



The People Dimension of Mining

An Overview of Issues around Workers and Communities

Keynote Paper for Working Session 5

Royal Government of Cambodia

International Conference on Mining: Staking a Claim for Cambodia

26–27 May 2010, Phnom Penh, Kingdom of Cambodia

by

Kuntala Lahiri-Dutt

Fellow, Resource Management in Asia Pacific Program

The Australian National University, ACT 0200

Australia

Email: kuntala.lahiri-dutt@anu.edu.au

1. Introduction

I thank the Royal Government of Cambodia and the UNDP for the opportunity to present at the First Mining Conference in the country. India’s association with the Royal Kingdom of Cambodia dates back to the early days of recorded history. I was brought up near a coal mining area in West Bengal in India and have many years of work experience on the social issues surrounding large and small mining in Asian countries, but I have also been fortunate to learn about mining in Australia and other parts of the world in one of the world’s best universities—the Australian National University. I am pleased that I am here to share with my Cambodian colleagues and those from other countries some of these experiences.

Conventionally, people living on (potential) mining leases have been seen as a part of the disposable ‘overburdens’ of mining operations by mining experts: a burden that has to be removed by the mining engineers in much the same way as the overburden that lies on top of the mineral before reaching the ‘real thing’—the gold, diamond, coal etc. Such ‘social blindness’ has become so entrenched that often my Asian colleagues, when exposed to international mining practices on community, express the feeling that many of the suggested measures ‘cannot be done in Asia’. The reason appears simple enough: we have too many people! ‘The people’, therefore, is seen as one of the problems in developing the mining sectors in most Asian countries. I am aware of your aim to develop the minerals sector in Cambodia. I will offer you an outline of the broad social issues in mining and the leading practices, most of which are now recognised as part of human rights and sustainable development framework in mining, and touch on how the ‘people dimension’ could be seen as an opportunity rather than a threat, and how people can be turned from trouble into treasures in context of this country. I will now delve into how it all started.

2. Protesting against Mining: Bougainville

One of the turning points in mining occurred in 1988 when armed groups of local residents began to vandalise the infrastructure in and around a large copper mine (Panguna mine, owned by CRA International, a sister company of Rio Tinto) in Bougainville in Papua New Guinea, eventually closing down the mine operations. Till today, the project has not been re-started in spite of continued consultations at various levels. The rebellion—as anthropologists have described the incident—has now achieved a mythical status in mining lore because it brought the importance of social dimensions to the forefront of the global mining industry. Such protests against mining projects are

still taking place, and there are many cases where mining has triggered social unrest. Bangladesh, like Cambodia, is trying to develop its mining sector; recently it had to shelve its large open cut coal mine project at Phulbari due to popular protests by local and national non-governmental organisations (NGOs) against its plan to displace farmers from fertile agricultural lands. Vedanta Aluminium Limited, a British-based but Indian-owned mining company, took up a lease from the Orissa state government to mine bauxite from the Niyamgiri Hills on the Eastern Ghat ranges in eastern India. The traditional owners of these hills belong to the indigenous Kondh community, who worship these hills and depend heavily for their subsistence on the soil, forests and water found on these hills. Their supporters filed a case against the project in the highest court of law in India and received a judgement that the company must not destroy the environment that provides livelihoods to indigenous people on their traditional lands. In fact, most of the recent conflicts in India between the state forces and local people are largely concentrated over the mineral-rich tracts in eastern India.

Speaking about the global picture, there is mounting evidence that mining deteriorates the livelihoods of the host communities, decelerates economic growth, interferes in local sovereignty, deepens disparities in wealth, exploits the workers and/or labourers and boosts corruption in resource-rich developing countries. It is important to recognise that these ill-effects can happen and they must be identified early and managed properly. Human rights organisations and NGOs have consistently maintained that the mining industry creates enclaves of wealth and deprives the local poor, pushing them further into poverty, while destroying local environmental resources on which these communities depend. These international and national watchdogs are increasingly assuming power and voice, and they cannot be wished away or seen as adversaries. It is important to recognise that the introduction of mining may bring wealth to a national government, but more often, this wealth is neither equitably distributed nor lead to enhancement of the sustainability of community livelihoods. Resource development projects yield much-needed revenues for a country at the national levels, but pose many problems and difficulties for the poor at the local community level. For example, population migration into project areas put pressure on local resources from the rapid rise in population leading to not only resentment but practical difficulties of governance. Often, relatively self-contained communities experience a loss of control, direction and security in their lives. One reason why local people feel resentful towards the migrants is because the outsiders usually have more cash and higher purchasing power than the locals. Urban influences brought in by the company workers include increases in drug use, gambling, petty crime, importation of weapons & pornography, prostitution and sexually transmitted diseases such as HIV/AIDS. Many of these ill-effects are borne more heavily by women who turn to sex work for a living whilst men earn the cash

incomes, get the jobs, and usurp more power in the community through consultations and negotiations (on things such as compensation) with the companies.

Is it the Law?

Such incidents and allegations draw attention to the laws around land and resource ownership in individual countries as one might want to ask: 'How is this legally possible?' It is possible because in many developing countries, governance, legislation and social controls are still relatively weak. Many laws around mining are complicated or are inadequate, and do not pay attention to contemporary realities of human rights. To give one example, land that is owned by the indigenous people in India is legally non-alienable, that is, non-transferable; but the Coal Bearing Areas Act (CBAA) takes precedence over this law. This means that if coal is found under land owned by the tribals, they can be evicted from that land. The coal mining industry was, until recently, owned by the state in India, but since liberalisation of the economy, private mining companies are also taking advantage of the CBAA. Not only in India, in many other countries the laws relating to natural resource ownership are rather outdated. They were created by colonial (or even post-colonial governments) governments to benefit their centralised control that do not reflect people's voices. In southeast Asia, the property rights vary. In Lao PDR, for example, all land belongs to the national community and the state protects the right of individuals to use, transfer and inherit their land use rights; 'use rights' for agricultural land and forest land is only valid for three years. Similarly in Vietnam, individuals are given rights to use land and transfer these rights. In Cambodia, under the 2001 Land Law, those who were occupying land at the time were given five years to complete to become recognised as legal land-owners. The Land Acquisition Act in India, was passed by the colonial government in 1893 and gives absolute power to the state to evict anyone, even by force, from their land for ill-defined 'public purposes'. When a multi-national or privately-owned mining corporation asks for a contract of work, or a lease, the question that arises is why would a sovereign government of a state support the interests of business over those of the people for whose benefit it exists? Part of the answer often reflects that the governments of many resource-rich developing countries also have the imperative for aiding economic growth, generating employment, of creating public infrastructure and technology transfer. But their primary responsibility should be to protect the interests of their citizens.

