CHAPTER 7

THE CONTROL, USE, AND MANAGEMENT OF LAND

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Sustainable development, as described in Chapter 1, assumes the involvement of communities in decision-making, the observance of the principle of subsidiarity, respect for the principle of prior informed consent freely given and arrived at democratically at the local level, and a respect for cultural diversity. Perhaps nowhere is the need for dealing with the complex changes required by sustainable development more acute than in relation to decision-making around land.

Individuals may have strong opinions about how land should be used, who should use it, and who should derive benefits from it. The same land is also part of the sovereign territory of a nation-state, and governments may have different views from the occupiers about how land should be used – and who should have the right to use it.

Little surprise, then, that the discourse about land and its use for mining has been particularly contentious, because even though the global 'footprint' of mining is relatively small (mines occupy no more than a fraction of 1% of Earth's land surface – much less than forestry or agriculture, all of which also have profound impacts on communities, ecosystems, and land use) mines can only be located where there are mineral deposits. This means conflicts often tend to be not over how to conduct mining, but whether a deposit is to be mined at all. Disputes over land and mineral resource ownership have three fundamental sources: lack of recognized rights, lack of capacity (including resources), and lack of trust.

This chapter looks at the challenges posed by competing land uses, tenure and compensation regimes and the need for equitable decision-making, and focuses on three specific issues in this contentious debate that highlight its complexity: indigenous lands and mining, resettlement issues, and mining in protected areas.

Land and Society

More than 50 years ago, in *A Sand County Almanac*, American ecologist and conservationist Aldo Leopold wrote: 'The fallacy that economic determinists have tied around our collective neck and which we now need to cast off is that economics determines all land use. This is simply not true.'[1] This captures in part the nature of the problem facing developers, whether of mining or other economic activities. A contemporary definition of economics recognizes 'economic capital' as synonymous with 'a multidimensional store of value', yet too often the earlier and more limited definition influences the decision-making process.

Looked at in terms of sustainable development, a system of land use must be based on at least three things:

- It must look at land as a multidimensional store of value capable of yielding a stream of economic, social, environmental, and cultural benefits indefinitely into the future.
- It must take a long-term view, one that does not discount the future to a point of meaninglessness.
- It must be people-centred, including more than those who 'own' the land or the mineral rights.

There is a hierarchy of ways in which those who will be affected need to be involved in making decisions about land and its use.

- *Information* – At a minimum, there are times when people should be informed of pending activities that could change the way land is used.
- *Consultation* – Anyone whose use and enjoyment of benefits from land could be affected by development has a right to be consulted; this includes those who have a vested interest in land and sites of spiritual, cultural, and natural significance. It involves ensuring that the persons consulted have access to the information necessary to develop an informed opinion, time to evaluate that information, and the ability to ask questions and get them answered.
- *Participation* – This implies a more formal process that is generally appropriate when some legally recognized interest is likely to be affected by the decision. Most environmental and socio-economic impact assessment processes fall into this category.
- *Compensation* – Discussions about compensation are appropriate when individuals or groups are required to surrender recognized legal or traditional rights for what is determined by government (through legislation, judicial decisions, or the issuance of permits, for instance) to be for the common good. Compensation may need to take more than one form: fair compensation in a cash economy may not compensate people for losses in a subsistence economy.
- *Right of veto over decisions* – Individuals or groups have the right simply to say 'no' to some land use

decisions. Some of the most difficult disputes are over the extent to which local or provincial governments, indigenous or tribal groups, or local communities claim a right to say no to development. National governments often resist such assertions. The right to say no, where it exists, is effectively coupled with the right to receive some of the economic rent from the activity.

Even if all the aspects of land use decisions are properly handled, there will be differences of opinion and the need for a decision-maker who is respected and accorded legitimacy. When there is no such individual or group, sustainable development requires attempting to create one: local communities, legal experts, and others need to develop arbitration, dispute resolution, mediation, and other appropriate mechanisms.

Land use disputes may occur throughout the chain of minerals exploration, production, processing, and use. Metal recycling plants, coal-fired power plants, lead refineries, iron foundries, and landfills leaching cadmium from discarded mobile phone batteries are not always welcome as neighbours, even by those who benefit from their products or the employment they create. But some of the most difficult land use issues are probably those related to mineral exploration and mining. This is because there is considerably more flexibility in siting downstream facilities, which tend to be located where there is already other industrial activity and where ecosystems have been altered by the multiple impacts of human activities. (See Box 7–1 on one attempt to improve performance during the exploration phase.)

There may be a widely shared perception, however, that few if any other land uses are consistent with mining. Yet mines are a temporary use of the land, which, if managed well, can revert in some cases to other uses following best-practice rehabilitation.

The first and perhaps main point of contention is that the surface rights to land are under either public or private ownership in most countries, whereas the mineral rights are generally owned solely by the state. The state then grants those rights to mining companies through concessions or permits. These are often granted as a matter of right to those who meet criteria specified by law. At this stage, in some jurisdictions, other affected parties often have no right to consultation; at other localities, they wield sufficient power to stall the development The holder of the concession or permit generally has the right to take as much of the surface as is needed to gain access to the minerals, regardless of the preference of the surface owner or occupant.

Box 7–1. Environmental Excellence in Exploration

The initiative known as Environmental Excellence in Exploration, or E3, initiated by a consortium of mineral exploration companies and driven by the Prospectors and Developers Association of Canada, has been designed to help improve environmental performance throughout all phases of global minerals exploration.

By pooling company expertise and filling in gaps in knowledge, E3 will encourage sound environmental management practices by the exploration community and improved education and understanding of this by stakeholders. The initiative recognizes that exploration crews and their contractors, as the first people into an area, must be capable of creating a positive impression through the manner in which they manage and mitigate environmental impacts: failure to do so can jeopardize the licence to operate afforded to companies by the local community and others.

The E3 project will document best practices drawn from international experience. An E3 database and e-manual (which will enable rapid access by those 'on the ground'), will be available by subscription and will be continuously updated. E3 will also act as a source document to educate the public and government and non-governmental stakeholders as well as a training tool for companies and their contractors.

Source: Prospectors and Developers Association of Canada, at http://www.pdac.ca.

Usually there is a system for providing at least some form of compensation to the surface owner. But these systems do not always work. Most often, consent of the people who live on and make their livelihoods from the land is viewed as unnecessary, as they have no right of decision. The government therefore has generally not sought permission for the use of community land, and the rights of occupants, both formal and informal, have been abrogated. As a result of this history and recent high-profile cases of conflict, miners often find themselves cast in opposition to local communities, tribal peoples, conservationists, non-governmental

organizations (NGOs), and other civil society groups promoting a range of land use outcomes that do not include mining.

Equally, while many of the issues around land use decision-making are cast in terms of the place of national sovereignty versus local community rights, the role of local politics in all of its forms should not be downplayed. Land and compensation issues are powerful campaign material and lend themselves well to manipulation designed to achieve political outcomes that ignore the realities of a local situation. Unscrupulous politicians can use any issue to unfair advantage, but few issues incite such passion as that of land rights and compensation.

Mining is therefore embedded in the context of a much broader discussion of rights and responsibilities, of political power and marginalization, of competing world views and ways of viewing land. Land access and management pose some key questions, including the following:

- *Land use planning* – What principles and practices should underpin the notion of integrated land use planning? How does mining fit into an integrated land use policy that includes the recognition of passive uses, such as conservation? What post-closure land use decisions must be made at an early stage to ensure an adequate scoping of closure issues?
- *Tenure* – What principles should govern interaction between the mining sector and communities where land is owned collectively or under traditional systems of landownership? What legal and administrative mechanisms need to be in place to establish legitimate ownership under traditional systems, and to discourage opportunistic land claims?
- *Equity* – What principles and practices should govern company negotiations for access to land that is occupied by people who do not have the capacity to defend their rights to land?
- *Compensation* – Who should be compensated, and by how much, for which kinds of uses of land? What form should this compensation take?
- *Governance* – What governance structures need to be in place to ensure that land use decisions do not harm the occupants of the land and do least harm to the environment, while still allowing development to take place when its conditions have been negotiated by all parties?

Integrated Land Use Planning

Mining presents a particular set of challenges in terms of land use. Exploration, for example, requires access to large tracts if there is to be a reasonable chance of success in finding new mineral deposits. Second, as noted earlier, there is little flexibility in locating mines.

Third, if there is to be investment in exploration and mining, there must be security of tenure. This has been a principal element of the reform of mining codes that has been a major World Bank policy initiative in the sector and has led to new legislation in many countries.[2] As William Vaughan and Michael Bourassa point out, 'what really matters is that there is a transparent, non-discriminatory system in place for the granting of mineral tenure, a judicial system which protects that mineral tenure against all third parties and the state, [and] that the holder of the mineral exploration rights has the sole and exclusive right to exploit any commercial deposit discovered'.[3] This is not to say that the right to mine is predetermined, but simply that when granted, it should fall in the first instance to the company or individual who has conducted the exploration and who then gets first right of refusal.

Gaining access to suitable land can be difficult for a number of reasons:

- Increased human populations place demand on land for many alternative uses that may be seen as inconsistent with mineral development.
- Many of the areas in which industry operates have relatively intact undisturbed ecosystems.
- Many of the suitable areas are inhabited by peoples with distinct cultures, with different views of the value and use of land, and with livelihoods tied to subsistence activities that may be disturbed by development.[4]
- Cultural differences may lead to conflict; the most common one may be the emphasis placed by traditional peoples on occupation, usufruct rights, and communal labour and ownership versus the private ownership conferred by the state through legal title held by individuals and organizations.
- For indigenous groups, the strength of social, culture, and philosophical ties to land associated with traditional activities may mean irreversible cultural impacts when mining occurs. Loss of land may engender a loss of social and spiritual integrity.

It may also seem to be part of a process that has gone on for centuries and has seen the erosion of aboriginal land rights when the dominant community identifies economic resources it wants to use.

- The community may regard land use as an intensely local issue, while the concession to exploit minerals may be granted by central government authorities that are regarded as unaccountable, and offer little or no consultation with local people. It is hard for mining companies to stay 'neutral' in such situations.
- The reality of land management is that there are multiple decisions going on all the time about the maintenance of ecosystem integrity, stable and functioning communities, and infrastructure that interact with specific land use decisions.

A fundamental dynamic here is that local people want to retain rights and systems of management while government often wants to transform or acquire greater control over local resources. It is a question of power – effectively, within local systems, people may own land, and access to it is negotiated through a mix of social as well as economic channels. People seeking land must often make formal representation to a village council. National governments may seek to undermine and override these systems, and companies have at times collaborated in this.

An integrated approach to land use management recognizes competing interests and attempts to negotiate the most appropriate course of action, bearing in mind the ecological and social limits of the area. (See Box 7–2.) In an ideal world, integrated land use planning requires, first, a solid database about current land uses and land use potential. Establishing this can be complicated by imperfect information: the mineral potential and many other values of the land – from the wildlife species that inhabit it to its support of livelihoods of local villagers – are not well known by the planners. Second, the needs and preferences of those currently based on the land need to be canvassed. Third, a negotiation or arbitration mechanism is needed that seeks to balance local, regional, and national priorities. A mechanism is also needed to compensate those affected by development or by the loss of land or land-dependent livelihoods – or to resettle those who may be displaced.

The starting point of this discussion is a clarification of the issues associated with land tenure and minerals

Box 7–2. Integrated Land Use Management in Manitoba, Canada

One example of an attempt at integrated land use management is being tested by the Government of Manitoba in Canada through the Land Access Action Plan, which is aimed at improving coordination of land use policy and regulatory proposals.

The action plan is an attempt to circumvent land use conflict by minimizing the overlap of incompatible land use allocations. Key elements of the plan include the early settlement of First Nations land claims under the Treaty Land Entitlement Process and the transfer of some Crown Lands to Reserve Status for First Nations. Within 30 kilometres of a reserve, land is designated as a Community Interest Zone (CIZ). Minerals claims can be staked within the CIZ, but must be reviewed by the First Nation concerned in the adjacent reserve.

Cabinet-approved regulatory and policy tools also protect other lands of high minerals potential, which are delineated as Mineral Exploration and Development Areas. Provincial Parks, Wildlife Management Areas, and Forestry Areas are subject to their own management regimes.

