



Mining, Minerals and
Sustainable Development

www.iied.org/mmsd

MMSD Draft Report for Comment 4 March 2002

Part III: Challenges

Chapter 7 The Control, Use, and Management of Land



International
Institute for
Environment and
Development



World Business Council for
Sustainable Development

Copyright © 2002 IIED and
WBCSD. All rights reserved.

This Draft for comment is not the
final report of the MMSD Project
and it should only be cited with the
word 'Draft' included. It may
change to reflect errors of fact and
balance of opinion based on
comments received by the deadline
date of 17 April 2002. IIED reserves
all rights to make changes for
inclusion in the final version.

Mining, Minerals and Sustainable
Development is a project of the
International Institute for
Environment and Development
(IIED) in London, UK.
The project is made possible by the
support of the World Business
Council for Sustainable
Development (WBCSD).
IIED is a company limited by
guarantee and incorporated in
England. Reg. No. 2188452. VAT
Reg. No. GB 440 4948 50.
Registered Charity No. 800066

Chapter 7: The Control, Use, and Management of Land

<i>Land and Society</i>	3
<i>Integrated Land Use Planning</i>	6
<i>Land Tenure and Mining Law</i>	8
<i>Royalties and Compensation</i>	12
<i>Land, Mining, and Indigenous Peoples</i>	17
<i>Resettlement Issues</i>	25
<i>Protected Areas</i>	28
Mining Perspectives	30
Conservation Perspectives	31
The Challenges	32
<i>The Way Forward</i>	35
Integrated Land Use Planning	35
Indigenous Territories	35
Resettlement	37
Protected Areas	39

Sustainable development, as described in Chapter 1, assumes some fundamental principles, sets clear objectives for the sector, and calls for some tough choices and actions in a number of areas. It calls for community involvement, the observance of the principle of subsidiarity, the assurance of prior informed consent freely given and arrived at democratically at the local level to any development, and a respect for the diversity of cultures. Perhaps nowhere is the need for dealing with the complex changes that sustainable development requires more acute than in relation to decision-making around land.

Land is where people work and live, and in many cases where their ancestors settled and their cultural and family traditions are based. People 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 of 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, 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, which also have profound impacts on communities, ecosystems, and land use. Mines, however, can only be located where there are mineral deposits. They cannot be moved around – at least not much – to avoid areas that are highly valued for other reasons. There is therefore a much starker choice: if a deposit is going to be mined, there is only one place it can be done. This means conflicts tend to be not over how to conduct mining, but whether a deposit is 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 competing land uses, tenure and compensation issues, equitable decision-making, and three key issues in this hotly debated area: 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.

Much of politics, economy, society, culture, and people’s world view is grounded in land and how it is used. Clearly, then, a system of economics that has not learned to absorb these multiple and profound values cannot be the only meter for land use decision-making. Nor can an economics focused on short-run returns govern land use decisions in a sustainable development framework.

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. In many countries, local

planning authorities require that a notice or sign be posted informing anyone who cares to read it that there is a pending action of some sort.

- *Consultation* – The right to consultation requires more and may be the minimum due to anyone whose use and enjoyment of benefits from land could be affected; 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 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. It entitles those potentially affected to participate in the decision-making process in defined ways at defined times. Most environmental and socio-economic impact assessment processes fall into this category.
- *Compensation* – Discussions about compensation are appropriate where individuals or groups are required to surrender recognized legal or traditional rights for what is determined by government through legislation, judicial decisions, or issuance of permits to be 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 of decision* – Individuals or groups have the right simply to say ‘no’ to some land use decisions. A landowner in some countries owns not just the surface but any minerals under it and can simply say “no” if asked to sell. 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 other 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, sympathetic officials, and others need to develop tribunals, arbitration, dispute resolution, mediation, or some other mechanism.

Land use disputes could occur throughout the chain or cycle of mineral 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 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 multiple impacts of human activities.