Legal Reforms

Consequent to the realisation that, in many developing countries, mining legislation is out of date or inadequate, there has been a great attention to reform them to match the policy of attracting and

facilitating mining investment. In Asian countries, large-scale mining was till recently carried out mainly by state-owned enterprises, domestically-owned private mining companies and transnational corporations. Previously, often ad hoc 'concession agreements' were developed in response to the specific mineral deposits, the needs of companies and projects. Some of these contracts have been renegotiated and 'model' mineral agreements have been upgraded with the accumulation of experience. In Indonesia, for example, several 'generations' of contracts have evolved since the 1950s. One can thus see a general strengthening of the regulatory aspects of mining agreements.

Most Asian countries have or are undergoing mining legislation reforms that attempt to regulate and accommodate contemporary changes. A lot more, however, needs to be done to protect the local people lest the low-skilled, the less trained and the poor of these countries are deprived of their means of livelihood while as a result of inviting mining investment. For this, deep social and cultural understandings of land and people are essential. In many parts of the world, people, especially indigenous people, have a strong relationship with land. Land provides not only food security and subsistence, but also a sense of belonging and connection with the past. Ownership of land, in the 'western' sense of the term may not even exist; large rivers shift courses and create and destroy land at their will, and wandering groups of people move in and out of areas practising swidden farming. Legal reforms done centrally use Western concepts of land ownership and may not recognise these Asian cultures, values and ways of life that developed over many centuries.

Need for Social Impact Assessments

Environmental Impact Assessments (EIAs) alone are not enough; there is a great need to understand the cultural and social contexts within which the mining operation is going to be situated and what the impacts of mining are going to be on the social and cultural fabric. Mining is not just about engineering, geology and technology; it is not enough to just give a business licence to a mining company. Just like geology and engineering, this social dimension is complicated, complex and difficult to understand. It requires expertise and training, and is not an area for mining engineers or geologists to work on. To give just one example, anthropologists, who have knowledge of Papua New Guinea society, have differently interpreted the Bougainville case. Papua New Guinea is somewhat different from the erstwhile colonial countries of Asia; there the 'land owners' also reserve the rights to the mineral resources that lie under their land and receive a certain share of royalty. In trying to explain why they still stopped the mine, Professor Ciaran O'Faircheallaigh thought that the landowners were not adequately compensated. Another expert, Dr Colin Filer, disagreed and explained that the indigenous communities who live around the mine had not been

used to the cash economy, and the sudden influx of cash and exposure to modern ways of living led to social disruption, leading to a spontaneous and violent outburst. Whatever is the 'correct' interpretation, the incident shows how sensitive the issue of indigenous people's relationship to land is and highlights the importance to understand this relation before starting a mining project. The violent protests by indigenous people also triggered a number of significant and concerted global efforts by the international policy-making bodies on mining.

Policy Responses

Initially, the Global Mining Initiative (GMI), a group that presented the commitment of the mining industry to human rights, labour standards and good environmental practices was launched in 1999 to promote sustainable development at the World Summit on Sustainable Development in Johannesburg in 2002. Further pressures on the mining industry led to the formation of the Mining, Minerals and Sustainable Development (MMSD) project which was supported by nine major mining companies. This project produced research reports, series of working papers and created new dialogues between different stakeholders. The International Council for Mining and Metals (ICMM), established in 2001 as an industry peak body to create a 'credible global sustainable development framework', has now published 10 broad operating principles for the mining industry. ICMM has been entrusted to develop a series of guidebooks and toolkits (which are available electronically from their website <http://www.icmm.com>). These guidebooks cover a wide range of social issues such as how to undertake community development, or how to deal with indigenous communities, and so on. A major and strongly-felt motivation behind development of these toolkits was *the lack of expertise within the mining industry professionals* (because social concerns are not part of their core business) to comprehend the depth and significance of the adverse impacts of mining projects on the society and culture

The now completed Extractive Industries Review (EIR) findings have further repercussions. It was followed by the Extractive Industries Transparency Initiative (EITI) that encourages all countries to disclose their mineral revenue incomes. One can safely note that these processes were the direct policy response to increasing charges of not only environmental concerns but also the irresponsibility of mining companies to care for the social and cultural changes caused by them around their areas of operation.

Industry Initiatives

These policy processes have forced some global mining companies to accept that legal compliance alone is not sufficient. Many industry associations have initiated efforts to educate the mining

engineers to learn more about social issues. For example, the Mining Association of Canada offers practical knowledge about the indigenous communities on its website. As a result of the growing awareness of the social dimensions of mining, some international mining corporations now explicitly address broader social justice objectives, local and indigenous employment, security and human rights, sustainable livelihoods, culture and heritage, the need for undertaking social impact assessments, ethical procurement and stakeholder and/or community consultation. Rio Tinto has recently published a 'Gender Guide' for which I was an Advisor. Many international mining companies now regularly hire social scientists, anthropologists and even gender specialists for advising on good practice integrated management of social and environmental issues around their mine sites. For example, my university has a linkage with the Indonesian coal mining company, Kaltim Prima Coal, which is one of the largest coal producers in the world, to ensure that gender considerations are ensured in the community development projects undertaken by the company.

Global Mining Capital Meets Poverty

One of the defining features of mining expansion in recent decades is the fact that mining is expanding into less developed countries in Asia, Africa and Latin America. This fact was noted by the final MMSD report, titled *Breaking New Ground: The Report of the MMSD Project* published in 2003. China and India are the second and third largest coal producers and Chinese mining companies are aggressively acquiring shares in well-established multinationals. Given their population sizes and the need for resources, one can assume that mining will further expand in these countries. Big businesses, often incorporated in richer countries, are expanding their operations in developing countries where the mining sector is just beginning to establish itself. In developing countries, modern industrialised mining has given rise to social and environmental problems that are costly if not addressed. In these countries, rich mineral deposits are found in high population density areas on fertile and urban lands that offer relatively low land acquisition costs but high social costs.