Source: Government of the Province of Manitoba (2000).

tenure. In the case of mining, locking up areas of land under prospecting or mining licences – which can discourage investment in other productive activities on that land – is also a source of tension. A compensation regime needs to address the opportunity cost of not being able to work land that is taken out of the normal cycle of use through the uncertainty created by prospective mining development.

Land Tenure and Mining Law

Increasing scarcities of land, alternative land use, tenure issues, concerns over environmental protection, community involvement, artisanal mining, NGO pressure, and aboriginal land claims have all increased the transaction costs of access to land for mining. Sustainable development brings new and complex issues into the traditional negotiation of interests in mineral tenure.[5]

Land title, in the most legally binding form, is an individual property right that bestows the right to use and dispose of land, usually limited only by contemporary planning and other laws that prevent certain types of use. Beyond this owner-occupier variety of tenure, found chiefly in western industrial societies, systems become increasingly complex. In much of the world, tenure rights are based on tenancy: people obtain rights to use land through payment to a landlord in labour, cash, or crops. This system prevails in parts of the industrial as well as the developing world; share farming, for example, has become increasingly significant in US agriculture. In other places people obtain a usufruct right simply by occupying and using common land.

There are many and varied collectivist systems; these include both state collectives and villages where individuals cooperate in a communal approach to the division of land. There are also institutional forms of land tenure, in which land is owned by a private company that uses wage labour. Many tenure systems are complex combinations of these approaches, such as the *latifundio* or *hacienda* estate system commonly used for agricultural production in Latin America or the extremely complex clan-based land tenure systems found in much of the Pacific.[6] Many rural communities and indigenous groups place greater emphasis on land security than land rights. 'Security' encompasses a much broader set of rights and obligations than those bound up with formal regulations related to landownership.

A mining or exploration concession granted by a central government without local consultation, therefore, may not be simply an occasion for conflict over who wields the decision-making power, but an indication of the way in which many traditional systems of occupying land have been subordinated by formal rights-based systems of law. These formal systems have often originated in the West and are preferred by many national governments and multilateral lenders. In local communities that operate on traditional land use systems, outsiders do not have the right to show up with drill rigs without permission. When exploration companies do this – and worse, are supported by the national government – it can be a profound shock to the community. On the other hand, governments often have real concerns that a community right to say no gives priority to local wishes over those of national sovereignty, undermining the role of government and the primacy of the nation-state.

Land tenure is often a mix of formal legal components and informally accepted normal practices that are not well protected in law. Inherited and traditional tenure systems have recently been seen as an obstacle to progress, particularly where the state or private enterprise has wanted access to traditional or communal lands. New tenure systems are then often imposed against the wishes of the occupiers and without respect for the principle of freely given prior informed consent from users of the land.

Issues of tenure often relate to conflict between what is legal and what is considered legitimate and illegitimate at the local level. Just as national law may not recognize local traditions and practices, local people may regard national law as largely irrelevant, which in fact it may be, until something like a mining project forces some kind of decision to be made. Legislation is often used selectively to legitimize the claim of one party while delegitimizing the claims of another. Equally, in many jurisdictions, awarding a mineral right or right to mine is effectively awarding a land right, because despite any legal distinctions the land is removed from other productive uses for generations, and other rights cannot be exercised during mining.

In addition, in many places institutional structures with respect to land are very weak; land title systems are confusing, unclear, and imperfect; legal compensation mechanisms may not be regarded as fair; access to justice for resolution of disputes may be illusory; native land claims may be hard to define and debatable among the various actors – even among different aboriginal or indigenous groups; and government apparatus may lack capacity, be corrupt, or simply be indifferent to the rights of local people or ethnically distinct communities or to the purposes for which protected areas were created.

For mining companies, as noted, the predominant concern with regard to land is security of minerals tenure: the ability to develop a deposit once located. Yet for other stakeholders, and in particular communities, there is no automatic 'right to mine' afforded to a company: this is something that has to be earned. Companies may also have to acquire the surface rights of a lease area by negotiation with private owners or the state, as well as rights of way and easements.[7] Law related to mineral tenure consists of

rules for the allocation, maintenance, transfer, and termination of mineral rights and establishes the rights and obligations of the holder.[8]

In Latin American countries with a tradition of civil law and a *regalian* system, states have unrestricted and exclusive dominion or proprietary rights over their mines.[9] In countries with a code based on civil law, proprietorship over the land does not extend to the ownership of the minerals of the subsurface. Even if a limited private property in land is recognized in states with a socialist legal tradition, it almost never extends to minerals. In countries with a common law tradition, generally the owner of the land owns the minerals located in the subsurface.[10] However, even in many of the common law countries where mining is important, such as the United States, Canada, and Australia, a large proportion of mining occurs on lands held by the government – 'public domain' lands, 'Crown lands', or the like – where private surface occupants, if any, are usually government tenants who can be required to leave in favour of mineral development.

Market economies have tended to encourage mineral investment by providing security of tenure for mining companies. In most but not all countries, rights of tenure are generally vested in a company only after compliance with particular conditions, such as the payment of fees, submission and acceptance of a feasibility study, and compliance with technical, financial, and environmental prerequisites. To deal with these requirements, companies seek explicit rules and procedures for tenure and a minimum of bureaucratic interference.

Most countries, in the race for investment, have liberalized their mining codes – strengthening private mining rights and security of tenure, streamlining procedures, and minimizing state intervention. These changes, along with relaxed laws on the repatriation of profits and foreign ownership, have encouraged multinational players to reinvest in many countries previously ignored. The essence of the Chilean code, for example, is the reduction of discretion in the exercise of government authority, with the limitation of bureaucratic intervention at the core of its legitimacy and the provision of security of tenure and stability.[11] The Peruvian and Bolivian mining codes have unified the exploration and exploitation rights into a single concession, leaving to the investor the decision on when and how to start mining.[12]

Photograph not shown

So countries have tried, often with assistance from the World Bank Group, to create legal regimes that provide more-efficient administrative systems for gaining access to land for companies that meet the requisite criteria; such regimes are established to minimize uncertainty, delay, discretion, and corruption. At the same time, however, in some locations local people are increasingly restive over systems that can at any time cost them their land, sometimes without notice, and their opportunity to be heard, as well as with systems that threaten to leave them a good deal less well off.

The world's legal systems are full of provisions that recognize pre-existing traditional or legal systems where these have broad support among the public and a long history of working well and meeting social objectives. Unfortunately, in the view of many NGO commentators, mining code reform has tended to emphasize uniformity among nations and has sometimes in practice been hostile to traditional land tenure systems.[13]

There is nothing wrong with wanting the clear rules, trustworthy dispute resolution mechanisms, and prompt decision-making often required by the new codes, as long as these respect the rights of stakeholders to be involved. Until they do, it will be difficult to reach decisions that they accept and trust. A lack of trust, in turn, will undermine the security of investment that mining code reform has sought to achieve.

It is primarily the role of the state to define the rights of landowners and occupants and to ensure that the

mining sector recognizes these rights in negotiating land access. It is at this stage that provisions of the mining tenure regime should come into play. For governments, the main challenge with respect to tenure is the clarification and recognition of informal but legitimate landowner/occupier relationships with the state and negotiation with the occupants of a suitable management regime for such lands.

Problems arise for a variety of reasons. One is simply that some societies have never resolved long-running conflicts. Land is claimed by indigenous people, for example, but there have been few clear settlements in which a government has recognized those claims: Voisey's Bay in Canada stands as one example. The issue may never have been a pressing one because there was little incentive to quarrel, but once there is some question about who controls a mining operation and who gets its revenues, latent conflicts can quickly escalate. Other questions relate to the building of capacity to administer such management regimes, but these are secondary to establishing the political momentum to recognize the land tenure rights of communities. Often the problem is a failure of governments to reconcile local and national interests around the development of natural resources.

For companies, explicit recognition of the right of communities to know about proposed developments and respect for the principle of prior informed consent freely given and arrived at democratically would make significant inroads into addressing the mistrust that many communities and, in particular, indigenous landowners have of mining companies. One commentator at an MMSD workshop noted that companies should always treat communities as if consent were required, so that advantage is not taken of statutes designed to oppress or remove the rights of communities.

A key question for governments and industry is the extent to which environmental or sustainability regulations will be woven into the process to obtain mineral rights, as in Venezuela, or be completely independent.[14] In the latter case, failure to meet certain operating obligations is punished by administrative sanctions rather than by cancellation of a mining right.[15] Although some Latin American countries treat mining licensing and environmental permitting as separate regimes, there is an inextricable connection between the law on use of the resource and the regulations that lay out conditions and restrictions for that use to be sustainable.[16] Sustainable development will only be achieved with consistency of legal and regulatory instruments and rights.

Royalties and Compensation

Three types of land-related payment may accrue from mining. Two of these are designed as a return on ownership – royalties and land title payments such as rental fees. The third is compensation payments, which are simply designed to recompense the owner or occupant for property rights that he or she is required to surrender to the state or a mining company to make mining possible.

Royalties are in essence a tax paid by corporations for the right to exploit a sovereign asset – the payment is usually based on an amount per tonne or a percentage of total production or profits. Companies may also pay a land rental fee, which is a source of some contention given the other taxes levied for rights of access and exploitation.

While the state often jealously guards royalty payments, there is increasing pressure to share these with other stakeholders, particularly the community. There is often a perception in the local community that these revenues are dissipated in corruption or mismanagement, which may be the case. Promises to share the benefits locally are often broken. At the same time, many countries have a short or weak tradition of central authority and strong regional, cultural, or ethnic differences. The question of whether land use decisions (and decisions on the use of related mineral revenues) are made by the central government or by provincial or local authorities can be fundamental to the strength or even the survival of the central state. (See Chapter 8.)

Most legal systems recognize the principle of compensation: when a surface landowner's rights are taken for purposes of mineral development, the owner must be compensated for the loss. This is designed to redress in financial terms the economic impacts of a lost opportunity caused by mining, which may happen through a loss of amenity value and use, through denial of access, or as a result of damage to or conversion of land, natural and planted vegetation, or waterways to alternative uses. Yet payment for damages does not

make either communities or individuals beneficiaries or material stakeholders in the project. It is designed simply to prevent a loss, not to create a benefit. Further, while a clear and comprehensive compensation policy is essential to redress the losses of those affected by mine development, the success of any such policy obviously depends on a clear definition of land tenure and rights.

The lack of clarity around compensation systems and land rights may be only one expression of a broader inequality within some societies and a reflection of unequal distributions of wealth and political power. For example, in many countries substantial numbers of people have no legal right to occupy any land. A focus on compensation to 'legal owners' leaves millions of people out of the equation.

Complying with the law is a bedrock requirement. But the law is not an instruction manual on how to do business. There may be and usually are other steps, above and beyond following the letter of the law, that are necessary to conduct business successfully. The principle of equity may mean that people need compensation or procedural rights beyond that specified by the law.

Further, a focus on compensating individuals for what are seen as removal of individual property rights may not compensate the community for collectively held interests. And where access to justice is limited, or systems of justice broadly distrusted, the individual may not have much alternative but to accept the company's offer.

In less developed areas and particularly among many indigenous groups, compensation is often regarded automatically as a benefit because it provides cash for land that was previously undeveloped or little used. In areas of subsistence farming, for example, it is not uncommon to find opportunistic planting of previously unplanted land in the hope of attracting higher compensation if the land subsequently becomes part of the mining lease area, as has reportedly happened in Fiji and at Porgera in Papua New Guinea (PNG).[17]

Compensation, even when paid to the satisfaction of the local community and others, may have unintended consequences. S. Bonnell, for example, found that the impact of large cash compensation payments at Porgera had a negative impact on women and marriage.[18] Adultery, abandoned wives and children, and domestic violence became a major concern. The loss of land for food and gardening purposes also led to economic hardship for women, in particular those whose partners had left home to work in the mine.

Cash compensation for a compulsory purchase of land, the norm in some places (like Europe) when government or others are allowed to take property for public purposes, can lead to disastrous results in subsistence economies. Even where the idea is accepted, a view of what constitutes fair compensation may differ widely between traditional landowners and others. For example, an economic assessment of bequest value (the importance placed on transferring something to a future generation), option value (the value of keeping something for future use rather than using it today), or existence value (the value of knowing something is available for use, whether it is actually used or not) may not fully capture the value of land assets to indigenous groups, where loss of such assets could mean cultural demise.