But mines must be sited where there are minerals. Yet there are often opportunities for coexistence among different land use objectives. The same tract of land may be a historic park, a watershed, grazing pasture, and a wildlife habitat. The widely shared perception,

however, is that few if any other land uses are consistent with mining. On the other hand, mines are a temporary use of the land, and 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 publicly and privately owned in most countries, whereas the mineral rights are owned 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. 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 this stage to ensure an adequate scoping of closure issues?
- *Tenure* – Rarely do landowners also own mineral rights. Often land users and occupants are not recognized as the formal owners. Equally, some land occupants within traditional systems may see themselves as communal stewards and not individual owners of their land. What principles should govern interaction between such communities and the mining sector?

- *Equity* – What principles and practices should govern company negotiations for access to land that is occupied by people whose rights to that land are not formally recognized by the state, or who do not have the capacity to defend those rights? Equally, what legal and administrative mechanisms need to be in place to establish legitimate ownership under traditional systems, and to discourage opportunistic land claims?
- *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. First, while the land needed for mining is a small fraction of Earth’s surface, exploration 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. Thus the kinds of concessions that other industries have been able to make to competing uses of land pose greater challenges for this sector.

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 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.

In developing countries that lack political stability and clearly defined systems for recording land titles, particularly in rural areas, land may not cost much, but title may be so insecure that the land is similarly unavailable for mining. Thus land of interest for exploration and mining falls in an intermediate zone: where the cost of obtaining access must not be so high as to be prohibitive and the title must be sufficiently secure not to scare off investors.

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, with little or no consultation with local people. It is hard for mining companies to stay 'neutral' in such situations.

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 7–1.) 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 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.

Box 7–1. 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).

The starting point of this discussion is a clarification of the issues associated with land tenure and minerals 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 complex issues to the traditional equation 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, which 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 and without the freely given prior informed consent of the occupiers and 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.

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.

For mining companies, as noted, the predominant concern with regard to land is security of mineral 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

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. These provisions are not prominent among the new generation of mining codes in recent years. 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 clear rules, trustworthy dispute resolution, and prompt decisions as long as these respect the rights of stakeholders to be involved and respect the process of ensuring that things are done correctly in terms of assessing the benefits and impacts of a proposed project – all of which are prominent features of reformed mining codes. The important feature to realize is that everyone should have these rules. While the economic power of mineral investors has given them the leverage to insist on these things, many other people – including some whose livelihoods are at stake – still do not have access to a similar decision-making apparatus. Until they do, it will be difficult to reach decisions they accept and trust. That in turn will undermine the security of investment that mining code reform has sought to achieve.

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

However, this consideration of legal complexities does little to address the relationship between the mining company and the legitimate landowner or user of the land if the latter does not have rights that are recognized by the state. 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.

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 the question of who controls a mining operation and who gets its revenues, latent conflicts can quickly escalate.

Equally, for a variety of reasons – including political pressure, lack of democratic rights, a concern about separatist tendencies threatening the territorial integrity of the state, corruption, and lack of decent systems of survey and delimitation of boundaries – some governments do not extend to such communities the right of decision-making over their own land. (This issue is discussed more in the section on indigenous peoples.)

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. As noted earlier, sustainable development requires identification of and consideration for everyone who has a vested interest in the land. 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.

For companies, explicit recognition of the right of communities to know about proposed developments and the right of prior informed consent freely given and arrived at democratically as principles of industry practice would make significant inroads into the mistrust that many communities and, in particular, indigenous landowners have of mining companies.

Ultimately, the question of local priorities versus national sovereignty has to be dealt with. Where national constitutional law recognizes the state as the owner of the minerals and does not recognize the rights of communities or traditional landowners to their land, how should mining companies react? How far can a company go in asserting sustainable development principles with regard to land in such situations? 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. The key is that corporations that have a well-developed set of ethical sustainable development principles will act on the basis of respect for the local community.