The main concern about mining expansion in less developed countries is Mining-Induced Displacement and Resettlement (MIDR), which can further impoverish the poor. For example, in India alone, mining has displaced more than 3 million people; they have lost not only land, but have faced other difficulties such as joblessness, homelessness, marginalisation, food insecurity, loss of common lands and resources, increased health risks, social disarticulation, disruption of formal educational activities and loss of civil and human rights. In India, the mining-displaced population generally do not have significant amounts of property or assets; they are usually landless or marginal farmers who belong to poor Scheduled Caste (SC) and Scheduled Tribe (ST) communities that form the lowest strata of the society. According to an estimate by the Commissioner of ST and SC, over 40

percent of those displaced up to 1990 came from these communities, even though the tribal people make up less than 8 percent of India's total population.

The transformation (in areas of mining expansion) of traditional and self-sufficient societies into dependent and less powerful actors have serious consequences on their food security. These consequences have been well documented in many parts of the world, and have led to a complex debate on whether or not 'mining is good for development'. Mining is certainly good for business but more often than not, it leads to the erosion of autonomy of local communities. The abundance of minerals is seen as nature's endowment, a 'blessing' for the nations and the basis of its economic wealth. Economists have shown that revenue incomes from mineral royalties may actually be a 'resource curse', causing decay in all other sectors of the economy and turning the country dependent on commodity prices that are controlled globally by more powerful nations. Whilst mining can provide a modest source of employment, and a source of revenue that developing countries can allocate to address health, education and infrastructure needs, there is also a growing amount of evidence that such mineral endowments can be fatal for the poorer and weaker people in less developed countries.

In summary, *four central concerns* that have emerged in terms of poverty and mining are: the right to ownership and control of territories by local and indigenous communities, the rights of self-determination through informed consent, participation and engagement, the right of the local and indigenous groups to represent themselves through their own institutions, and the rights to have food security. Unless means are developed to ensure that these concerns are met, mining will invariably lead to social unrest and protests even when it may be beneficial for some stakeholders.

Social Licence to Operate

This brings us to the concept of 'social licence', which is different from a business or environmental licence. The final MMSD report (2003: 5–6) noted:

The mining and minerals industry faces some of the most difficult challenges of any industrial sector—and is currently distrusted by many of the people it deals with day to day. It has been failing to convince some of its constituents and stakeholders that it has the 'social license to operate' in many parts of the world, based on the many expectations of its potential contributions.

Not only is this true of the poorer nations, even in more developed countries mining operations are beginning to acknowledge the rights of local people not only to know, but to engage and participate

in formulating decisions about mining. This is the concept of 'social licence', an extra-legal, abstract and ethereal concept. It is defined as:

[T]he recognition and acceptance of a company's contribution to the community in which it operates, while moving beyond meeting basic legal requirements towards developing and maintaining the constructive stakeholder relationships necessary for business to be sustainable. Overall, it comes from striving for relationships based on honesty and mutual respect. (DITR 2006)

So far, the concept of a social licence has been seen as being largely outside the 'core business' of mining. That is no longer the case. A social licence fundamentally changes the manner in which mining companies do business. Put simply, it implies that a means will exist for society to monitor and measure a project, and company performance throughout the lifecycle of a mining project.

To earn the 'social licence to operate' in a developing country like Cambodia the first and foremost objective would be to build trust between the state, people and business. In this country, where the bulk (~80%) of the population is rural and thus has strong attachments to the land, this seems to me to be an imperative. Further, there are more females than males amongst the workers, and a significant proportion (~30%) of the households are female-headed, attention to gender issues would also be a 'must'.

3. Through a 'People Lens': What is Mining?

I have so far spoken as though mining is only an intensely corporatized entity, with highly embodied capital whether owned by private or public, operating with high level of technology in a large-scale manner. But this view of mining is misleading if one looks at it through a 'people lens'. Mining, through a people lens, not only reveals the community of people living in and around a mine site being affected by mining operations, but also reveals mining as an industry or an economic activity, an employer of people. There is no doubt that the expansion of mining creates jobs in the mining industry. It is important, however, to remember that modern, capital-intensive, mechanised mining offers fewer jobs per tonnage of production than before. In modern mining, productivity depends on the use of machines and big scaler technology, consequently employment opportunities tend to decline. The mining employees, like those in other industries have workplace issues, safety concerns and rights. Since at the beginning of industrialised days, mining used to be a very risky and rough job, the International Labour Organisation came forward with a number of conventions and protocols to protect the interests of mineworkers. In each country, the trade unions and the

governments have laid out labour laws and factory laws which apply to the mineworkers to protect their interests.

In comparison to agriculture or services, however, the mining sector as a whole employs a very small number of people. ILO estimated in 2002 that mining employs only less than 1 per cent of the world's workers. ILO data show that 60 per cent of world mining employment is based in Asia, which as expected is mostly concentrated in China. One can conveniently say that there are people *external* to mining and *internal* to mining. Earlier, many mining engineers thought about this 'internal view' of mining when they spoke of a 'mining community' and excluded the communities living outside the mining camp. Although the mining workforce remains an important part of the 'people dimension', the communities living on and around large and small mining operations have gained importance in recent decades. There is, however, a need to understand mining as a whole, and here it would be relevant to deviate slightly and talk about the long history of mining as a human endeavour, as an economic activity.

Asia's Rich History of Mining

Mining as a human endeavour is many thousands of years old; it began during the Middle Stone Age at around 5000 BCE, and gave us Bronze and Iron ages, making human civilization possible. Important milestones in human history were all achieved with minerals providing a major incentive. Mining formed the basis of the technical developments of 'renaissance engineering'. Columbus, landing in the Americas, noticed that the 'natives' were wearing gold ornaments, the Portuguese found in Brazil that the fish-hooks were made of gold. The colonies became the source of raw materials, not necessarily bulky products such as iron ore but provided wealth from valuable gold, diamonds and gemstones. Modern, industrialized mining fuelled and sustained the industrial revolution, and the expansion of European imperialism initiated mining in the settlements and colonies. Mining on an industrialized scale has largely finished in Europe due largely to cheaper imports and the shift of heavy industry to other countries, although the United States, Canada and Australia remain major mineral producers amongst the 'western nations'.

Asia has a mining history of great antiquity. For many centuries mining flourished throughout the continent, but was scattered and relatively small scale and artisanal in nature. The enormous diversity of Asia's mining history, extraction characteristics and mineralogy is truly amazing.