While compensation is conceptually simple, it is intimately tied to issues of sovereignty: an acknowledgement of a right to compensation may be construed as a recognition of a body of other rights that the state does not care to uphold. This is particularly true when communities or individuals are informal occupants of the land with no legal status, even though they have exercised usufruct rights, in some cases for several hundred years. Even more precarious are the rights of squatters, who are using areas previously ignored by the state and private interests, but subsequently found to contain mineral wealth.

One of the principal objectives of sustainable development is betterment of the condition of the very poor. These are precisely the people who tend to have subsistence relationships with land and to lack legally protected property rights, and who therefore traditionally get moved, but not compensated. Given the thin margins on which many of these people exist, this is a serious threat to their well-being or even their survival.

Even if local communities merit sympathy and support, national governments are unlikely to give control of all, or even the majority, of any mineral

revenues to the local government or community. In part, this is because the resources are perceived as belonging to all the citizens of the country, not just the few who live near them. And in part it is practical politics, because in a poor country, control over these revenues can tip the balance of power. Few politicians want their opponents to get the credit for new bridges, schools, and hospitals, or to lose control over the ability to reward local supporters and punish adversaries, or – in the most extreme cases – to recruit and equip military forces.

For companies, acknowledgement of a right to compensation creates a liability and responsibility to individuals and groups in the area of a project. Further, in areas where the social dynamic is a complex one, even meeting state requirements to compensate local communities around a mine may not satisfy the demands of all those associated with a piece of land. In some cultures, a distant ancestral tie to land in the area of a project may be sufficient grounds for serious opposition if expectations of compensation are not met, even though state law and company practice may not extend to compensation for such groups.

Part of the issue of arriving at fair compensation is that there must be some system, some neutral party or institution, that is trusted by those concerned to set compensation. It must operate according to fair and intelligible rules. If there is no such opportunity, and if the owners know that ultimately they will have to accept some offer from a company without any trusted alternative forum in which to be heard, the landowners are unlikely to feel fairly treated. They are likely to be bitter and angry about the experience, which can colour the whole future relationship between the company and the community.

In most countries, courts are supposed to fulfil this function, but in the rural areas of some countries the courts are weak. Their procedures may be arcane or incredibly slow. Equally, they may not be trusted. They are seen as agents of the company or of a national government operating in collusion with the company, or as corrupt or simply hopelessly inefficient.

A clear and comprehensive compensation policy simplifies negotiation matters for all actors. Standard policy and best practice in terms of a regulated compensation framework is exemplified by the policy for Fiji's mining sector. This distinguishes between payments made under prospecting rights (where any damage is presumed to be caused without the use of machinery), exploration rights, and mining rights. The policy requires an initial survey of eligible occupiers and landowners and those granted usufruct rights under customary arrangements. Illegal occupants are compensated for the loss of any crops and other improvements. Other categories of compensation include loss, damage, or alteration of the natural state of the land; social and cultural disruptions; damage to the natural environment; and loss of recreation and conservation value.[19]

Estimates of minimum compensation amounts in Fiji are based on current structured pricing systems for compensable items, the application of economic instruments such as opportunity and replacement cost principles, and inflation factors.[20] In deriving compensation payments, the policy also considers past arrangements between companies and landowners and the severity of any likely impact. The policy aims to derive compensation payments that are stable, fair, transparent, and easy to administer. A rehabilitation bond is also required, which is regularly reviewed and which encourages incremental rehabilitation as mining progresses.

The policy document specifies that for the system to operate efficiently, the work of various government departments must be coordinated, which in Fiji's case has meant the appointment of a mining coordinator to the Department of Fijian Affairs. The policy also requires that the terms of compensation are captured in a socio-economic agreement with the local community. Only time will tell if the policy can be put into operation effectively in order to minimize conflict over land.

In contrast to Fiji, PNG has established a Development Forum process for addressing issues of community participation and landowner compensation. Initiated in 1988 for the Porgera mine, the forum concept was subsequently incorporated into the 1992 Mining Act, and retrospectively applied to other mining projects. The forum grew out of a Department of Minerals and Energy view that all key stakeholders should be involved in discussions concerning a potential mine from the time that the developer submits a proposal for development.

The Development Forum is a form of consultation,

not a forum for modification of the proposals for development, although this does occur to some extent. It is also not a right of veto for the various parties. Further, only those with interests within the mining leases themselves are to be involved: neighbouring or downstream parties (landowners and provincial governments, for example) are not included under this legislation.

Although the Forums are convened to discuss proposals for development, the focus to date has been on the distribution of benefits between PNG stakeholders (in terms of services, revenues, and infrastructure) from the development rather than the nature of the proposed development itself. They have generally not imposed additional constraints on the developer, and it is the national government that has conceded most at these meetings. The Development Forums have been successful at securing a greater level of community support for mine development, and further refinement of the focus of the Memoranda of Agreement could provide a greater degree of sustainable development for local communities.[21]

Although neither PNG nor Fiji has resolved all its challenges with regard to the development of the sector, both countries have made significant progress with respect to addressing what was seen by some as an obstacle to development – the collective system of landownership. Continued policy evolution has ensured that in both cases the mechanisms exist for landowners to be fully involved in making decisions about land use and deriving benefits from it.

As noted in Chapter 4, market demand and 'need' are not always the same thing because some people – often the very poor – do not participate in markets. In much the same way the property of the poor is not traded in 'mainstream' real estate markets. Nor is it always assigned an appropriate value by those used to dealing in those markets. First, as Hernando de Soto has pointed out, the market requires clear indices of title and ownership.[22] The stronger these are, the higher the value placed on the land and the more efficiently the market trades. Second, the values of the property of the poor may principally be expressed in the non-cash economy.

Since the poor often have unclear or disputable title, or even no title at all, markets are unlikely to assign much value to their holdings. Equally, property exists

Photograph not shown

simultaneously in at least two realities: the cash economy and the subsistence economy. The latter may well be more important than the former. If losses are compensated in the cash economy, but not in the subsistence economy, it is obvious that the compensation can never be adequate. Compensation must be evaluated on both of these scales.

Equally, the question of land value cannot be divorced from discussions of rights. The value of land is often low because land rights are not clearly identified. This often occurs with indigenous lands. Equally, mineral concessions are often passed on from one company to another, with the value realized not by the people living on the land, but by the first company to acquire the concession, which then sells promising areas to others. A large company that ultimately decides to mine the property may not consider itself responsible for very low or 'unfair' compensation that surface landowners originally received. Although this is not illegal, it may create resentment and a feeling of injustice far more costly than payment of higher compensation would have been. Thus communities that do not have the capacity to negotiate or understand how to bargain for the full value of land need greater capacity in order for fair transactions to occur.

The fundamental lesson is that following the law is a necessary but not a sufficient condition for getting results that are consistent with sustainable development and the private interests of the affected parties, including mining companies. The law is not a source of ethics. Where following the law leads to a result that would generally be regarded as unfair, continuing to push the issue without addressing that unfairness will lead to conflict.

Land, Mining, and Indigenous Peoples

The most significant presumption held by indigenous peoples is that their inalienable rights to their lands and resources override subsequent claims by conquering or dominant societies.[23] Many areas of mineral interest have traditionally been inhabited or used by indigenous peoples. Indigenous communities, peoples, and nations are those that, having a historical continuity with pre-invasion and pre-colonial societies that developed on their territories, consider themselves distinct from other sectors of the societies now prevailing in those territories or in parts of them. They are currently non-dominant sectors of society and are determined to preserve, develop, and transmit to future generations their ancestral territories and their ethnic identity as the basis of their continued existence as peoples, in accordance with their own cultural patterns, social institutions, and legal systems.[24] The association with land is fundamental for these societies; the connection is exemplified in the name of indigenous people from Argentine and Chile, *Mapuche*, which means people of the land.[25]

Indigenous peoples are a special case of public interest and community. The characteristics that set them apart in the wider society are:[26]

- *identity* – political but also bound to recognition of kin, social networks, place, and spirits;
- *territory* – land and the sustained network of social relations that are supported by it;
- *autonomy* – decisions based on communitarian consensus and indigenous perceptions;
- *participation* – acknowledgement of the right to be involved at all levels in the planning for alternative use of indigenous lands; and
- *self-determination* – the right to possess, control, manage, and develop a territory.

Sustainability is seriously challenged by actions that destroy a peoples' ability to accumulate, maintain, enhance, and transfer their wealth to future generations. Those unfamiliar with indigenous culture may mistakenly believe that mining poses minimal risks, since indigenous peoples have little income or wealth to lose and high unemployment. Yet the wealth that supports the sustainability of their culture is found in institutions, environmental knowledge, and resources, and especially in land embellished with cultural meaning. It includes access to common resources, localized prestige, secure positions within society, culturally appropriate housing, food security, and social support and identity. Indigenous peoples invest vast amounts of time and resources in perpetuation of their culture, institutions, and social support systems.[27]

Sustainable approaches to resource development must allow for the fact that there will be some communities, indigenous ones in particular, that do not want mines on their land. Histories of exploitation, often closely associated with the quest for minerals and metals, have built a deep mistrust of mines and mining companies. Many of the long series of dispossessions of native peoples' lands by Europeans, going back at least to Columbus, were motivated by a desire to gain access to minerals. Native peoples have not forgotten this. Yet it would be unfair to lay the blame for colonialism's excesses at the door of the contemporary mining industry. The root cause of animosity is often competition for resources and disagreement over who the primary beneficiaries should be. Some communities may welcome the potential for development that mining may offer, while remaining deeply dissatisfied with a failure to be included when decisions are made to allow mining exploration and development. Dissatisfaction may as often be due to failed expectations of development or internal rifts within the community.

Control, management, and autonomy in decision-making over land are significant elements of the rights denied to many indigenous cultures. Indigenous peoples have been subject to displacement or abuse by dominant cultures; in some cases their very existence has been denied. In other cases, the potential for prospecting in such areas has been among the main reasons for displacement. Most indigenous peoples live under weak governments, with insufficient capacity, little or no legal or institutional power, and little capital. Conflicts may be sharpened by any number of institutional or legal problems and by a clear divergence of cultural attitudes. They can also be affected by national governments' fear that ceding more autonomy to indigenous or aboriginal groups threatens the political and territorial integrity of the state. Indeed, many separatist movements – including armed ones – have been based on indigenous differences with national governments. The last thing such governments may want is to provide an independent source of revenues based on mineral wealth to give economic power to those they see as opponents.

Many of the local land use issues arise from conflict about the use of customary land that is regarded as inalienable by the resident groups and that is generally communal and of great spiritual and cultural significance. Subsistence agriculture on such land provides for consumption and exchange, usually placing it at the centre of overlapping social, cultural, and economic life. Loss of land inevitably means reduced areas for gardening, which increases the dependence on imported foods and the cash economy. Community members with usufruct rights to work the land by agreement with the landowners, but who are not part of the land-owning clan eligible for compensation, may face economic ruin. For those who cannot find local alternatives to subsistence agriculture, the only option may be migration to nearby cities and the inevitable breakdown of traditional family structures centred on sharing land.

Yet it should also be borne in mind that in many cases there is an ability to progressively rehabilitate land, which can then be returned to agricultural use. Equally, concerns about 'loss of land' are often more correctly expressed as concerns about the convenience of access, proximity, or loss of investment in the improvement of a particular piece of land, through, for example, tilling and fertilizing.

Convention 169 of the International Labour Organization stands as the only international treaty dealing with indigenous peoples and land rights. It recognizes indigenous peoples' rights of ownership and possession over their lands and in particular that 'the rights of the peoples concerned to the natural resources pertaining to their lands shall be specially safeguarded' (Article 15). It also includes a provision that:

> In cases in which the State retains the ownership of mineral or subsurface resources or rights to other resources pertaining to lands, governments shall establish or maintain procedures through which they shall consult these peoples, with a view of ascertaining whether and to what degree their interests would be prejudiced, before undertaking or permitting any programmes for the exploration or exploitation of such resources pertaining to their lands.[28]

Further, under the section of the Convention dealing with land it is stated that 'Governments shall take steps as necessary to identify the lands which the peoples concerned traditionally occupy, and to guarantee effective protection of their rights of ownership and possession' and, in case where resettlement is being considered as part of a development proposal, that 'Where the relocation of these peoples is considered necessary as an exceptional measure, such relocation shall take place only with their free and informed consent'.