Royalties and Compensation

Three types of land-related payment may accrue from mining. Two of these are designed as a return to 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. In many cases, however, the land under which minerals are found may be owned privately but the state holds the mineral rights, which can be a source of resentment and conflict as the landowner does not share in the revenues from mining. 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 is often in fact 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, usually through the loss of amenity value, loss of use, loss of access, or damage to or conversion to alternative use of land, natural and planted vegetation, or waterways. Yet payment for damages does not make either communities or individual 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.

Where property rights are only poorly defined, which is the case in many developing countries, these systems may not compensate all economic interests in a way deemed fair. 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 completely.

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 what the law specifies.

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 this case, what needs to be done to ensure fair, efficient, and effective systems of compensation?

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 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 at sites. 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. The existence of a fair and neutral dispute resolution system is a prerequisite for getting things right.

In most countries, courts are supposed to fulfil this function, but in rural areas of some countries the courts are weak. It may not even be possible to locate them. Their procedures may be arcane or incredibly slow. But most of all, they are not trusted, often with good reason. 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. There seems to be no real alternative: if there is no functioning court system capable of independently setting compensation and trusted by the community, such a system must be created – perhaps some form of arbitration for people to turn to if they do not agree to the company’s offer.

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.

It is of course difficult to make an empirical comparison of policy regimes, as each jurisdiction has unique facets that have to be incorporated into policy development. 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.

The outcomes of the Development Forum take the form of a series of three Memoranda of Agreement between the landowners, the provincial governments, and the national government. They typically cover issues such as the provision of infrastructure, the delivery of government services (including local staffing), the breakdown of royalty payments, funding commitments, and the provision of equity for local communities and provincial government.

To date the Development Forums have been instrumental in achieving a higher level of participation by local communities, local governments, and provincial governments in the mine development process. Although they are convened to discuss proposals for development, their 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 respect 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 appraisers 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. In the subsistence economy, for example, a piece of

land may be capable of providing a livelihood to a family, while in the cash economy it has a very low market value.

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 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.

In any case, discussions about compensation are only relevant after any outstanding land rights issues have been recognized and acceptable mechanisms for the resolution of such issues have been set in place. A discussion of compensation where communities feel that there has been no prior attention to their rights is more likely to foster resentment and opposition than participation.

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. Many examples of this exist. 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

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.²³ The association with land is fundamental for these societies; the connection is exemplified in the name of indigenous people from Argentina and Chile, *Mapuche*, which means people of the land.²⁴

Indigenous peoples are a special case of public interest and community. The characteristics that set them apart in the wider society are:²⁵

- *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.

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, such as stalling or 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.²⁶

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.

International law acknowledges the innate rights of indigenous peoples to recognition as distinct societies, yet 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, indigenous people are the majority of the population and their rights are explicit in the constitution, including rights to compensation, full and prior informed consent, and consultation related to mining proposals.
- In Australia and Canada, acknowledgement of indigenous rights has followed from legal actions to establish the grounds for negotiating indigenous land entitlement. The situation is complicated by outstanding native title claims. Mining development is negotiated on a case-by-case basis, and varies between and within states and provinces.
- In many countries in Africa, the majority of people are tribal and consider themselves to be indigenous, but they have varying degrees of land rights and recognition.
- In the Philippines and Indonesia, legal instruments exist for the protection of indigenous rights, but they either are not applied or are applied in a capricious and uneven manner and not in a way that meets the needs of indigenous people.
- In the former Soviet Union, indigenous groups are beginning to rediscover indigenous identities, but the apparatus of the former centralized government system is only just beginning to respond to community rights issues.
- In countries such as Brazil, Bolivia, or Peru, indigenous movements have gained sufficient political momentum to gain public attention, but rights, though often well defined on paper, are poorly upheld in reality.
- In states such as Myanmar (formerly Burma), indigenous identities are not recognized.

Where legislation exists, indigenous communities may have full control over their territory except for mineral rights, which belong to the central government that feels entitled to grant mining concessions to them. 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.

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.

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.²⁷ 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 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 not only cover the physical environment but the total environment, including 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.