Interestingly, in most Asian countries, colonialism in the nineteenth and twentieth centuries transformed mining by introducing modern industrial operations. Although colonial mines did not

represent an area of capital entry on the scale of agricultural plantations and industries such as jute, they were significant in bringing the Asian countries into contact with Europe. Coal was located in eastern India as early as 1774; collieries started functioning fully after the requirement of coal by railways in mid-1800s. British Malaya and Dutch Indonesia rapidly became the world's largest tin producers. Coal from French Vietnam formed an important part of global supply. Moreover, these early colonial-era mines began a pattern of mining-led 'enclave' type development within Asia. Even as a 'modern' industry, Asian mines did not have entirely similar industrial relations as in European mining industry. Although labour was wage-based, often family units prevailed, rural and feudal relationships were extended from the villages into the mining industries. However, safety concerns, wage issues and other kinds of exploitation in the mining industries gave strength to trade union movements in these countries.

The same mining development model was followed by some independent countries such as Siam (now Thailand), whilst Japanese coal production expanded rapidly after the Meiji Restoration. This old history of mining has helped to create the situation today in which some Asian nations are dominating the production of a number of minerals in the world market. This pattern of mining and production expansion continued well after the colonised countries became independent, although by the late twentieth century there were some notable changes in the overall mining profile. Tin mining in Malaysia and coal mining in Japan have both ceased and coal mining is now more significant than tin mining in Indonesia. However, farming has remained the predominant occupation and, excepting some central Asian countries, the rest of Asia is not 'mineral dependent' in that the mineral output as a proportion of gross domestic product (GDP) is low or the value of minerals in relation to exports is not high or their general level of economic development is not dependent on mining (MMSD 2002: 45–46). Nevertheless, the outputs from mining are seen as important influences on the development trajectory. Here one needs to stop and consider: 'Given this long history of mining and people's connections to land, what kind of mining may take place in Asian countries?'

Artisanal and Informal Mining (ASM)

In Asian countries such as Cambodia, where 'modern' mining on a large-scale is still a relatively new development, there is also another kind of mining, which is collectively known at the international fora as Artisanal and Small-scale Mining (ASM). ASM can also be described as 'informal' mining as the mining is just an extension of the informal economy into the mining sector in most developing countries. ASM can be either a continuation of traditional modes of life, or be a more recent development that the peasants take up to earn seasonal and supplementary cash incomes or to seek

respite from economic or environmental shocks. As per a recent (2005) report by Communities and Small-scale Mines (CASM), an international body on ASM hosted at the World Bank, as many as 25–30 million rural people in the world depend on mineral extraction for their subsistence and living. Hentschel et al, who wrote the MMSD report on artisanal and small-scale mining in 2002, estimated that about 300 million people rely directly or indirectly on ASM. ASM takes place all over the less developed countries where the miners use a diverse range of informal, artisanal and small-scale modes of mineral extraction practices to dig up earth resources starting from low value materials like sand, clay and gravel, to coal and stones, to high-end minerals like gold and cotan and precious and semi-precious and precious gemstones. Today, the reality of ASM is so huge that it can no longer be dismissed as 'illegal' or ignored.

This is because of two main reasons, the numbers of people involved in ASM and the contributions that ASM makes to sustain the livelihoods of poor people—whether in Africa, Latin America or Asia. Globally, large, incorporated, mining companies are insignificant in terms of employment of people; many more people make a living out of extracting minerals out of the earth's surface through informal and artisanal mining. Throughout the developing world, ASM contributes to the livelihoods of a large number of people and is generally a poverty-driven and self-perpetuating activity. ASM also produces an important segment of global mineral output and contributes significantly to the global economy. Sometimes, as in the case of Peru, ASM may contribute more to a country's total mineral production than formal or large-scale mining.

The main criticism of ASM comes from the environmental side and has been the key element of the anti-ASM attitude in the past. The problem with ASM is that although at an individual scale the operations are small, they collectively produce a significant environmental impact. The impacts arise from deforestation and destabilisation of the earth's surface, use of hazardous substances as well as soil erosion, siltation in river systems and, above all, from mercury use in gold processing. Mercury use by ASM miners result in the contamination of the water sources and processing of gold with mercury affects the health of these miners. ASM coal mining in India, for example, leads to coal seam fires. In Indonesia, informal coal mining in forested areas such as Kalimantan leads to forest fires. Poor people may take serious risks to their body or pose threats to the environment in order just to survive. In a recent study of informal mining in Prey Meas, Ratnakiri province of Cambodia, it was found that physical dangers like a mineshaft collapse were more threatening than mercury to miners. Even physical risks may seem irrelevant to them; in Mongolia, the ninja miners ignore extreme sub-zero temperatures to dig and pan for gold throughout the vast and cold grasslands.

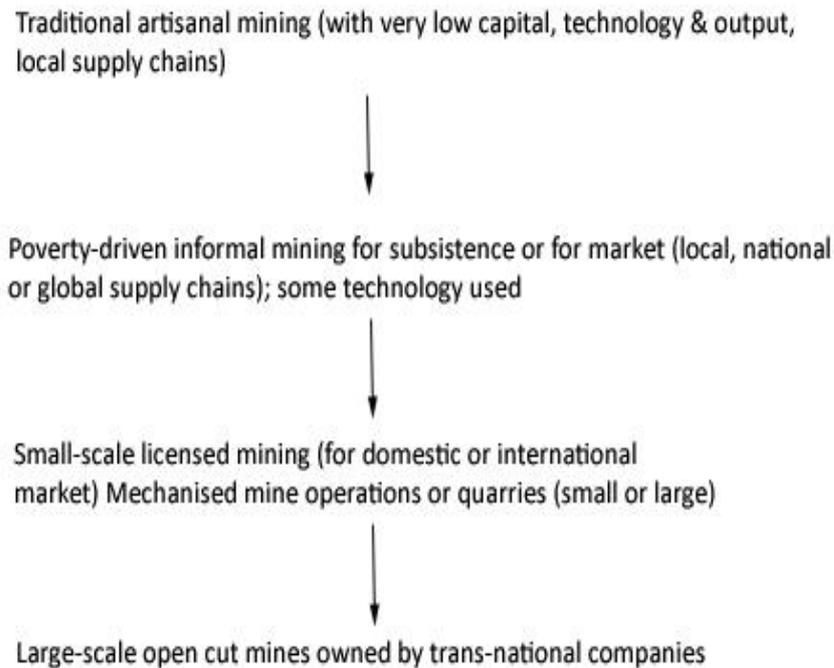
The other criticism of ASM is that being informal and difficult to trace or control, ASM does not yield revenues for local or national governments. Mining technologists used to believe that low productivity and low efficiency of ASM prevent these miners from paying taxes, and grappled with ways to improve the technology. Nevertheless, such pure environmental, economic or scientific understanding of ASM exclusive of the social context within which it is practised neither led to solutions of these problems, nor were the policies based on these understandings able to stop informal mining.