Similarly, the United Nations Draft Declaration on the Rights of Indigenous Peoples is categorical in its recognition of indigenous peoples' right to remain on their lands. Equally, World Bank operational guidelines (OG 4.20) are designed to mitigate the adverse effects of development for indigenous people and in particular of development projects funded by the Bank.

Building on concern over the implications of resource extraction on indigenous territories, the United Nations Office of the High Commissioner for Human Rights (OHCHR) convened a workshop in Geneva in December 2001 on the relationship between indigenous peoples, human rights, and the extractive industries that supported recognition of indigenous rights. (See Box 7–3.)

At the level of the state, the laws that define indigenous territories and the jurisdictions that promote them may not be recognized by the indigenous communities themselves, or indeed may not be put into operation by the state. States differ markedly with respect to the recognition of indigenous peoples' rights, particularly with respect to land entitlement, which in turn affects the relationship between indigenous people and mining. In Fiji and Papua New Guinea, for example, indigenous people are the majority of the population and their rights are explicit in acts and policy, including rights to compensation, respect for the principle of full and prior informed consent, and consultation related to mining proposals. In states such as Myanmar (formerly Burma), indigenous identities are not recognized in any significant way.

In the past, legal rights have been no guarantee, particularly for indigenous peoples, that their interests will be upheld. Rights are only as strong as the ability to defend them, and in many cases indigenous groups have been faced with the overwhelming might of the state and private interests, which have generally run contrary to their own.

Box 7–3. Workshop on Indigenous Peoples, Private-Sector Natural Resource, Energy, and Mining, Companies, and Human Rights, Geneva, 5–7 December 2001

The Workshop affirmed the relevance of existing and emerging international human rights norms and standards including, but not limited to, ILO Convention 169 on Indigenous and Tribal Peoples. It also affirmed the need for the full recognition of indigenous peoples' rights to their lands, territories, and natural resources, and it recognized the efforts of a number of companies to address these issues, improve dialogue, and work within a human rights framework. The Workshop further recognized the importance of economic and sustainable development for the survival and future of indigenous peoples, and, in particular, that the right to development means that indigenous peoples have the right to determine their own pace of change, consistent with their own vision of development, and that this included the right to say 'No' to proposals involving development of their lands.

The Workshop recommended among other things that states, UN system organizations, indigenous peoples, and the private sector continue to review experiences in relation to private-sector natural resource development on indigenous peoples' lands, consider best practices, and explore the links between the recognition of and respect for indigenous peoples' land rights and those successful experiences.

The Workshop recommended that states, UN system organizations, indigenous peoples, and the private sector elaborate a framework for consultation, benefit sharing, and dispute resolution in private-sector projects affecting indigenous peoples. Consultation between indigenous peoples and the private sector should be guided by respect for the principle of free, prior, informed consent of all parties concerned.

In addition to making recommendations for action by the OHCHR and governments, the Workshop recommended that private-sector resource companies continue to hold dialogues with indigenous peoples and the UN system on these matters, examine existing codes of conduct and guidelines on human rights, and participate in the Working Group on Indigenous Peoples and the Permanent Forum, as well as other relevant forums dealing with these issues. Where appropriate, indigenous peoples should provide information on arrangements they have made with the private sector, in particular mechanisms they have established for consultative processes. The Workshop invited the World Bank to adopt a policy on indigenous peoples that requires borrowers and clients to respect indigenous peoples' rights, in particular their land and resource rights and their right to free, prior, informed consent with respect to investments, loans, guarantees, and operations that may affect them.

Where legislation exists, indigenous communities may have full control over their territory except for mineral rights, which belong to the central government that grants mining concessions. Certain territories may in principle be regarded as indigenous, but not subject to the legal control of indigenous people until they comply with legal formalities that have never been concluded. In this case, economic benefits from development may flow to national treasuries to the exclusion of indigenous organizations.

The Philippines is an example of a country with a significant mining history where the issues of indigenous land use have surfaced repeatedly in relationships between various actors in the mining sector. In particular, the contemporary era highlights some of the dilemmas that confront governments in addressing the concept of free and prior informed consent.

In 1988, with an output of 35.3 tonnes, the country was ranked number nine in terms of gold production and is estimated to have the third largest gold reserves in the world.[29] The 1990s saw a decline in production due to low commodity prices, high taxation, and increasing production costs. In 1995, the Philippines Mining Act was introduced to revitalize the industry. The act specifically excludes from mining the areas occupied by indigenous cultural communities under a claim of time immemorial, except upon the free and prior informed consent of concerned individuals. To complement this protection, the Indigenous Peoples Rights Act (IPRA) was introduced in 1997. This recognizes the rights of indigenous cultural communities/indigenous peoples (ICCs/IPs) to ancestral domains that include mineral and other natural resources. Priority rights are given to ICCs/IPs in the extraction, development, or exploitation of any natural resources within their ancestral domain.[30]

The passage of IPRA was considered a blow to the mining industry. The law invoked the Constitution's recognition of ancestral domains and gave indigenous peoples control over considerable tract of lands. A study prepared by the Philippine Exporters Confederation estimated that 1.2 million hectares (53%) of areas identified in mining applications are found in areas covered by Certificates of Ancestral Land and Domain Claims. The IPRA is construed by some as violating the Constitutional maxim that

wealth must be utilized and conserved for the common good.

The IPRA has been challenged on a number of bases. Indigenous peoples have claims of ownership to land and minerals by virtue of their pre-conquest rights that conflict with the state claim to ownership of minerals traced since time immemorial. These pre-existing rights effectively extinguish rights granted later by the government. Interpreted in the extreme, the IPRA could mean that an indigenous person can file a mining application and dislodge any prior vested mining rights or applications. Further, the principle recognizing indigenous peoples rights to delineate their lands is unclearly defined, as is the definition of an ancestral domain, which may mean that millions of hectares are closed to mining. Some would say that the IPRA raises questions about which authority is empowered to grant and manage minerals and mining rights: the Department of Environment and Natural Resources or the National Council on Indigenous Peoples.

Despite the intentions of the IPRA, there are still inconsistencies in the treatment of indigenous people associated with the sector in the Philippines. A spokesperson of the Subanan indigenous people visited MMSD to relate stories of resistance to an unwanted mining project in an area of the Subanan ancestral domain. The story was one of local community exclusion from their own territory by hired security forces of the mining company. Published reports about the project speak of concerted efforts to gain control over land at the expense of indigenous communities and small-scale miners, local political collusion, militarization, and human rights abuses:

> [Two] cases in the Philippines point at two widely differing companies that nonetheless have exhibited a shared disregard for local rights and wishes. This stands in stark contrast to the new rhetoric of sustainable mining and stakeholder accountability… seemingly so far, little practiced in the field.[31]

While these issues were raised with the office of the UN Commission for Human Rights, the statements were strongly resisted by the Supreme Timuay (traditional leader) of the Subanan of the Zamboanga Peninsula, who swore an Affidavit of Retraction that among other things expressed shock at statements made to the UN, about which neither the Siocon Subanan Association, Inc., the Council of Elders, nor the Tribal Council had been consulted.[32] At the same time, the Subanan and the company signed a memorandum of understanding as a way to establish open communication between the parties and to develop a mechanism to address consultation, benefit-sharing, and compensation. In addition, with sponsorship from the Co-operative Development Authority of the Philippines, the company has recently championed an Accelerated Area Integrated Development programme for the establishment of the Canatuan Agro-Industrial Multipurpose consumer co-operative.

MMSD is obviously not in a position to support or refute allegations made about particular projects. It does appear clear, whatever the truth of any specific situation, that fears by local people that the interests of mining companies threaten their land tenure are common in the Philippines and some neighbouring countries, such as Indonesia. To compound this situation, the indigenous community may be divided over how to respond to potential minerals development. Indeed, one of the principal impacts of mineral activities in indigenous territories may be to promote discord and conflict within communities.

Yet mining is often the only development choice, and it may be sought after by local communities. In this respect, frustration has also been voiced with respect to the well-meaning interventions of NGOs that prefer 'western' notions of natural resource management while subordinating social concerns to those of environmental continuity and failing to recognize the internal dynamics of traditional cultures.

Where land is leased for mining, the compensation and royalty payments that accrue to landowners for land occupation and damage have brought their own dilemmas. Arguably, existing mechanisms within some traditional societies for the distribution of benefits may not be well suited to the equitable disbursement of large monetary sums; both the amount of cash payment and the choice of beneficiary are often the subject of protracted dispute. Local elites may compete to increase their wealth and power through control of compensation monies and lucrative business spin-offs from a mine. Leaders who fail to accumulate and disburse the new forms of wealth lose respect, power, and influence.

As a counter to many of the problems associated with mining on indigenous lands, the idea of prior informed consent freely given has in the past gained support as a way to deal with indigenous or aboriginal peoples. Yet putting this into practice in a meaningful way is fraught with difficulties, including:

- objections of national governments to direct consultation between mining companies and communities;
- ill-defined processes for responding to the specific needs of indigenous groups and providing information on a time scale and in a form that is amenable to traditional processes of debate, decision-making, and negotiation;
- uncertainty by industry as to appropriate behaviour with respect to indigenous communities in areas of unsettled land claims; and
- a lack of clear visions and structures recognizing the obligations of mine owners to indigenous peoples, of business incentives needed to provide more equitable treatment of indigenous communities as a norm in overseas operations, and of indigenous community capacity to negotiate and understand the risks, costs, and benefits of mining.

Ultimately in situations that are unclear, best practice would demand that mining initiatives should not take advantage of any uncertainty surrounding land issues at the expense of traditional landowners and that proposals always be negotiated in the spirit of evolving international norms concerning the rights of indigenous peoples.

The Mabo Case in Australia provides a recent example of a reversal of legal recognition of indigenous land title. In 1992, the Court set aside the doctrine of *terra nullius* that failed to recognize that Australian Aboriginal communities had occupied the land prior to European colonization. The Commonwealth Native Title Act, which followed the court decision, marked a fundamental shift in the recognition of indigenous rights, so that indigenous ownership of land may be formally recognized and incorporated within Australian legal and property regimes. The management of the relationship between native title and statutory and common-law rights may now be the subject of negotiated agreements.[33]

While the process of making native title and community rights operational has been subject to criticism since the Mabo Case, it has nevertheless allowed the negotiation of instruments such as the Yandi Land Use Agreement between the Gumala Aboriginal Corporation and Hamersley Iron Pty for the Yandigicoogina Iron Ore project.[34] This was an agreement reached by direct negotiation between the parties without the need for outside intervention. While some people emphasize that such negotiations are both time-consuming and expensive, these costs must be seen as part of the new business environment.[35]

Even though leading companies state in their public reports that they recognize the need to negotiate with indigenous communities, there is still a great deal of uncertainty around policy process and practice with regard to land access. Further, the demands of public opinion in the home countries of international companies may be at variance with what local intermediaries tell the companies are the 'traditional' or best way to get things done. Nevertheless, this is not an excuse for errant practice. If the historic patterns of mining in or near the resources claimed by indigenous peoples continue, all stakeholders face escalating costs and the whole sector faces a continued erosion of its social licence to operate in indigenous territories. The future cannot repeat the past.[36]

At an MMSD Indigenous Peoples Workshop in Quito in 2001, it was made clear that indigenous peoples are at different stages in the maturation of their interactions with mining companies. In some countries, such as Australia (where there is greater surety around sovereignty over land for some aboriginal people), aboriginal groups may, through their lands councils, be prepared to enter into negotiations on the demand for various benefits from potential projects. In Latin America and the Philippines, many groups reject mining entirely because it is seen as allied to state interests and designed to deny them their land rights and autonomy over their own affairs.

The MMSD workshop made several suggestions on addressing the relationships between indigenous peoples and the mining industry. Attendees pointed to the need to establish a mechanism for establishing an international body, run and advised by indigenous people, to create a better understanding of best practices with regard to indigenous peoples. Ultimately, success in dealing with these issues must be an integral part of any accreditation system that seeks to distinguish good from bad players. Attendees also

suggested that a workable system of checks should be established for verifying that community wishes were being fairly represented at all levels.

