50–75 ($1.00–1.50) for a man. However, there is no pattern or fixed rate, and wages vary according to the situation, the season, or availability of labour. Work is usually not time-bound, as in the formal sector, and quantity or 'piece-rates' are more prevalent. In certain mines, there is a system of male labourers employing women under them to complete the piece rate job on a daily wage basis.

In Raniganj, a system of labour replacement called *badli* (exchange) has long been in operation. It means that a miner draws his full salary, but sublets his job to another person. This is because, even in the formal mines, working conditions are so poor that a labourer develops numerous health complications within 10–12 years and is forced to either retire or employ a *badli* — a worker from his family, kin or community. Thus, not only more than one person share a job, but also a significant amount of transfer of expertise takes place between the formal and the informal mines. These workers may in turn train another batch of workers, leading to a kind of local knowledge-sharing of the techniques of mining. Retrenched or retired mining company employees may also come in handy to provide needed consultation regarding seams and mining technology.

There is, indeed, a close formal-informal linkage in the coal mining sector in India. As the formal collieries cannot generate enough jobs, the peoples' mines provide additional work. Instead of flatly illegitimizing these collieries, their positive aspects must be recognized, and their collective strength tapped in innovative ways so that the rights of local communities to local natural resources are not violated.

6. Mining and access to livelihood resources

The case of informal mining opens up a very important public debate — one of far greater significance than might appear at first sight. In collective terms, the debate implicitly involves the lives, livelihoods, and futures of a significant portion of the population, straddling mining areas of developing countries.[11] This is not only a large number of people, but also the poorest and most exploited groups in the regions and countries (Fernandes, 1992). The agenda at hand, therefore, is much bigger than just nomenclatures, regulation or control. It involves the right to use common pool resources by which poor communities survive in rural economies. Informal mining and miners are a powerful symbol and reminder of a feudal past — a part of which continues in the present, existing too widely in India and other less developed countries. It is important that this debate is sustained and taken up as widely as possible, among academics, planners, international agencies and in civil society. It is important that a socially just and forward-looking resolution is found; and that authoritarian, restrictive so-called planning is not allowed to be imposed, under the pretext of controlling something that is wrongly termed a problem.

So far, there has been little or no genuine attempt on the part of dominant society to accept the poor and disadvantaged as a part of itself, in India or elsewhere. We need to accept the poor as equal and integral citizens. We need to develop our society also according to their needs, which are different from the dominant mining-urban-industrial forms, in a way that their disadvantage might be reduced. We need to find ways of making decisions that they can take equal part in. We need to change a social order where, at best, the poor are tolerated, where planning is done for them, according to what the dominant groups think is best for them.

Usually, however, this kind of planning means what the dominant centre thinks is best for itself, where the poor are not only exploited for their labour, but in addition, their lifestyle is frowned upon and their livelihoods are declared illegal. Then, even this illegality is exploited.

[11] Labonne (1995) touches on this issue.

Access to land, natural resources and food security seem to be among the central motives for unauthorized coal mining. In India, about 41% of rural households are either landless or semi-landless, i.e., having landholdings of less than 0.2 ha. Landlessness has increased over time, especially in areas of modern economic development, such as mining. The issue of access for poorer communities to local natural resources refers not so much to private cultivated land, as to uncultivated land, a large part of which might be under public ownership (Jodha, 1986). Diminishing of common pool resources, such as grazing land in a mining region, is directly responsible for unauthorized mining.

This research has identified three main factors responsible for rampant unauthorized mining in poor mining regions. They are:

- The attitude towards the resource;
- Operational/technical lacunae; and
- Mining-induced degradation of alternative occupations, including the destruction of subsistence livelihoods available to poorer communities.

These factors operate against a backdrop of migration into the mining regions from surrounding areas and a rising level of urbanization.

In the Raniganj region, the worldview of the *jungle mahal* communities has partially changed as migrants have poured in, and the modern conception of economic development has taken firm root. Development became one-sided, taking the single form of mining. Mines were equated with the way to prosperity, and thus assumed to be necessary and good. Mines descended on the region with their different economic linkages, and in the process nullified other linkages that had been nourished over the years by local communities. Local communities had little or no involvement in the operation of the mines, except that, for every two ha of land leased by the company, one job was offered in addition to cash compensation. Those who had worked as farm hands and wage-earners on that same land received nothing, and were turned into scavengers overnight. Families, who had more land but fewer people, began to sell jobs as land transfers tightened just before the opening of a mine. The lack of involvement of the local community, itself complex and stratified in many ways — by class, of course, and but also by caste — and the entrenched system of local political representation in the form of village councils, or *panchayats*, ensured that poor people remained poor or got poorer.