ASM has a complex relationship with large-scale mining. Such mining often indicates to the existence of mineral reserves where detailed geological mapping has not been accomplished. Artisanal mining may even have been going on for many generations, but the governments prefer to deal with large-scale miners due, at least in part, to convenience—because it is easier to deal with one company rather than a number of small producers. Large-scale mining can also attract ASM around its leasehold areas. Most commonly in these situations, large-scale mining companies find themselves in conflict with small-scale miners who operate within or around their projects. Driving them away has proven impossible; the informal miners come back later or start digging up another area nearby. As the understanding of ASM as a poverty-driven activity deepens, new ways of dealing with it are emerging. Instead of enhancing the conflicts, there are many examples from throughout Africa to show how large mining companies are now innovating new practices of mutual co-existence rather than using police force to stop ASM.

This brings us to the fact that ASM also has a complex relationship with the state. Sometimes national mining legislations do not even recognise ASM and treat all of it as illegal, even if such mining has existed for generations. In some countries, such as in Indonesia, 'people's mining' recognises only low-impact artisanal mining on ancestral land. More generally, mining legislation in most less developed countries were formulated in consideration of only the large-scale capitalised form of mining, and hence does not accommodate ASM adequately or at all. This makes informal mining illegal and drives it literally 'underground' but does not stop it. Many problems of sustainability in ASM therefore arise from an overall inadequate legal and regulatory framework. Since the late 1980s high prices of almost all minerals, but particularly gold, have resulted in a series of 'new gold rushes' in several locations in the Asia-Pacific, such as Indonesia or Papua New Guinea. Rising coal prices have driven the impoverished people to coal mining thus creating a 'shadow economy' of coal in India and Indonesia. Economic stagnation in rural areas and the degradation of environmental resources have forced many poor people to find subsistence through ASM. It has now

become necessary for governments to understand informal mining through the 'people lens' and to make space for it in the legislation.

The following diagram attempts to give a rather generalistic picture of the wide range of mining practices. Clearly, usually there is an attention on only one end of this continuum.



Types of ASM

Given the complexity of the activity, ASM can be put in a number of categories:

- Traditional ASM by indigenous communities (such as gold mining in Sumatra or diamond mining in South Kalimantan or diamond mining by indigenous communities in Panna, India). These activities may be conducted through the use of rudimentary technology, and skills may have been passed from one generation to another.
- 'Rush' ASM due to rising commodity prices (such as coal in South Kalimantan, but gold mining throughout Brazilian Amazonia and Africa is the best example). In such mining, migrant, itinerant, mining communities move from one place to another and may even use sophisticated technology and chemicals for processing, depending on the complexity of supply chain.

- 'Push' ASM caused primarily due to sudden environmental shocks or disasters displacing the poor from subsistence-based livelihoods (such as the wandering shepherds of Mongolia who began to dig for gold after four successive harsh winters destroyed all their herds).
- Poverty-induced subsistence ASM caused primarily by the need to supplement low incomes from seasonal agriculture with additional cash (such as some gold mining in Lao PDR or post-economic reforms rushes for gold-mining in sub-Saharan Africa).
- Environmental degradation or displacement-induced ASM in which chronic or gradual deterioration of the subsistence-base have forced people to seek a livelihood from ASM. Often this kind of ASM is illegal and occur in or around the leasehold areas of large mines.

However, it is important to bear in mind that this is just a tentative classification and in most cases, a combination of these factors may be the driving factors.

Formerly, the general attitude of most governments was to turn a blind eye to informal or see it as an illegal activity. This is gradually changing, through more intensive research on who these people are, the labour structures and organisation of activities, the processes employed and the supply chains of the commodity production. A more sensitive and informed approach is needed towards informal mining than the top-down approach of clamping down by the police force. The global consensus is moving to the recognition of ASM as a poverty issue which must be addressed through a comprehensive approach through a fuller appreciation of the range of complexities involved—of mineral resource rights, environmental governance and labour. For example, many kinds of exploitation exist within ASM. A large number of children work in informal mining throughout the less developed countries. This is clearly against the human rights of these children and must be stopped. However, it is important to remember that for the poor, who see and use their family as a 'unit of labour' to survive against all odds, employing a child in family-based production is a subsistence strategy and is difficult to stop with only legislation. Often in absence of formal schooling, working in family-based production allows skill and knowledge transfer from one generation to another, and thus has a great value for those involved. Similar issues around child labour are apparent in Cambodia; as per an ILO-IPEC report published in 2008, over 76 per cent of child workers in 5-14 years age group are in agriculture, working as unpaid family workers (90 per cent boys and 91 per cent girls). Without addressing poverty, it will be difficult to tackle child labour in isolation in ASM.

In summary, one can say that instead of 'regulation' of informal mining, therefore, there is a great need to understand the social-cultural-historical-legal context of such mining better. In addition, there has to be a more intensive effort towards 'regularisation' of ASM rather than

regulation. This can be done and indeed is being done through the establishment of co-operatives and through various other means to help governments to earn revenues from ASM and to protect its peoples from exploitation.

4. Gender: Looking at People as Women and Men

We have so far been talking about people as a homogeneous group. But, as we all know, that is not the case: race, ethnicity, age and sex play important roles in forming people's identities. One important area of the 'people' dimension is gender. Women are as much part of mining as men—within the industry as workers, and outside in the community as productive citizens. Let us first look at women as part of the mining industry.

Contrary to popular perception, historically mining has been characterised by the involvement of women. Women have been in the mines with men, as part of the family labour unit, from early times. Agricola's authoritative book, *De Re Metallica* published in sixteenth century, portrayed women as breaking and sorting of ores, hauling and transporting them, smelting and processing and sometimes even undertaking the physically-demanding job of working the windlasses. Women's work in mines, however, fully flourished after the industrial revolution in European countries such as the United Kingdom (UK). Women worked in underground collieries in the UK pulling sledges or tubs along the pit floor from the coalface to the bottom of the shaft or at the pithead. In the coal mines in Belgium, women coal-mine workers came to be known as *hiercheuse*, connoting the feminine version of *mineurs*, the male miners. In colonial India the modern coal mines that flourished during the colonial times also depended heavily on women's labour, often as part of family labour units. Male workers were known as *coolies* while women were called *kamins*. In shallow inclines and in underground mines, women operated the engines and were known as 'gin girls'. Women formed a major part of the colliery workforce in Japan until around 1946. In more recent times, modern mechanised mines have hired women to operate trucks and other heavy equipment, not only in the USA and Canada, but also in Indonesia and Papua New Guinea. Often these jobs in large-scale mining offer higher salaries and more secure wages, and are better than the usual 'feminine' jobs in the service sector.