Many factors influence the attitude of indigenous peoples towards mining projects, but perhaps the most important is the question of control. If an indigenous or aboriginal organization has clear control over its land, a legal right to at least some share of the revenues from the mineral endowment, and a right to say no or to negotiate the terms and conditions under which mining will occur from a position of power, it is more likely that a decision in favour of mining will be made.

These are certainly issues that cannot be fully resolved without government. There is only so much a community and a mining company can achieve if a government does not recognize the existence of the indigenous or aboriginal group or its right to be consulted, to receive any share of revenues, or to have any say over the lands it claims.

Many countries have simply not resolved these issues; few have resolved them fully. Where there is serious conflict between national government and indigenous groups, it is difficult for a company to succeed. The most dangerous outcome is for the company to be seen alternately as negotiating with the community to ensure it gets benefits, and then with the government to override the local community.

Industry does not have to look far for guidance on improving relationships with indigenous communities. (See, for example, Box 7–4.) There is a rich history of attempts at constructive dialogue around these issues. The Proceedings of the Canadian Aboriginal Minerals Association's conference of 1995, for example, contains an article entitled 'Guidelines For A Respectful Relationship Between The Innu Nation At Nitassinan Mineral Exploration and Development At Emish (Voisey's Bay): An Introduction To The Issues'.[37] This sets out the conditions under which negotiations about the exploration and development of Voisey's Bay should take place. There are many other examples where indigenous communities have attempted with varying success to set the conditions by which negotiations over resources development take place.

The probability of a sustainable outcome increases as each of the following 14 elements is put in play during an encounter:[38]

Box 7–4. The Red Dog Mine on Inupiat Lands, Alaska

The North West Alaska Native Association (NANA) and Regional Corporation represents the interests of about 6800 mostly Inupiat peoples of northwest Alaska in a region the size of Portugal. In 1978, Cominco had staked a claim to a previously discovered, very large zinc ore body in the DeLong mountains in NANA territory. The NANA Regional Corporation also registered a desire to select the land under the provisions of the Alaska National Interest Land Conservation Act of 1980, which recognized NANA's right to claim land, subject to prior claims. Cominco, having registered an interest before 1980, believed that this constituted a prior claim.

A long period of negotiation between NANA and Cominco resulted in an agreement in 1982 that recognizes NANA's control of the land and Cominco's right to build and operate the mine and to market the products. The agreement gives shares in the development and a priority in employment to occupants of the region, and establishes a committee with equal numbers of mining company and NANA representatives to monitor and review operations. The agreement also commits to a 4.5% royalty for the NANA corporation and an increasing share in net proceeds after Cominco's initial capital investment is repaid. Thus far it seems to be the basis of an equitable arrangement, based on well-established rights for the local communities and strong and authoritative representation from the NANA Regional Corporation.

Source: International Council on Metals and the Environment (1999).

- Sovereignty is respected and strengthened.
- The rights and access to indigenous land and nature are secured.
- At the beginning, both indigenous and non-indigenous stakeholders' presuppositions about one another are aligned with fact.
- The desired outcomes of the encounter for indigenous peoples emerge from meaningful, informed participation.
- Non-indigenous stakeholders fully and opportunely disclose to the indigenous group their plans, agreements, and financial arrangements, related to the indigenous group in a culturally appropriate manner and language. [39]
- Likewise, the non-indigenous stakeholders identify and disclose all the risks of a proposed mining endeavor. Full risk assessment means not only of the

threats posed by the loss of land but also the full range of social, economic, and environmental impacts.
- Prompt unambiguous institutional and financial arrangements are made to mitigate each risk.
- Benefit-sharing arrangements are made that step beyond compensation for damages.
- Indigenous peoples, as an informed group, have the right to approve, reject, or modify decisions affecting their livelihoods, resources, and cultural futures.
- Should restoration of a disturbed habitat prove impossible, then the non-indigenous stakeholders make provisions for an improved habitat that supports a lifestyle acceptable to indigenous peoples.
- Basic human and civil rights are protected, as specified in international conventions.[40]
- The focus of the encounter is on protecting indigenous wealth, especially the social relations that guide the sustainable use of their natural resources.
- Financial and institutional arrangements are forged that bridge the discrepancy between the multigenerational time frame of indigenous peoples and the short time frame of mining.
- A guarantor is established to assure compliance with and funding of any negotiated and mutually satisfactory agreements.

Given the uncertainties and extreme risks, it is perhaps best to extend the environmental precautionary principle approved in Rio to the impact of mining on indigenous peoples. A Precautionary Principle for Mining in or near Indigenous Peoples might read:

> Non-indigenous stakeholders in mining shall use the precautionary approach to protect the indigenous peoples and the environment that supports them. Mining cannot take place without respect for the principle of prior informed consent and participation in their self-defined indigenous development. Where there are threats of serious or irreversible damage, scientific and economic uncertainty shall not be used to postpone cost-effective measures to avoid and mitigate risks and to prevent harm to indigenous livelihoods and cultures.[41]

Resettlement Issues

The problem of mining-induced displacement and resettlement (MIDR) poses major risks to societal sustainability. The severity of these risks is encapsulated in the opening lines of the World Bank Group's policy on involuntary resettlement:

> Bank experience indicates that involuntary resettlement under development projects, if unmitigated, often gives rise to severe economic, social and environmental risks: productive systems are dismantled; people face impoverishment when their productive assets or income sources are lost; people are relocated to environments where their productive skills may be less applicable and the competition for resources greater; community institutions and social networks are weakened; kin groups are dispersed; and cultural identity, traditional authority, and the potential for mutual help are diminished or lost.[42]

Displacement involves not only the physical eviction from a dwelling, but also the expropriation of productive lands and other assets to make an alternative use possible.[43] Affected peoples are those who stand to lose, as a consequence of the project, all or part of their physical and non-physical assets, including homes; communities; productive lands; resources such as forests, rangelands, fishing areas, or important cultural sites; commercial properties; tenancy; income-earning opportunities; and social and cultural networks and activities.[44] The category may also include 'host communities' when a large population is displaced onto the land of a smaller, existing host population. Rehabilitation refers to restoring the incomes, livelihoods, and social systems of those displaced to at least their pre-project level.[45]

Local resistance to MIDR is building in many places, as people and governments try to shield themselves from its transferred social and economic costs. In northwestern Peru, for instance, local farmers in the San Lorenzo valley wish to maintain the Tambo Grande area as a fertile agricultural zone rather than support plans for a large open pit copper, silver, and gold mine that would move 1600 families to new housing provided by the project.[46] This dispute is portrayed as a battle between the rights of some local communities that object to government policy and the state's need to court foreign investment for development. A report commissioned by environmental groups and Oxfam America concluded:

> Mine operations would require the relocation of numerous families because portions of the mine would be excavated under the existing town. Some of the short-term impacts could be viewed as positive…however it is the long-term impacts to the community and the environment that will be most significant…. The Ministry of Energy and Mines …[has] all but decided that the

> project should be approved, despite the obvious negative opinions of thousands of the local citizens.[47]

In May 2001, in an effort to address the serious concerns that have arisen about the mining proposal, the Government of Peru established the Tambo Grande Roundtable (*Mesa de Diálogo*). The Peruvian Ministries of Agriculture, Health, Energy and Mines are represented at this roundtable, along with local church leaders (the Archbishop of the Diocese of Piura and Tumbes), local agricultural representatives, the mayors of Piura and Tambo Grande, the Front for the Defense of Tambo Grande, and the company. The goal of the Roundtable is to establish an open and transparent mechanism, to consult the people of Tambo Grande and its environs about the specific details of the environmental impact study, the possible relocation process, and the potential long-term economic benefits of the proposed mine. Based on these consultations, the Roundtable will recommend whether or not a mine should be developed.

MIDR is accompanied by what displacement specialists call the resettlement effect, defined as the loss of physical and non-physical assets, including homes, communities, productive land, income-earning assets and sources, subsistence, resources, cultural sites, social structures, networks and ties, cultural identity, and mutual help mechanisms. The effect introduces well-documented risks over and above the loss of land, which may address only 10–20% of the impoverishment risks known to be associated with involuntary displacement.[48]

Displacement may have the following implications:[49]

- *Landlessness:* Land that is lost has to be reconstructed or replaced with income-generating employment to avoid impoverishment and loss of capital.
- *Joblessness:* New and sustainable job opportunities must be created. Relocation may result in loss of economic power, which may in turn lead to redundancy of skills, loss of markets, and breakdown of economic networks.
- *Homelessness:* Loss or decline in the quality of shelter is exacerbated if compensation is paid at market value rather than replacement value.
- *Marginalization:* Relocation may result in loss of social and political status if the host community regards new arrivals as strangers or inferior.
- *Food insecurity:* The loss of productive land may lead to a decline in available nourishment, nutrition problems, and increased mortality.
- *Loss of access to common resources:* People may lose access to grazing land, fisheries, and forests, which may contribute to loss of income, employment, and recreation opportunities.
- *Loss of access to public services:* Access to health care, education, public transport, and other public services may be lost.
- *Social breakdown:* There can be an erosion of social organization, interpersonal ties, informal ties, and other forms of social capital.
- *Risks to host populations:* If the resettlement site is already populated, these people may also suffer through increased pressure on social and environmental resources.

Even when MIDR is ostensibly voluntary, there have been problems. (See Box 7–5.) Oxfam Community Aid Abroad, in the *Mining Ombudsman Report* for 2000–2001, comments that:

> In many cases brought to the Mining Ombudsman, the acquisition of land took place under what the landowners regard as duress. Some claim to have been pressured by the company or the local authorities to sign agreements that were unsatisfactory or inadequate. Others claim that they were not sufficiently informed at the time of the value of their land, or the consequences of what they were signing. There was, in other words, an absence of free and prior informed consent.[50]

Box 7–5. Rio Tinto/ PT KEM's Kelian Mine

The construction of the Kelian Mine involved the loss of land at Prampus to make way for the river port at Jelmuk. Land and assets of local people were appropriated; some were compensated, but at rates deemed unfair locally. Measurements of land value and assets were regarded as unfair to the community. Displaced people experienced a dramatic drop in living standards and resettled families were in many cases provided with a house plot, but no house – though one had been promised. Further, traditional economic activities such as small-scale mining were discouraged. It is also reported that PT Kelian Equatorial Mining company, which is 90% owned by Rio, ignored human rights abuses.

Source: Oxfam Community Aid Abroad (2001).

In many cases, cash compensation to those who leave their homes or agricultural land has been regarded as an adequate way of dealing with displacement. But there is also a growing view that there should be a plan for an organized resettlement into new settings in which people can earn livelihoods and maintain community ties. The more marginalized a community, and the greater its material wants, the more likely it is that cash compensation will be a disaster unless it is part of a carefully thought through plan of resettlement. This is explicitly required by, for example, the World Bank Guidelines. Equally, it does not make sense to relocate people to land that is less productive or that requires input of resources that are beyond the means of the resettled. In its article 25, the Declaration of Human Rights states that 'no standards shall be diminished as a result of the relocation and compensation process'.

India has had considerable experience of dealing with displacement issues and, in terms of policy at least, has developed a unique approach to the problem. A conservative estimate of the number of people displaced due to planned development from 1950 to 1991 is about 21.3 million due to the construction of dams, mining projects, wildlife sanctuaries, and industries.[51]

In 2000 a Land Acquisition, Rehabilitation and Resettlement Bill was prepared by integrating the Land Acquisition Bill and the rehabilitation and resettlement policy. The main and most salient features of the draft bill, prepared by voluntary organizations, are as follows:

- The doctrine of eminent domain is replaced by a Principle of Trusteeship, in which government is a trustee of the property and has a moral and legal responsibility to justify that the acquisition is for the welfare of the people.
- The term 'project-affected person' is defined to include those deprived of livelihood resources (rural artisans, traders, collectors of non-wood forest produce, and so on).
- Provision is made for providing information at different stages regarding the nature of the project, cost/benefit analysis, extent of acquisition, and displacement so that those who wish to raise objections can do so on an informed basis.
- In any public hearing on project-related matters, 50% of the participants should be women.
- Provisions are made for the payment of compensation, and payment is monitored.
- Displacement shall not take place unless the compensation is paid, an alternate land is allotted, and the rehabilitation and resettlement process is complete.