The mining company treated the local space as if it belonged to no one, and they became the first owners. Changes were brought about by a state-owned company, the state having the ownership of all natural resources falling within its boundaries and having the duty to 'protect' the land and people — from risks, uncertainties and insecurities. The snatch-and-grab worldview of the state thus percolated to the local level, even to individuals, who began to see the coal as a resource for economic advancement, and something that had to be owned at any cost, legally or illegally. Through this process, the physical resource of coal gained a symbolic meaning. It became the only element of nature that had value, even to local communities. Not the land, not anymore. Not the rivers. Not the trees. This was the attitude of company owners, the private entrepreneurs who mined the coal before the state took over.

When the state became the owner of the coal mines, this attitude remained unchanged. In addition, policing became slack and inefficient, triggering off a surge in unauthorized mining. During interviews with local workers, it was apparent to me that the mood is becoming defiant. The workers in the informal mines do not feel that their jobs are wrong or unlawful. They feel that it is good for the local unemployed to have the opportunity for work. In my view, this practice is one way of re-establishing the lost claims of the local communities over the land and its resources. When the local communities found themselves disempowered by the laws, and disenfranchised by the mining company, they began to extract as much as they could from the same land, the land they can no longer call their own.

The operational or technical aspects that encourage informal mines are easier to see, and more tangible, than the subtle attitudinal aspects mentioned above. Several corrective measures could easily be implemented by ECL. These include proper sealing of the entry points of abandoned mines and proper sand stowing to avoid risks to life and property. Unfortunately, such steps are seldom fully implemented (Lahiri-Dutt, 1999). The current practice is to put sand stowing only in the accounts and reports, resulting in the seals of old abandoned underground mines often being forced open by locals. Similarly, in open casts, a conjunctive use of both mechanical and manual technologies could be used with a little bit of imagination and goodwill. For example, the shallow thinner coal seam, often present in open cast mines of Raniganj and possibly of poorer quality, could be mined by using manual techniques by ECL. In this way, most of the coal would be removed from individual mines so that not much is left to scavenge upon. Above all, a set of best practice guidelines must be put in place, and needs to be enforced with active participation by the local community.

Finally, the agricultural sector in this mining region has fallen into neglect. The displacement of peasantry, not only physically as in certain cases of resettlement, but economically — from traditional occupations of subsistence agriculture — has resulted in large scale unemployment. At the same time, the livelihoods of poorer rural groups are being eroded as the agricultural base is being neglected. The economy of the region is now in a state of flux. From a traditional agricultural base, the working class and castes are gradually moving towards non-agricultural activities, especially mining. The transition in the economy may have some social and cultural manifestations, and unauthorized mining is possibly also related to those changes. This decay of the social-economic fabric had set in early (Paterson, 1910), but the displacement of peasantry has been extremely rapid in the last three decades of public

sector investment by the state. Between 1971 and 2001, both agricultural land and the representation of peasantry in the workforce of the region has steadily declined even in the non-colliery villages (Ghosh, 1996). A pauperization process of the *adivasis* and original inhabitants has taken place, in which traditional land rights have been lost and no new benefits have accrued. Thus traditional lifestyles have been disrupted and ordinary people have been turned into scavengers and criminals (Bengara, 1996).

7. A new moral economy?

In the Raniganj collieries, local communities find themselves isolated and excluded from the formal mining economy. Thus, they have tried to reassert their claims on land by means that are viewed as illegitimate by the state agencies. Poor villagers draw upon their traditional rights and customs when faced with attempts by the large mining companies to impose new, more contractual and market-based notions of rights and obligations. Scott (1985) pointed out these sorts of retaliations by poor, weaker and subordinate peasant groups against the more powerful, who often fail to recognize it as a kind of revolt. He argued that peasant rebellions could only be understood in the light of a peasant system of values, which is irrevocably linked to their subsistence requirements.