Masculinity that is commonly associated today with modern mining, is largely a result of prohibitions imposed against women workers in industrialised mining in 1920s by the ILO. At that time, working conditions in most mines were extremely poor, safety was minimal and accident rates were high. At the same time, there were moral views of what women should be, where they should be, and in what kind of jobs they should be involved. Most of these ILO conventions, banning

women from working in mines, have now been abolished, and the introduction of Equal Employment and Opportunity principles has re-opened the mines as workplaces for women. There are many women driving trucks in not only North America, but closer at hand, in Indonesia and in other countries. In expanding its mining sector, it must be ensured that both women and men benefit equally from mining, and that the mining jobs do not go to only men. This is important because more and more evidence is accumulating from social impacts experts that the negative impacts of mining around the world fall more heavily on women. Women bear the burdens of the ill-effects disproportionately heavily, primarily due to the different gender roles that women and men play in communities and in families. When new job opportunities are created, these cash-incomes are taken up by men whereas women are pushed into more home-based activities. Modern and international mining companies also bring with them new values and mores; often these values see local women as weak and powerless, and also strip them of their social status and destroy the advantages they have conventionally enjoyed. The mining companies should take into account the need for equal involvement and benefits for both men and women, validating women's strong roles and social status within their communities.

Throughout the world, some salient features of women's work are emerging. One of them is the prevalence of women's labour in the informal economy. This feature is also present in mining—there are more women working in informal mining or ASM than in large-scale mines. We are aware of the exploitation, insecurities, hard life and poor wages that workers in the informal sector experience, and evidence is increasingly accumulating that although women work in great numbers in informal mining, they neither own land and mineral resources, nor receive equal wages or status as to male workers. Again, I must make mention that experts recognise that instead of just throwing women out of ASM and making them more vulnerable, there is a need to support and assist their livelihoods, and indeed efforts are underway to support women in ASM communities in a number of countries. It would be beneficial to explore possible ways to strengthen women's roles and livelihood contributions in ASM communities.

To understand more about what mining can do for the society and gender in a country like the Royal Kingdom of Cambodia, I did some background research. I found that 65 per cent of rural households are either landless or land poor (owning less than 1 hectare, according to the Cambodia Socio-Economic Survey 2004) with a surfeit of women and many women-headed households. I also read (from a World Bank report) that gender relations in Cambodian society are undergoing tremendous change. While the culturally defined behavior norms for women, known as the *Chba'p*, constrain their opportunities outside of the household, new economic, social and political

developments are opening up new opportunities for them. As Cambodian women pursue these opportunities, they are becoming a more integral part of the country's economic and social development. However, gender inequalities are endemic in Cambodia's labor markets. Traditional attitudes towards girls' education and 'appropriate' occupations for women and men have shaped existing inequalities and continue to perpetuate disparities in employment. Achieving greater equality is extremely difficult within the context of the shift to a market-oriented economy, rapidly growing labor force, and limited new employment opportunities. Women make up 52 percent of the workforce and Cambodia's female labor force participation rate, which is 82 percent, is the highest in the Southeast Asian region. Women outnumber men in the labor force in all age groups from age 15 to 54, with the exception of those in the group age 25 to 29. Because Cambodia's population is largely rural, in 2001, 85 percent of the total labor force lives in rural areas, and of this, 53 percent of the work force is female. Fifty-three percent of economically active women, as compared to 32 percent of economically active men, work in the unpaid family labor category and almost all of them are agricultural workers. The paid employment market in Cambodia employs only 16 percent of the economically active population; 19 percent of men and 14 percent of women (the majority of women work in the garment sector). Whilst men are moving into a wider range of better-paid positions outside the agriculture sector, these options are largely limited for women who work either in the garment industry or in the informal sector. Outside of the agriculture sector, there is a pronounced segregation of occupations by sex: men tend to take up waged employment (61 percent of men and 33 percent women in non-agriculture employment), while women are more likely to be engaged in trade (49 percent women in non-agriculture employment). Choices in employment for both men and women are shaped by their level of education, but women's lower educational attainment affects their employment opportunities. Clearly, when new mining companies start doing business in this country, it will be important for them to remember these facts, and ensure that Cambodian women are not turned powerless but are provided with greater opportunities to take advantage of the new economy.

5. People in the Mining Project Cycle

Mining engineers and mine planners think about mining as occurring in a cyclical manner, generally known as a 'project cycle'. In my experience, it has been useful to use terms and concepts that they can understand more easily to explain the importance of people. In this presentation, let me explore the people dimension through the different stages of a mining project cycle:

- **Exploration:** This is the stage when geologists drill and search for mineral deposits. It is important to try and begin to understand the social and cultural landscape of the area during this time, so that the original inhabitants are identified, their customs and cultural practices recognised, understood and respected. It needs to be remembered that not only the minerals underneath the ground are important, but also the people living on top of them. Many of these people have been living on that land, using the resources such as trees, water and soil for generations, whereas the explorers, the outsiders, are responsible for not causing decay in the cultural fabric of the community life. If the methods for mapping mineral exploration are adopted by geologists, social and cultural experts need to be invited to map out the local communities. What can be explored at this stage about the community? The livelihood patterns based on the five capitals (natural, human, social, physical and financial) and strategies to cope with change, ownership of resources and power dynamics of different income groups, ethnicities and genders. This will be the time to understand the capabilities, assets and activities of the community. Their livelihoods can only be sustainable if they can cope with (and recover from) the stresses and shocks, maintain or enhance the capabilities and assets, while maintaining the natural resource bases.
- **Deposit Evaluation:** In this stage, a cost–benefit analysis evaluates the feasibility of extracting minerals. At the same time, Environmental Impact Assessments (EIA) are made. In many large mining projects, an evaluation of how some of the benefits from the mineral resources can be delivered to the local people begins at this stage. The benefits can be in the form of economic benefit such as royalty or incomes from jobs, but can also be political and social benefits such as power and prestige though these should be distributed in an egalitarian way. This is when 'Prior and Informed Consent' should be obtained from the community, and would be an appropriate time to begin community engagement. Consultations with local communities should begin at this stage and revenue-sharing arrangements and agreements, if any, are made. It is important to ascertain that local power dynamics are not disrupted whilst establishing the mine, but at the same time equitable measures are introduced carefully. This is particularly important about gender equity. For example, whilst involving the community, it is important to remember that women must also sit in these consultations and be actively involved in the negotiations so that they are aware about what is going on, feel a part of it and are not pushed into marginal roles within the community.