Land prices may be driven upwards by competition between companies for a particular ore body, yet communities may be compensated at a rate that reflects a statutory land valuation policy that does not accommodate price increases due to competitive bidding. When alternative land is not provided, the result may be that community members whose land is compulsorily purchased cannot afford to buy other land in the same area, leading ultimately to landlessness and migration.

The means by which to avoid grafting new, displacement-induced poverty onto pre-existing poverty are known. Forty years of studies and lessons learned in involuntary resettlement provide a rich vein of knowledge, and reasonable guidelines and checklists have been developed. Nonetheless, attempts to restore the displaced to their former economic and social conditions have proved ineffective. Under-financing is a key component of their failure. Although people continue to be relocated, the goal of rehabilitation remains exceedingly difficult to achieve, and the preferred goal of sustainable development – with people better off than they were before resettlement – has seldom been achieved. Under-financing emerges from the wrong-headed notion that compensation for losses is sufficient to rehabilitate a displaced economy. Compensation by itself cannot adequately restore and improve the income levels and livelihood standards of people subjected to expropriation and forced

displacement. From the operational perspective, compensation – not rehabilitation or sustainable development – becomes the goal rather than a means to help ensure a sustainable outcome.[52]

But the key question remains: Who pays for countering the resettlement effect in mining-induced displacements and resettlements? At present, mining, financiers, and governments are externalizing displacement costs onto the weakest party – the displaced.

In dealing with resettlement issues, government again has a leading role to play and several challenges to face. The Indonesian government, for example, does not fully recognize the *adat* system of land tenure that is a feature of life in some rural areas. Holders of some Contracts of Work issued by the Indonesian government have apparently been advised in the past that they need not honour or compensate local land claims, even long-standing ones.

Mechanisms need to be strengthened so that people without formal legal rights at least have access to a system that recognizes their position and levies compensation for any improvements they have made to the land. The experience in Yanacocha in Peru provides an example of people who did not have legal title, but nevertheless made an investment in the land. Most important of all is the recognition that such communities have a right to be at the negotiating table and have their views heard.

Pressures are building from many directions to regularize liabilities that until now were considered only probable and possible. It is too early, however, to expect harmonization and the emergence of a detailed industry-wide approach. One alternative may be to institute involuntary displacement and resettlement insurance to protect the involuntarily displaced, although this is probably politically premature at present.[53] In the meantime, the inability to cope with the MIDR problem is delaying projects and generating costly controversies, plunging innocent victims who find themselves 'in the way' into new poverty. And governments are inheriting the long-term costs. A MIDR Contingency Clause is proposed as an interim, on-the-ground solution. This would be an agreement that all likely MIDR risks be assessed, goals set, costs estimated, organizational arrangements proposed, and financing secured before a mining project goes forward.

If resettlement is to be undertaken, there must be a series of checks on the responsibility of the state and other actors to provide the compensation and benefits promised in negotiations with communities. In the case of dam construction, the World Commission on Dams found this to be one of the major stressors for displaced populations and intimately linked to the failure of resettlement planning.[54] While no similar studies have been done on the extent of dissatisfaction with resettlement programmes associated with mining, it is likely that unfulfilled promises will diminish trust and lead to organized resistance.

Protected Areas

The issue of access to land that coincides with protected areas has become more contentious in recent years as development interests, including mining, are pushing to realize the economic value of the resources held within these areas.[55] There is now considerable evidence regarding mining threats to protected areas.[56] A recent survey, for instance, identified 44 World Heritage Sites now affected or potentially affected by mining.[57]

In 2000, the IUCN World Conservation Congress recommended that 'IUCN's State members…prohibit by law, all exploration and extraction of mineral resources in protected areas corresponding to IUCN Protected Area Management Categories I–IV'.[58] (See Box 7–6 for a definition of these categories.) The recommendation also contains clauses calling for tight controls over any mining in Categories V and VI, exacting procedures to govern any boundary changes to permit mining, and strict regulation over any mining near a protected area. It emphasizes the need for all concerned to adopt best practice to guide every stage of the mining process.

The conservation community has been pressing major mining companies to come out in support of a moratorium on mining within World Heritage Sites and protected area categories I–IV for some time.[59] Its advocates believe that if major mining companies want their commitment to sustainable development to be taken seriously, they should respect this requirement, especially because it means restricting access to merely 6% of land.[60] The recommendation has formalized the conservation community's opinions on mining and protected areas – that they are so valuable to natural

Box 7–6. Protected Areas

Protected areas have a long history and are found world-wide. They are areas of land or water often dedicated to the conservation of biological diversity. However, they also often coincide with areas of outstanding natural beauty and archaeological, historical, recreational, and cultural interest. In their modern form, based upon national legislation, they began about 130 years ago. But the number and extent of protected areas has expanded rapidly in the past 30 years or so. They now cover about 10% of the world's land area (although less than 1% of the marine environment). Protected areas vary markedly from each other, particularly in their fragility, their degree of protection, and the reasons for which they were established. As a step towards consistency, the World Conservation Union–IUCN developed a system of categorizing protected areas. This system is not meant to comment on how well protected areas are being managed, but to classify protected areas according to their specific management objectives. The system has underpinned debates around 'no-go' areas for mining. The six IUCN categories are:

I. *Strict Nature Reserve or Wilderness Areas* – for scientific purposes or wilderness protection;
II. *National Parks* – for ecosystem protection and recreation;
III. *Natural Monuments* – for conservation of specific natural features;
IV. *Habitat or Species Management Areas* – for conservation through management intervention;
V. *Protected Landscapes or Seascapes* – for landscape protection and recreation; and
VI. *Managed Resource Protected Areas* – for the sustainable use of natural ecosystems.

Governments are responsible for their own protected areas legislation, which takes many different forms: some of it is highly prescriptive, including in some cases a ban on all forms of mining; in other cases it is much more discretionary. It is also governments that select and apply the IUCN categories to their protected areas, although they often take guidance on this from IUCN.

Some nationally important protected areas are considered of such global importance that they are also recognized under other international agreements, the most important of which are the World Heritage Convention, the Ramsar Convention on Wetlands, and the UNESCO Man and Biosphere Reserve Programme. In addition, the development of a system of protected areas is required under Article 8 of the Convention on Biological Diversity. (See also Chapter 10.)

Sources: IUCN (1994); Convention on Biological Diversity (1992); IUCN-WCPA and WCMC (1994); The World Database on Protected Areas, managed by UNEP-WCMC, http://www.unep-wcmc.org/protected_areas/index.html; Rössler (2000).

and cultural heritage they deserve to be singled out for extra protection from destructive economic development activity, and that these protected areas are simply not substitutable. While most responsible mining companies agree, in principle, that there are some areas where mining development is inconsistent with the protection of ecological, cultural, and landscape values, they have reservations over whether such areas always coincide with IUCN Protected Areas Management Categories I–IV.

But the debate cannot be solely between mining and protected areas interests. Areas within or around protected areas are often occupied by some of the financially poorest and most politically marginalized peoples. These people are the most frequent losers, whether this follows a mining development or the establishment of a protected area, as both these activities, if inappropriately managed, can restrict access to land and resources. It is not surprising, therefore, that protected areas are now at the centre of some of the more controversial debates over land access and mining.

Mining Perspectives

The major mining companies acknowledge the imperative of conserving species, habitats, and natural systems, such as watersheds, and are keen to make a positive contribution to this end. They say that their reluctance to accept existing IUCN protected area Categories I–IV as 'no-go' areas stems from a belief that protected area systems in the long run must allow for new areas to be protected, and badly managed and degraded areas to be deregulated. They also note that as long as society continues to need minerals, mining will have to continue, as will the need to gain access to more land. The access issue is made more complicated by uncertainty: society does not yet know which minerals it might need in the future, let alone where these are located. Most major mining companies feel it is enough that, in practice, they rarely seek access to protected areas with characteristics that are incompatible with mineral development activities. Moreover, not disturbing areas with unique biodiversity, landscapes, cultural, and other values is already part of the internal decision-making process for many companies, as such impacts are a source of risks and liabilities and can affect revenues, trust, and the licence to operate now and in the future.

Mining companies also argue that technological developments need to be considered – consequently the likelihood of negative impacts is gradually reducing. Modern processes of mine construction and systems of management and pollution control mean that some new mines can now operate as closed systems with minimal impact on the surrounding environment.

Companies are also quick to point out their efforts to enhance biodiversity on surrounding lands. The Arid Recovery Project in South Australia is one such example, where land held under a mining lease is being fenced off, and native species that had been wiped out are being reintroduced.[61] Post-mining rehabilitation work has helped restore land to close to its previous state. There is also considerable interest in integrated land use planning approaches that encompass a set of graded policies reflecting the varying degree of sensitivity of natural values to mining (as in the UNESCO Man and the Biosphere Programme or as advocated by the Ecosystem Approach developed by the Conference of the Parties to the Convention on Biological Diversity). There is widespread belief that the net area for biodiversity conservation and other 'natural services' could increase by applying broader processes of land use designation and innovative mechanisms, such as offsets. Meanwhile, mines under more rigorous policy and planning conditions (whereby governments would have to facilitate more equitable distribution of the benefits from mining) could provide livelihood alternatives for those living in marginal areas and possibly help to reduce exploitative pressure on protected areas.

The mining industry believes that the decision over whether or not to mine should relate to the current conservation value of the area, the current causes of degradation, the irreversibility of any impacts, and the potential for mining to make a positive contribution to conservation, if allowed.

Conservation Perspectives

Although some in the conservation community acknowledge the better-practice attitudes within the mining industry, there is concern over the lack of practical evidence of change. There is also concern that what the major players commit to will not necessarily apply to other players. Furthermore, accidents do occur even in the best-run operations, which can have enormous negative consequences if adjacent to protected area lands. A significant tailings dam breach or cyanide spill could, for instance, threaten the viability of an entire protected area, resulting in the loss of not only biodiversity but also other natural and cultural values. (See Box 7–7.) There are also the unintended 'side effects' as a result of, for example, opening up an area for large-scale industrial processes: this can herald a rush of other applications to exploit nearby resources. Such pressures, which are the direct result of mining operations, can trigger some damaging secondary effects, due to, for example, the opening up of previously remote areas and increased population pressure, that can outlast the mining activity itself.

Mining as a land use is attractive, as it can generate large amounts of cash compared with alternative forms of economic activity around protected areas. There is recognition within the conservation community that many countries, especially the financially poorest, are desperate to boost their national income through mining, and therefore respecting the recommendation not to mine within Categories I–IV can be difficult. There is also acknowledgement that much more needs to be done to help make biodiversity and protected areas pay, by encouraging eco-tourism or trade in environmental services. There is some scepticism regarding the use of mining revenue for protected areas management and capacity building, as governments rarely allow this to happen: such finance is not sustainable, as it often dries up after closure.

At the same time, the industry's emphasis on integrated land use management is seen by some as an excuse to weaken protected areas legislation and as an effort to gain access to national parks and other areas previously excluded from minerals development. If conflict on these issues is to be avoided, and 'win-win' outcomes achieved, transparent and inclusive planning processes are essential. A good example of where this worked well is found in Manitoba, Canada: The Protected Areas Initiative involved consultations with resources industries, as well as with communities and First Nations, on proposals for protected areas establishment. As a result, since 1990, protected areas have increased from 0.5% to 8.5% of the province and an additional 5.3% has been supported by the mining industry.[62] The challenge, however, is to get such participatory consultative processes to work effectively in other parts of the work, especially where there is resistance to participatory or more inclusive cultures. There is also a great deal of suspicion around proposals to have

Box 7–7. Los Frailes – Boliden Apirsa SL Zinc, Lead, and Copper Mine, Spain

The Los Frailes zinc, lead, and copper mine in southern Spain, operated by Boliden Apirsa SL, a wholly owned subsidiary of Boliden Ltd, is some 45 kilometres northwest of Seville, near the Doñana National Park. Los Frailes is located at Aznacóllar, in the Iberian pyrite belt, and mining in the region dates back to Roman times. In 1979 Andaluza de Piritas (APIRSA) started exploitation of the Aznalcóllar open pit ore body and constructed a tailings storage facility. In 1987, APIRSA was acquired by Boliden and production continued from the Aznalcóllar open pit until 1996, when reserves were exhausted. Boliden had located another ore body, called Los Frailes, and in 1997 production from this deposit started. The same tailings storage facility was used by both companies and for both deposits.