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:

- The Constitution provides that minerals are owned by the state. However, the IPRA provides that ancestral domains include minerals and that the ICCs/IPs have claims of ownership by virtue of their pre-conquest rights traced since time immemorial.
- Under the Native Title Concept, indigenous peoples' property rights can be interpreted to extend since time immemorial, and therefore property rights granted later by the government (such as mining rights) are effectively extinguished.
- 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. It is also not the state but the ICCs/IPs who have the right to enter into agreements for the development and use of the natural resources.

- The IPRA states that in the principle of self-delineation, ancestral domain shall be identified and delineated by the ICCs/IPs themselves. The principle of self-delineation is unclearly defined, as is the definition of an ancestral domain, which may mean that millions of hectares are closed to mining.
- In the realm of mining, the main question being raised is on the proper authority 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.²⁸

MMSD is obviously not in a position to resolve these allegations. It does appear clear, whatever the truth of any specific allegation, that fears by local people that the interests of mining companies threaten their land tenure are common in Philippines and some neighbouring countries, such as Indonesia.

In some situations, conflict is increased by a lack of understanding about traditional attitudes toward land or tribal ways of making decisions. It is not always clear to those outside the indigenous group how to proceed, what constitutes prior consent, when the answer is 'no', or what the appropriate means of negotiation may be. Frustration has also been voiced with respect to the well-meaning activities 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. Equally, 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. But such discord may accompany any type of development, particularly where mining also introduces a cash economy. Mining is often the only development choice, and it may be sought after by local communities.

There is also a lack of trusted mechanisms for resolving conflicts. This may be tied to lack of capacity of government entities entrusted with protecting indigenous rights and a lack of confidence in those institutions on the part of indigenous peoples. 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 the definition of approaches that contribute to the just, expeditious, and effective settlement of land use disputes (such as using local intermediaries who may lack sympathy for indigenous concerns and understanding of emerging global norms); and
- the 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.

The Mabo Case in Australia provides a recent example of a reversal of legal recognition in respect 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.²⁹

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 Hammersly Iron Pty for the Yandigicoogina Iron Ore project.³⁰ 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.³¹

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.³²

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 explore a mechanism for an international body, run and advised by indigenous people, to gather information about the performance of different companies and different projects, with a view to rating them in terms of success in dealing with indigenous communities. 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.

There are cases of indigenous communities concluding that mining is part of a positive future for them, and agreeing to and supporting mining operations in their territory. There are also situations in which indigenous communities do not want anything to do with mining in their territories and will resist intrusion by all available means.

Many complex factors affect these different positions, but perhaps the most important is the question of control. If the 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 may decide that mining can proceed. Where their control over their land is challenged, they are denied a decision-making role, and they get no share of any revenues, the result is likely to be fairly predictable – and quite negative to proposals for mining.

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. It would seem that promoting their resolution on bases acceptable both to indigenous organizations and national governments would clearly be in the industry’s interest. 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.

Ultimately, however, there is the question of state sovereignty versus the more local interests of local communities. In this respect, national governments are charged with striking a balance between generating wealth to satisfy the national interest and recognizing the needs of citizens and communities. Some local communities, however, do not recognize the power of the state to assume this role, particularly when it means that their wishes or rights will be ignored. These are broader political questions that need to be resolved by states in the context of sustainable development and through establishing an equitable balance between local and national interests. Mining initiatives, however, should not take advantage of any uncertainty surrounding land issues and should always be negotiated in the spirit of evolving international norms concerning the rights of indigenous peoples.

The sector does not have to look far for guidance on improving relationships with indigenous communities. (See, for example, Box 7–2.) There is a rich history of attempts at constructive dialogue around these issues. The Proceedings of the Canadian Aboriginal Minerals Association’s (CAMA) 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’.³³ 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.

Box 7–2. 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 (ANCSA) 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).

Resettlement Issues

In some cases, building a mine involves relocating a whole or part of a community. Experiences with relocation have often been unfavourable. Mining-induced displacement and resettlement (MIDR) significantly increases the risks that local people will be impoverished and will end up subsidizing the mining project by giving more than they get.³⁴ The argument that some must lose so that others may profit (for example, where a national priority overrides local ones) is unacceptable and shatters public support for the industry, particularly if the poorest people are being asked to make sacrifices for the benefit of those perceived as rich.