- **Mine Planning:** This is the stage in a mining project cycle when Social Impact Assessments or SIAs and social mapping surveys are usually made. This is also the phase to undertake Cultural Impact Assessments to identify any potential harmful or negative impacts on the traditional cultures of the local community. It is during this phase that physical relocation, if needed to construct a mine, is undertaken. Therefore, all resettlement and rehabilitation (R&R) planning should be an integral part of mine planning. The R&R planning should remain careful to avoid throwing the already poor families into 'new poverty'. This is also the time to plan for the expansion of the settlement, the increase in numbers of population that is going to soon follow as the mine starts operation both from mine employees and those migrating to look for work at or around the mine. The objectives of the community development plans should be to enhance the capabilities of the community (to diversify livelihoods and opportunities), to improve equity (of incomes and gender by prioritising those who are the weaker, such as the poor, women and minorities), and to increase social sustainability so that external shocks are reduced and safety nets are put in place to protect those who are poorer and more vulnerable to stresses and shocks.
- **Construction:** In this stage the actual mine and all related infrastructures, such as buildings, roads, camp sites, conveyors, ports, and so on, are built. The offices are established in or near the mine site. It is important that appropriate departments are established and given power to deal with community needs. The mine should be continuously engaged with the community to mutually devise ways of safeguarding the ecological health, economic stability and community well-being throughout this phase. For example, gender-based community-needs surveys can indicate what are seen as important needs by women and men in the community, and these surveys can be the bases of suitable intervention measures. For example, men may want jobs in the mines whereas women may express the need to have good access roads, credit to set up business or schools to educate children. It is important to remember the two kinds of gender needs—practical and strategic—and the fact that although most women might express the desire to have practical needs met, it is also critical to address their strategic needs so that their productive roles within the community are recognised.
- **Mine Operation:** This is the 'working life' of a mine and goes on till all the economically extractable minerals are exhausted. Often the focus has been purely on the 'mining community' or the workers and their families living around the mine, focusing on improving working conditions, safety and special provisions (such as schools and housing and recreation) for them. However, by this time, the area around the mine has grown sizeably in

population as large numbers of people usually migrate to be near the mine site. These migrants come in search of jobs or other economic opportunities, or just to avail of the benefits of better infrastructure and facilities or urban amenities. A little village may experience rapid migration and find itself turned into a 'boom town' with its population multiplied several times. Formerly, as mineral deposits finished and mining ceased, ghost towns were left behind, and the entire economies of the area collapsed as families and communities broke up into fractured pieces. To prevent this from happening, this is also the time to help the community to prepare for the eventuality of mine closure. This is best done by developing the strength and equipping the community to sustain its livelihoods when the mine is gone. Livelihood projects, training and education, credit to set up small businesses and income generating activities are to be developed to appropriately suit the local conditions and contexts, such as the local geography, economy, society and culture.

- **Mine Closure:** As the mine begins preparations for the eventual closure, the engagement process needs to intensify and more consultations are required to prepare for the eventual completion and closure, and the departure of the mine. Whilst environmental rehabilitation and restoration processes are taken up by the environmental experts and mining engineers, intensive community engagement can ensure that people are not left behind in a limbo. During this time, post-closure activities are also planned and processes put in place. For example, the Keliyan Equatorial Mine in central Kalimantan undertook an elaborate community engagement process to prepare the villagers living around the mine for the closure of the mine. This process started well before the actual completion of the mining activities, and some development projects are carried out even to this date, well after the mine's closure.

6. Conclusion

To summarise the content of this presentation, I have drawn attention to the fact that people are both internal and external to mining, and that any large project must ensure the continued well-being of people who are part of a project and are living around it and being affected by it. I have drawn attention to the fact that 'people' are not homogeneous – they have diverse needs, interests and attitudes to mining. Above all, 'people' are gender differentiated into women and men, performing different tasks in their different roles in the communities. I have also drawn attention to the diverse nature of mining itself as a human endeavour and the fact that often informal mining is not accommodated adequately or at all in legislation. There is a great need for sensitively dealing

with informal mining in today’s context of rising mineral prices, stagnating rural sectors, poor job or cash income opportunities in a less developed country like Cambodia. Finally, I have laid out how at different stages of the project cycle, a continuous engagement with the communities around the project can be built. This engagement is far more than just a few ‘community development’ projects under the rubric of Corporate Social Responsibility (CSR). In fact, the aim of a large mining project is to build a strong community that is able to help its members to sustain their livelihoods even well after the mining project has ceased to exist.

In conclusion, one can visualise a continuum of processes in which the ultimate goal is to empower the community to look after its own interests. This is quite different from the ‘patron-client’ relationship that is at the core of some CSR activities or the adversarial relationship that has tended to dominate the relationship since Bougainville. The empowered community is one that helps the mining company to address the sustainable development principles correctly and adequately, and eventually to look after its own interests rather than having to depend on the company for community well-being. This is expressed in the following diagram that represents the continuum from information to empowerment.



(Source: www.iap2.org.au)

An important, indeed, crucial feature throughout managing resource extraction is transparency. Information should be readily shared with the community, even if in times of adverse events. Successful communication at every stage of mining project cycle would also mean that transparency is ensured.

I have listed some resources for those interested in reading further on this subject.

Thank you for your attention.

7. Some Resources

Books and Reports

Ali, Saleem 2004. *Mining, the Environment and Indigenous Development Conflicts*, University of Arizona Press.

Ahmad, Nesar and Kuntala Lahiri-Dutt 2007. Missing concerns: Engendering mining displacement in Jharkhand, *Gender, Technology, Development*, 10(3): 313-339.

Ballard, Chris. 2001. *Human Rights and the Mining Sector in Indonesia: A Baseline Study*, MMSD Working Paper 182, London: MMSD.

Centre for Science and Environment 2008. *Rich Lands, poor Peoples: Is Sustainable Mining Possible?* CSE, New Delhi.