In April 1998, Boliden Apirsa halted production after a failure of one wall of the tailings storage facility. The failure released 4.5–5 million cubic metres of tailings into the Rio Agrio and the Rio Guadiamar. The flow reached the marsh lands on the eastern edge of the Doñana National Park, 60 kilometres to the south, where it was halted by a series of rapidly constructed dikes. The tailings, which had a pH of 2-4 and contained elevated levels of copper, lead, zinc, and iron, inundated more than 2000 hectares of farmland.

The Spanish government reported that the spill caused a massive fish-kill and the destruction of many aquatic species in the river system. There was no immediate effect on the Doñana National Park, although there was concern about the contamination of the aquifer that underlies the park and the subsequent impact on bird life. Some estimate that the damage resulted in 5000 job losses in agriculture, fishing, tourism, and nature conservation. The cost of the clean-up operations – more than 16 billion pesetas (US$135.7 million) – and other financial problems forced the company to file for bankruptcy protection. Had the national and regional environment authorities not taken quick action on dike construction, large tracts of the park would certainly have been destroyed.

Source: Ramos (2000); Sassoon (1998); Mineral Resource Forum website, http://www.mineralresourcesforum.unep.ch/accidents/losfrailes.htm; Mining Technology website, http://www.mining-technology.com/projects/los_frailes.

'rotating' parks that would temporarily remove some of the conditions of protected status.[63] And there is concern that some of the innovative mechanisms being proposed, such as offsets, might not create the exact array of natural and physical attributes that are found in the original protected areas they are supposed to 'replace'.

The consensus view of the conservation sector is that mining should simply not take place in protected area management Categories I–IV and in UNESCO World Heritage Sites.

The Challenges

Although the impasse over the use of IUCN Protected Areas Management Categories I–IV as 'no-go' areas remains, there have been some advances in the debate, and also a few attempts at designing decision-making criteria.[64] Particularly encouraging has been the emerging awareness within the industry and conservation groups of some of the obstacles that are blocking further consensus building on mining and protected areas and remedial action. Many of these issues were discussed at two MMSD mining and biodiversity workshops, which identified several continuing challenges.

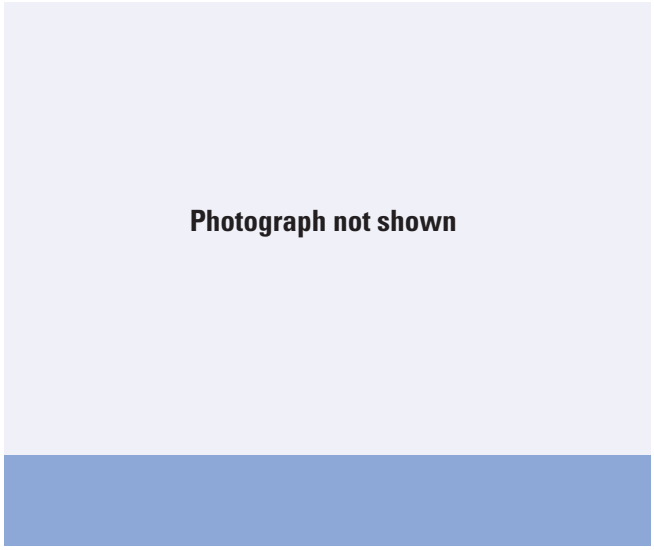
While it is generally accepted that the IUCN categories are a good system for initial designation of protected areas, there is concern that the current system has been inconsistently interpreted and applied by governments within and between countries, and that decisions have not always been transparent and inclusive. Questions have therefore been raised over whether the 'right' protected areas fall into the 'right' categories, and whether incorrectly categorized protected areas should be reclassified. Furthermore, as the management of protected areas has often been nominal, or even absent, this has led to the degradation of values on which the original categorization was based, meaning that the protected area may be less effective than it should be. This does not mean, however, that such protected areas warrant de-designation, as only a thorough analysis of whether the lost values can be restored can draw conclusions over how 'degraded' a protected area really is. Such issues have, however, led to inevitable confusion over the role and functioning of the category system.

Many protected areas were established when scientific understanding of biodiversity was much less advanced, and the designation of parks was often based on other values and largely with disregard to local populations. Consequently, many of today's protected areas do not coincide with what is now considered 'best fit' for biodiversity, although the benefits of their continued existence are enjoyed by many. However, as science, and the knowledge it generates, is constantly evolving, so does understanding of what might be 'best' for biodiversity conservation and hence where protected areas might best be located. The biodiversity of the deep seas was previously thought to be impoverished, for instance, but recent research has found it to be more complex even than comparable terrestrial fauna, with high rates of endemism.[65] Similarly, the Caribbean was initially excluded from Conservation International's ranking exercise in 1990, but a decade later it was listed as one of the three highest ranking 'biodiversity hotspots' in the world.[66]

Although some protected areas designations may not be in tune with recent science, many still continue to maintain some ecosystem services or other critical natural or cultural values. An additional complication is that some protected areas now have significant mineral potential that was unknown when the area was originally selected for protection. This raises some difficult dilemmas. Clearly there are areas of valuable biodiversity that remain unprotected, while other areas encompassing biodiversity that is now considered less valuable remain protected. And the latter may contain valuable mineral sources and hold other natural values. What should be done where such 'older' areas continue to exist and other biodiversity areas remain unprotected? There is a great deal at stake here, as conservation interests place value on certainty and permanence in protected areas, but there could also be a great deal to gain for conservation.

There is concern that a robust and globally representative system of protected areas has not yet been achieved. Set against the ever-increasing exploitative pressures on land, achieving such a global system is proving very challenging indeed – as is the generation of resources to cover associated management and other costs.

Many protected areas do not pay for themselves and are starved of resources. Even though protected areas bring many environmental and social benefits, they also



involve costs. There are both the direct costs for their management and the opportunity costs that may arise in so far as 'economic' land uses are constrained. Keeping such areas protected is far from simple. Many are protected in name only, with a lack of capacity by the state to enforce regulations, and often a lack of political support at all levels. They are often poorly funded, which results in weak management and planning regimes. It is hardly surprising, therefore, that many protected areas are threatened in various ways by, among other things, the poverty of local populations, civil unrest and war, neglect, weak institutions, and corruption. It should be added that threats to protected areas are not a problem confined to the less developed world – planning and funding pressures of various kinds are also a reality in industrial countries.

Unless additional resources are made available, the effectiveness of protected areas will be severely diminished, and the creation of new ones deferred or cancelled – with serious implications for ecosystems and other natural and cultural values that remain underrepresented globally. Innovative mechanisms for generating adequate funding for management of protected areas by promoting alternative economic activity (such as the much promoted eco-tourism, which also carries costs and benefits) must be a key priority for these countries. The proceeds from mining could be used to fund protected areas and other conservation activities through offsets or set-asides, thus ensuring the long-term viability of such areas. However, provisions would have to be made to ensure that this funding does not evaporate post-mining. There is still much work to be done before there are sufficient levels of trust to enable this to happen, as few

from the environmental side are yet convinced that the mining sector can provide benefits commensurate with the environmental costs. Yet if the mining sector is to be excluded, or encouraged to exclude itself, these potentials will not be realized.

The role of government in helping to resolve mining and protected areas issues is critical, yet it is often the weakest link, especially in developing countries. With dwindling resources, these governments are not equipped to make the sort of decisions that can lead to effective, equitable, and sustainable land use management. While bilateral contributions and those of NGOs have been critical, there is a chance that the mining industry could make some contribute to conservation. Without some such support, and not only from industry, the outlook for biodiversity in these countries is bleak.

Such an approach will require a broader discussion of the integration of protected areas with buffer zones and the wider landscape, the effectiveness of protected areas management, and the way to do effective trade-offs, with an emphasis on how to ensure that local people are not undermined in the process.

There are certain activities that are likely to be acceptable to both mining and conservation interests, mainly pertaining to land under Categories V and VI and adjacent to protected areas. If successfully implemented, embarking on a short-term programme to collaborate could help build trust and confidence between the two parties, which is necessary if further dialogue and any understanding is to be achieved in the medium to longer term. However, such solutions brokered at global or national levels must be counterbalanced by the needs and interests of those usually marginalized by such discussions. The challenge lies in making fully representative decisions that are a better balance for all of society's concerns and priorities, as any solutions will most likely involve some elements of compromise on all sides. (See Box 7–8.)

Box 7–8. Huascaran National Park, Peru, and the Antamina Project

The Huascaran World Heritage Site (HNP) is located in the world's highest and most extensive tropical mountain range – it has great wilderness value and holds high levels of unique biodiversity. It also holds significant mineral deposits. Various mining projects within and outside the park, together with a number of small-scale mining activities, are exerting pressure on the area. Worried by the increasing incidence of mining, the HNP requested The Mountain Institute to provide support on mining and conservation issues – and the Huascaran Working Group (HWG) was established. The HWG's mandate was to develop a coordination strategy between the HNP, the mining companies, and other interests. Many useful lessons have been learned by the HWG as it has moved from crisis management towards an institutionalized mechanism for communication and conflict resolution. One key lesson is never to underestimate the level of commitment, time, and resources needed for proper consultation and conflict resolution.

The HWG has been centrally involved in negotiations over the Antamina copper mine – owned by Compania Minera Antamina – which is to extract 270,000 tonnes of ore per day. Despite many constraining factors and difficult negotiations, the company agreed to relocate the main transport route from the centre of the park towards a different route that skirts the edge. They also agreed to transport the concentrate by pipeline rather than by road. This is clearly an example where, once mining had been agreed to, collaboration between the company, park management, and NGOs arrived at a reasonable compromise that has reduced negative impacts significantly.

Source: IUCN, UNESCO World Heritage Centre, and International Council on Metals and the Environment (2000).

The Way Forward

Integrated Land Use Planning

Integrated land use planning is the tool that has been developed in various forms as an aid to making the trade-offs necessary for the sustainable development of land. How it is used is ultimately a matter for governments to decide, for it has to be adapted to the physical planning system in each location. Minerals development will often be the wild card in this process because mineral deposits may not be identified when the planning process starts. The better that minerals projects are managed, the less disruptive they will be of other land use goals.

Any effective planning system needs to reconcile competing claims. These may relate to indigenous territories, compensation problems, the difficult issues of resettlement, and environmental management, among others. The process should recognize legal patterns of landownership, but also the reality of land use as it exists – including when the uses are traditional or informal – and the expectations of local communities based on those uses.

The issues go to the heart of government, and there are as many systems for dealing with them as there are jurisdictions. But the overriding conclusions of the MMSD process on this issue are that whichever system is agreed on, it should be set in law with as few discretionary powers as possible, and be as integrative, participative, and transparent as possible.
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In the various workshops and discussions around the land issue, the following broad themes came to the fore for national governments to act on:

- Each should seek to have an integrated land use planning and decision-making process based on a clear definition of property rights that will satisfy local aspirations but still create an environment in which development can take place.
- All should have in place the mechanisms for equitably negotiated settlement of land claims and competing land uses; these should recognize the rights of the directly affected community to say no when there is a clear indication from a well-established collective or traditional decision-making process that the proposal has been rejected.
- All should have a statutory exploration and mining code of conduct that will incur penalties if breached.
- All should be encouraged to devise a code for interacting with indigenous groups that lays down specific and enforceable procedures, including respect for customary protocols.
- All should suspend operations that do not conform to the requirements of state and international law.
- The existence of a fair and neutral dispute resolution system is a prerequisite for getting things right. If there is no functioning court system capable of independently setting compensation and trusted by the community, such a system must be created, and some form of arbitration must be available for people to turn to if they are dissatisfied with compensation offered.

Governments can also incorporate the role of indigenous traditional knowledge when delineating sacred and heritage sites and making other plans for work on indigenous territories and can, where appropriate, provide economic development funds from royalties and public land rents.

Indigenous Peoples

One of the ideas in this area to emerge from the MMSD process came from indigenous representatives in two workshops on indigenous concerns about the minerals industries: the formation of an international body of indigenous people to study, debate, and make recommendations about whether, how, and under what circumstances minerals companies can interact productively with indigenous organizations. This would include recognition of good practice and the dissemination of information on what this involves.