Local resistance to MIDR is building in many places, as people and governments try to shield themselves from the transferred social and economic costs of MIDR. In northwestern Peru, for instance, local farmers in the San Lorenzo valley wish to maintain the Tambogrande area as a fertile agricultural zone rather than support a large open pit copper/silver/gold mine that would move 1600 families to new housing provided by the project.³⁵ 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:

Clearly, the proposed Tambogrande mine will have substantial impacts on the social fabric of those living at and near the site of the proposed mine. 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... While the Ministry of Energy and Mines have said that the mine will not be developed without the support of the local people,...[t]hey have all but decided that the project should be approved, despite the obvious negative opinions of thousands of the local citizens.³⁶

Displacement and resettlement can be involuntary or voluntary. Displacement may also take place automatically as the result of mining or mining-induced change to environments, in particular where people's livelihoods are tied to resources that are depleted or damaged by a project.

A World Bank report notes: 'Compulsory displacements that occur for development reasons embody a perverse and intrinsic contradiction in the context of development. They raise major ethical questions, because they reflect an inequitable distribution of development's benefits and losses.'³⁷ It is hard to find many cases of involuntary resettlement that have clearly preserved or enhanced the well-being of those resettled.

The following essential challenges to address in association with displacement and resettlement have been identified:³⁸

- *Landlessness*: People's production systems – their land – have 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, by agreement, there have been problems. (See Box 7–3.) 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.³⁹

Box 7–3. 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 that is 90% owned by Rio, ignored human rights abuses.

Source: Oxfam Community Aid Abroad (2001).

One experience in Papua New Guinea exemplifies some of the tendencies just described – both good and bad. The Porgera mine there has been called one of the most spectacular successes of the mining industry in recent times, with gold output of 1.5 million ounces at its peak in 1992. When mining began in 1990, an estimated 12,000 people lived in the area.

By the end of 1994 more than 4000 people had been relocated to make room for development of the mine.⁴⁰ By the end of 1996, some 40 million kina (US\$19.2 million) had been paid to local landowners for environmental damage and relocation.

While relocation improved the quality of life for a large number of people, it also locked them into a less mobile lifestyle and brought on food shortages occasioned by a high birth rate and in-migration of others to the area in search of benefits. The resettled population also suffered a significant increase in marital breakdown, as landowning men often left once they received their share of compensation.

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.⁴¹

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 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 getting information at different stages regarding the nature of the project, cost/benefit analysis, extent of acquisition, and displacement in order to raise objections;
- 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; and
- displacement shall not take place unless the compensation is paid, an alternate land is allotted, and the rehabilitation and resettlement process is complete.

Again, part of the problem lies with government. 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.⁴²

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.

Another issue concerns the role of law in decisions about land. Lawyers, for example, often tell their clients that squatters have no legal rights to the land, which is equated to having no rights to land at all. Compensation is often linked to formal legal rights, and in many jurisdictions informal occupants of the land are simply chased away. While such communities and families are often regarded as illegal occupants, these distinctions may not have existed or may have been irrelevant when they arrived.

Mechanisms need to be strengthened so that those 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.

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.⁴³ 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, mining included, are pushing to realize the economic value of the resources held within these areas.⁴⁴ A recent survey identified 44 World Heritage Sites now affected or potentially affected by mining.⁴⁵ There is also considerable anecdotal evidence regarding mining threats to protected areas.⁴⁶

To protect the biodiversity held within protected areas from the negative impacts of mining, the IUCN World Conservation Congress in 2000 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.⁴⁷ (See Box 7–4 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. This recommendation was adopted by a show of hands. Of the states present, the US was the only government to vote against it.

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 – as articulated in the IUCN recommendation – for some time.⁴⁸ 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 4% of land. The recommendation has formalized the conservation community’s opinions on mining and protected areas – that they are so valuable to natural heritage, they deserve to be singled out for extra protection from destructive economic development activity, and 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.