Deb, Mihir, Garima Tiwari and Kuntala Lahiri-Dutt 2008. Artisanal and small-scale mining in India: Selected studies and an overview of the issues, *International Journal of Mining, Reclamation and Environment*, Vol. 22(2), pp: 194-209.

Haselip, J. and G. Hilson. 2005. 'Winners and Losers from Industry Reforms in the Developing World: Experiences from the Electricity and Mining Sectors', *Resources Policy*, 30(2): 87–100.

Heemskerk, Marieke. 2000. 'Gender and Gold Mining: The Case of the Maroons of Suriname', *Women and International Development Working Paper*. 269. Available online at <http://www.wid.msu.edu/resources/papers/pdf/WP269.pdf> (accessed on 31 December 2006).

Hentschel, T., F. Hruschka and M. Priester. 2003. 'Artisanal and Small-scale Mining: Challenges and Opportunities', Global report on Artisanal and Small Scale Mining, International Institute of Environment and Development (IIED), London.

Hilson, Gavin and C. Potter. 2005. 'Structural Adjustment and Subsistence Industry: Artisanal Gold Mining in Ghana', *Development and Change*, 36(1): 101–31.

Hilson, Gavin. 2009. 'Small-Scale Mining, Poverty and Economic Development in sub-Saharan Africa: An Overview', *Resources Policy*, 34(1–2): 1–5.

Hilson, Gavin. 2003. *The Socio-Economic Impacts of Artisanal and Small-Scale Mining in Developing Countries*. Place: AA Balkema Publishers.

Hinton, Jeniffer J., Marcello M. Veiga and Christian Beinhoff. 2003. 'Women and Artisanal Mining: Gender Roles and the Road Ahead', in Gavin M. Hilson (ed.), *The Socio-Economic Impacts of Artisanal and Small-Scale Mining in Developing Countries*, pp. 161–204. Lisse: A.A. Balkema Publishers.

Lahiri-Dutt, Kuntala (ed) (Forthcoming in late 2010) *Gendering the Field: Towards Sustainable Livelihoods for Mining Communities*, ANU E Press.

Lahiri-Dutt, Kuntala 2003. Informal mining in eastern India: Evidences from the Raniganj coalbelt, *Natural Resources Forum*, 27: 68-77.

Lahiri-Dutt, Kuntala 2004. Informality in mineral resource management in Asia: Raising questions relating to community economies and sustainable development, *Natural Resources Forum*, 28(2): 128-132.

Lahiri-Dutt, Kuntala 2006. May God Give us Chaos, so that we can Plunder’: A critique of resource curse and conflict theories, *Development*, 49(3): 14-21.

Lahiri-Dutt, Kuntala 2007. Coal mining industry at the crossroads: Coal policy in liberalizing India, in Gurdeep Singh, David Laurence and Kuntala Lahiri-Dutt (eds) *Proceedings of 1st International Conference on Managing the Social and Environmental Consequences of Coal Mining in India*, November 19-21, New Delhi, India, Indian School of Mines University, Dhanbad, pp. 27-40.

Lahiri-Dutt, Kuntala 2007. Illegal coal mining in eastern India: Rethinking legitimacy and limits of justice, *Economic and Political Weekly*, Vol. XLII, No. 49, December 8-14, pp. 57-67. Reprinted in 2009 as a chapter in Sanam Roohi and Ranabir Samaddar (eds) *Key Texts on Social Justice in India: State of Justice in India, Issues of Social Justice*, Sage, 294-323.

Lahiri-Dutt, Kuntala 2007. Roles and status of women in extractive industries in India: Making a place for a gender sensitive mining development, *Social Change*, December, 37(4): 37-64.

Lahiri-Dutt, Kuntala 2008. Digging to survive: Women's livelihoods in South Asia's small mines and quarries, *South Asian Survey*, 15(2), pp. 217-244.

Lahiri-Dutt, Kuntala and Martha Macintyre (eds) 2006. *Women Miners in Developing Countries: Pit Women and Others*, Ashgate, Aldershot.

Mining, Minerals and Sustainable Development (MMSD). 2003. *Breaking New Ground: The Report of the MMSD Project.*, Earthscan, London.

O'Faircheallaigh, Ciaran and Saleem Ali 2008. *Earth Matters: Indigenous Peoples, the Extractive Industries and Corporate Social Responsibility*, Sheffield: Greenleaf Publishing.

Yakovleva, Natalia. 2007. 'Perspectives on Female Participation in Artisanal and Small-scale Mining: A Case Study of Birim North District of Ghana', *Resources Policy*, 32: 29–41.

Websites

<http://www.angloamerican.co.uk/aa/development/society/engagement/seat/>

<http://www.commdev.org/content/document/detail/909/>

<http://www.empoweringcommunities.anu.edu.au>

<http://www.icmm.com/>

[http://www.ifc.org/ifcext/enviro.nsf/AttachmentsByTitle/p_resettle/\\$FILE/ResettlementHandbook.PDF](http://www.ifc.org/ifcext/enviro.nsf/AttachmentsByTitle/p_resettle/$FILE/ResettlementHandbook.PDF)

http://www.mining.ca/www/Public_Policy_Issues/Documents/Aboriginal_Economic.php

http://www.riotinto.com/documents/ReportsPublications/Rio_Tinto_gender_guide.pdf

www.asmasiapacific.org

<http://www.artisanalmining.org/>

'People Dimension of the 10 Principles of ICMM'

01. Implement and maintain ethical business practices and sound systems of corporate governance.
02. Integrate sustainable development considerations within the corporate decision-making process.
03. Uphold fundamental human rights and respect cultures, customs and values in dealings with employees and others who are affected by our activities.

04. Implement risk management strategies based on valid data and sound science.
05. Seek continual improvement of our health and safety performance.
06. Seek continual improvement of our environmental performance.
07. Contribute to conservation of biodiversity and integrated approaches to land use planning.
08. Facilitate and encourage responsible product design, use, re-use, recycling and disposal of our products.
09. Contribute to the social, economic and institutional development of the communities in which we operate.
10. Implement effective and transparent engagement, communication and independently verified reporting arrangements with our stakeholders.

(Source: <http://www.icmm.com/our-work/sustainable-development-framework/10-principles>)

8. Acknowledgement

I would like to express my grateful thanks to Dr Colin Filer for his thoughtful comments and to Dr David Williams for his scientific inputs.