The UN High Commission on Human Rights (or some other international organization as appropriate) could assist in the formation of such an international body, which could be housed within the Commission. It would convene on a regular basis around a small secretariat of indigenous experts and be comparatively low-cost, without a new institutional apparatus. It would be linked to regional organizations and should help develop principles of best practice in the relationships between indigenous peoples and the mining industry. Part of the mandate would be to establish a clear set of entry conditions to land occupied by native peoples regardless of national jurisdiction. Such a body could also play a watchdog role in calling attention to situations in which indigenous or aboriginal groups allege that they are being abused, and in establishing norms or standards for the gradual negotiation and resolution of conflicts between national and indigenous territorial claims.

Other ideas to come out of the MMSD process include:

- The need to establish an information database, including information relating broadly to indigenous territories, mining, and protected areas. Such a system would have to respect the intellectual property rights of indigenous peoples with regard to land tenure and indigenous territories and the need for confidentiality on some issues of landownership.
- The need to investigate the establishment of independent arbitration to deal with disputes

(whether this would need to be specific to indigenous peoples was not resolved).
- The need to have all states recognize the land and other rights of non-dominant groups.
- The need for each national jurisdiction to develop mechanisms for dealing with the implications of mining for indigenous peoples and other affected local communities and cultural groups in ways that are locally appropriate.
- The need for industry to deal with indigenous people as if a 'consent to mine' were needed, regardless of the law.
- The key point that corporations with a well-developed set of ethical sustainable development policies will always act on the basis of respect for the community.

Resettlement

From the outset, companies need to be creative in trying to avoid resettlement. It may be easy in some places, such as the deserts of northern Chile, to build projects without resettlement. In other cases – in much of India, for instance – it is hard to see how a significant minerals industry could be built without some resettlement.

The ideal is to create conditions of resettlement that will be voluntarily accepted by the affected peoples. But at the extreme, it is hard to maintain, for example, that a handful of people should have a veto over the future of a major project that has been accepted by the majority, any more than that one recalcitrant landowner should be allowed to prevent the building of a rail line or highway.

The MMSD baseline study suggests that conflict over resettlement proposals can be avoided in most cases by adherence to a basic set of practices. Governments should ensure that mechanisms are in place to allow:
- free and willing negotiation on the part of the community (and the host community, where there is one), including freedom from harassment or coercion and following an appropriate and extensive background study on the implications of relocation for livelihoods and culture;
- full and fair compensation of the community for loss of assets and economic opportunity;
- due consideration to the provision of alternative land of equal value and equal income-generating opportunity to the land lost;
- verification systems to ensure that these conditions have been met;
- a clearly established system for negotiation and independent arbitration on resettlement issues, including access to justice through clear, fair, and transparent means of having disputes resolved for anyone who is to be subject to resettlement;
- work with companies and NGOs to ensure that communities have the capacities and structures in place to negotiate on issues such as resettlement prior to the start of any dialogue;
- negotiations to take place with those mandated through broad support to represent the local constituency; and
- ongoing responsibility to deal with problems that occur in the resettled group as a result of the relocation, rather than 'one-off' solutions.

A reasonable starting point from a company perspective is:
- an explicit company policy that there should be no decision made at the outset of a project that results in a community being relocated without consultation or compensation and that recognizes the need to negotiate fully and openly on all related issues;
- an explicit policy that recognizes these effects of displacement and the necessity of mitigating them;
- practices to ensure that where resettlement takes place, locals are net beneficiaries by their own criteria;
- mechanisms and financing to ensure that policy and planning translates into practice;
- stakeholder involvement in decision-making – among the resettled community, the host community where there is one, and any others likely to be affected;
- an assessment of the potential alternative opportunities at the site of relocation and attention to the restoration of economic opportunities and income-earning potential;
- a proactive 'improved livelihoods' approach to the negotiation of land and resettlement issues; and
- deep involvement of affected people in design of the resettlement plan.

The industry can begin, through a lead body such as the International Council on Mining & Metals and in collaboration with other actors, documenting instances of best practice with regard to indigenous peoples. Control is a key issue: those most affected, wherever possible, should decide what is good for them.

Protected Areas

The conservation community is most closely connected with efforts to conserve protected areas, but the current system needs to be improved with the active involvement of government, the private sector, and NGOs, be it mining, agriculture, forestry, tourism, or other extractive industry interests. The various actors, as appropriate to their strengths and opportunities, need to undertake the following:

- IUCN and other conservation and development NGOs, the mining sector, and governmental organizations should establish a forum that aims to achieve consensus on 'no-go' zones for mining and protected areas, on a case-by-case basis, with a priority for World Heritage Sites.
- Some areas will be off-limits to exploration and mining activity. These should be identified through stakeholder consultation, informed by rigorous risk assessment processes, and communicated in a manner that is accessible and appropriate to all stakeholders.
- The mining sector and conservation organizations should work collaboratively to develop a package of published 'better-practice' guidance, which might be showcased at the World Parks Congress in 2003 and other relevant forums, such as the next Conference of the Parties to the Convention on Biological Biodiversity in 2004, on:
  - mining in IUCN Management Categories V and VI, dealing especially with the criteria for determining if mining is appropriate, and if so how it might best be conducted;
  - mining near protected areas, dealing with the considerations that should be addressed in deciding if mining is possible and the conditions that should then be applied to its control; and
  - 'inherited mines' in protected areas (those in existence before the area was protected).
- IUCN, in collaboration with other members of the Union and the World Commission on Protected Areas, needs to explore how to strengthen governments and protected areas agencies' capacity to improve the consistency and strengthen the application of the IUCN categories system. This might require:
  - improving the transparency of decision-making around the assignment of categories;
  - developing more detailed technical guidance regarding the application of the categories system;
  - identifying how to build the latest scientific advances into the biological assessment and the social and economic analyses conducted for protected area category assignments;
  - encouraging governments to carry out periodic reviews of their protected areas system, which could help provide critical information on underrepresented ecosystems, which could be done in conjunction with updates of the World Protected Areas Database;
  - strengthening understanding of the opportunities that protected areas offer the mining industry, to strengthen their capacities and responsibilities for sustainable land use management, including biodiversity conservation;
  - developing a proposal to establish a system for independently certifying that a protected areas category has been correctly assigned and that the area is being managed according to its categorization; and
  - developing a set of demanding principles and strict procedures that should be applied where, for instance, a government decides to de-designate a protected area or adjust its boundaries.
- The various actors should work together on concepts and practices that can help achieve a better relationship between protected areas and other land uses, such as how to incorporate areas of known mineral potential into decision-making about new protected areas.
- Key biodiversity information institutions should undertake 'high resolution' mapping exercise that will identify the scale and extent of threats posed by mining and other sectoral activities to protected areas; it is important that such an exercise identify, where possible, overlaps between protected areas categories I–VI, World Heritage Sites, and areas of high mineral potential.
- The mining sector and conservation organizations should engaged in research and capacity-building partnerships with other sectors, notably the oil and gas industry, while ensuring that local communities' interests are also taken into account – for example, a series of case studies and best practice on innovative but not widely used mechanisms in and around protected areas, such as offsets or participatory planning processes, could be pulled together, giving examples of good and less commendable practices. This information could then lead to the development of principles to guide good practice and could help regulators set the terms for new mining projects.

Endnotes

[1] Leopold (1949).

[2] Onorato et al. (1997).

[3] Bourassa and Vaughan (1999).

[4] There are a number of mapping and other attempts to correlate areas of high mining and exploration interests with territories of indigenous communities, national parks or other protected areas, or biodiversity 'hot spots'. Since it is hard to believe that mineral deposits are concentrated in such areas, the explanation for any such disproportionate interest in these areas merits examination.

[5] Bastida (2001a).

[6] For an overview of the complexity of land tenure rights, see, for example, Toulmin and Quan (2000) p.324. See Crocombe and Meleisea (1994) p.234.

[7] Parr (2002) p.16.

[8] Bastida (2001a).

[9] In the regalian system, the state is the original owner of the minerals without considerations of who owns the surface of the land. The other system is called the accession system, in which the owner of the land is the owner of the mine as well.

[10] Quoted in Warden-Fernandez (2001).

[11] See Bastida (2001a).

[12] Ibid.

[13] See Warden-Fernandez (2001).

[14] Naito et al. (forthcoming).

[15] Williams (2001) quoted in Bastida (2001b).

[16] Bastida (2001b).

[17] McShane (2002); Banks (1994) p.40.

[18] Bonnell (2000) pp.19-87.

[19] Government of Fiji (1999) p.17.

[20] For example, the Department of Forestry and the Native Land Trust Board's rates for merchantable timber.

[21] Banks (2001).

[22] De Soto (2000) p.244.

[23] Downing et al. (2002).

[24] Definition accepted by the United Nations Working Group on Indigenous Populations, taken from Martinez Cobo (1987).

[25] Crain (2001) p.57.

[26] Echavarría and Correa (2000).

[27] Downing et al. (2002).

[28] Office of the High Commissioner for Human Rights (1991).

[29] Dalisay (1999) p.113.

[30] Cabalda et al. (2002).

[31] Forest Peoples Programme, Philippine Indigenous Peoples Links and the World Rainforest Movement (2000) p.89.

[32] Bangulot (2001).

[33] Government of Australia (1993).

[34] Senior (1998) p.14.

[35] Ibid.

[36] Downing et al. (2002).

[37] Innu Nation (1995).

[38] Downing et al. (2002).

[39] Culturally appropriate means that discussions, information sharing, and decisions take place in the group's language and routine formats. High illiteracy of indigenous peoples often demands special methods for communication (Downing 2002).

[40] The Rio Declaration on Environment and Development, the International Convention on the Elimination of All Forms of Racial Discrimination, ILO Convention 169, Agenda 21, the OAS Declaration on the Rights of Indigenous Peoples, the UN Draft Declaration on the Rights of Indigenous Peoples, and the UN Biodiversity Convention.

[41] Downing et al. (2002).

[42] World Bank (2001d).

[43] Cernea (2000).

[44] Asian Development Bank (1998).

[45] Downing (2002).

[46] Hall (2001) p.A3.

[47] Moran (1999) p.22.

[48] Cernea (2000) pp.11-55.

[49] Downing (2002).

[50] Oxfam Community Aid Abroad (2001) p.61.

[51] Tata Energy Research Institute (2001) p.93.

[52] Ballard (2001).

[53] Downing (2002).

[54] World Commission on Dams (2000).

[55] This section is partly based on contributions from Adrian Phillips, Senior Adviser to IUCN, and Dave Richards, Senior Environment Adviser, Rio Tinto plc, and on participants' contributions from the two MMSD Mining and Biodiversity Workshops held in June and October 2001. Under Article 2 of the Convention on Biological Diversity, protected areas are classified as 'a geographically defined area which is designated or regulated and managed to achieve specific conservation objectives'.

[56] Valmik Thapar, personal communication, 2001.

[57] Rössler (2000).

[58] See http://iucn.org/amman/content/resolutions/index.html for more information.

[59] See outputs of workshop held in Gland: IUCN, UNESCO World Heritage Centre, and International Council on Metals and the Environment (2000). Also outputs of workshop held in Kew Gardens in 2000.

[60] World Heritage Sites take up less than 1%.

[61] The Arid Recovery Project, based near Roxby Downs in South Australia, is a joint conservation initiative between WMC Resources, National Parks & Wildlife SA, the University of Adelaide, and the Friends of the Arid Recovery Project. The project also aims to promote cooperation among mining, pastoralism, tourism, and conservation initiatives, while increasing public awareness of arid zone environmental issues, encouraging community involvement in conservation projects, and researching the ecology of arid zone fauna and flora. See http://www.ruralnet.net.au/~aridrp/.

[62] See http://www.gov.mb.ca/natres/pai and http://www.gov.mb.ca/itm/mrd/geo/exp-sup/min-pai.html.

[63] McNamee (1999).

[64] For decision-making criteria, see WWF (2002). The Centre for Environmental Business and Leadership of Conservation International has also been working on the protected areas issue as part of its Energy and Biodiversity Initiative.

[65] Grassle (1991).

[66] Mittermeier et al. (1998).