Scott looked at ordinary, everyday forms of peasant resistance. If one looks at the way the process of economic development in Raniganj has bypassed local, poorer groups, then an explanation can be found for the mushrooming of unauthorized mines. The dominant groups of society try to mould the mineral economies to suit their own ends at the expense of subordinate groups, who oppose this form with whatever means are available. Power underlies exploitation, not the relations of production. As a result, the economic superstructure must always be seen as a product of struggle, not as something preexisting or predetermined. Elite values do not penetrate among the poorer communities. The hegemony of the mining economy cannot avoid being the subject of conflict, and resistance is rooted in everyday material goals (not necessarily so called trade unionism), rather than in a revolutionary consciousness.

Seen from the opposite perspective, it is the mining company and associated formal economic forms that are breaking the traditional mores of local communities. Mining companies rationalize their exploitation of the poor and refusal to abide by the traditional dictates of community feeling and mutual help by denying the moral claims of the poor. They do not attack the shared norms of the village directly. The poor communities on their part desperately cling to a disappearing way of life. Thus the informal mines can actually be seen as a form of resistance to the mining economy on the part of local communities.

Mining companies tend to deny the relevance of traditional societal mores to the economic form they are pursuing. In contrast, peasants, too, defend selected (and sometimes even invented) traditions rather than simply drawing unthinkingly upon shared norms and values. The unintended collieries, therefore, are the grounds of contestations between the more powerful, formal, market-oriented, global economy, and the subordinated, informal, tradition-oriented peasant economy.

In 1993, E.P. Thompson proposed the term moral economy to refer to notions of legitimate and illegitimate (economic) practices, "grounded upon a consistent traditional view of social norms and obligations, of the proper economic functions of several parties within the community" (p. 188). In mining, moral economy stands for full recognition of a community's various rights and its informed and willing participation. In contests over the moral economy of the collieries in India, and in other countries of the world, the state and mining companies have failed to recognize the moral legitimacy of the claims of local people to have access to the resources of the land, including minerals. This attitude has intensified with increasing mechanization and capitalization. The relevance of the concept in mineral resource management is in recognizing the local community's rights over local resources. Much more is now required than a symbolic nod towards accommodating the local rights — such as that meant by 'consultation' by World Bank experts — especially if long-term economic development is to benefit each member of society. Local communities must reap the rewards of the natural endowment of their land.

Recent years have seen a widespread emergence of the belief that economic growth based on a large-scale and highly formalized economic structure is not the only way, and not necessarily the most desirable way of development. In the area of mineral resource exploitation, a fuller appreciation is now needed of the significant role of the community in local economies. These need to be incorporated in future plans, especially in mineral resources management. This is not an easy task — as Filer (2000) has shown in the Lihir mines of Papua New Guinea — but it must happen now.

The implementation of the moral economic philosophy, long overdue, will be difficult and lengthy, but is a necessity. Within the context of this article, a number of strong challenges arise once we take a closer look at these informal, unauthorized, unintended collieries. Uneasy questions arise about who participates in mineral resources management, in what activities and on what basis, who benefits and who loses out. Answering these questions would go a long way towards understanding the informal mines.

Acknowledgements

This article was finalized over many transitions; I was at Burdwan University in India while I first wrote it but was moving on to The Australian National University by the

time reviewers' comments reached me. I am thankful to the anonymous reviewers of the original version for their helpful comments though any errors remain entirely mine. Dr David Williams, my husband, provided the necessary 'scientific' output in terms of both form and content of this revised article. I am grateful to him.

Besides them, I would like to thank a number of people who provided me with data, insights and answers to difficult questions. Mr Sunil Basu Roy of CITU and Mr Haradhan Roy of CMSI deserve many thanks. Local villagers in Raniganj coalbelt taught me what is meant by the expression 'living dangerously' and showed me the real picture as against the myths propagated by newspaper reports and government statements. Thanks particularly to Jagai Mondal for carrying me to the remotest places in the back of his two-wheeler, and his wife Rebati for meals and shelter, and to Mr Joydeb Bannerjee for putting away his General Manager's hat and adopting alternative viewpoints. Above all, I thank Dr Katherine Gibson, Professor of Human Geography, The Australian National University (ANU), for the moral support and encouragement in writing this article. I also thank Dr Bryant Allen, Head of the Department of Human Geography, ANU, and Dr Colin Filer of Resource Management of Asia Pacific (RMAP) Programme for giving me a Visiting Fellowship at the RMAP in winter 2000 that widened my outlook on 'community' and 'community participation' in natural resource management.

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