Box 7–4. Protected Areas

Protected areas have a long history and are found world-wide. They are areas of land or water especially dedicated to the conservation of biological diversity, and also 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). These 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 the science of 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 protection and recreation; and
- VI. *Managed Resource Protected Areas* – for the sustainable use of natural ecosystems.

Box 7–4. Protected Areas (continued)

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, protected areas are now 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).

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. Their reluctance to accept IUCN protected area Categories I–IV as ‘no-go’ areas does not stem from a belief that they have a right of access to all land, rather 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.

The industry believes that there are also technological developments to consider. 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.⁴⁹ 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 of 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 these more rigorous planning conditions, could provide livelihood options for local people living in marginal areas, and help reduce exploitative pressures on protected areas.

The mining sector 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 minor 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. (See Box 7-5.) 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 on the viability of the protected area that can outlast the mining activity itself.

Box 7-5. Los Frailes – Boliden Apirsa SL Zinc, Lead, 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 Aznalcóllar, in the Iberian pyrite belt, and mining in the region dates back to Roman times. In 1979 Andaluza de Piratas (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

Box 7-5. Los Frailes – Boliden Apirsa SI Zinc, Lead, Copper, Mine, Spain (continued)

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> and Mining Technology website, http://www.mining-technology.com/projects/los_frailes.

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 also some scepticism regarding the use of mining revenue for protected areas management and capacity building: 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. In November 2001, three Canadian environmental NGOs reported that mining threatens more than half of the 378 new parks and protected areas created under Ontario's Living Legacy. The groups are reviewing mining activity within the new parks under the Environmental Bill of Rights and have already uncovered nine parks and reserves with immediate mining threats, despite being officially protected from new mine claims.⁵⁰ There is also a great deal of suspicion around proposals to have 'rotating' parks that would temporarily remove some of the conditions of protected status.⁵¹ 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 conservation sector believes 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 notable advances in the debate, and also a few attempts at designing decision-making criteria.⁵² 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 workshop, 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, leading to the existence of protected areas that no longer fit their original category. 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 political reasoning 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 – as science, and the knowledge it generates, is constantly evolving, so does understanding of what might be ‘best’ for biodiversity conservation. The biodiversity of the deep seas was previously thought to be non-existent, for instance, but recent research has found it to be more complex even than comparable terrestrial fauna, with high rates of endemism.⁵³ 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.⁵⁴

However, while some protected areas designations may not be in tune with recent science, many still continue to maintain some ecosystem services or other important 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, but there could also be a great deal to gain for conservation.

In practice, there seems to be a system for designating but not for de-designating protected areas – probably because there is concern that a robust and globally representative system of protected areas has not yet been achieved. However, the quality of protection will continue to be constrained if additional funding is not forthcoming. Thus, increasing land under protection might serve to undermine effectiveness, as the scarce resources to protect land are spread over an increasingly wider area.

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. And they are often poorly funded, which results in weak management and planning regimes. It is hardly surprising, therefore, that most 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 pressures of various kinds are a reality in the OECD 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 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 that 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. But there is still much work to be done before there are sufficient levels of trust to enable this to happen. Yet if the mining sector is to be excluded, or encouraged to exclude itself, these potentials will not be realized.

Box 7–6. Huascarán National Park, Peru, and the Antamina Project

The Huascarán National Park (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 park. Worried by the increasing incidence of mining, the HNP requested The Mountain Institute to provide support on mining and conservation issues – and the Huascarán 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 got centrally involved in negotiations over the Antamina copper mine – owned by Compañía Minera Antamina – which is to extract 20,000 tonnes of copper a 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 potential impacts significantly.

Source: Case study on Huascarán National Park and the Antamina Project. In International Union for the Conservation of Nature, UNESCO World Heritage Centre and International Council on Metals and the Environment (2000).

The role of government in helping to resolving 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 the contributions of international and national NGOs have been critical, there is a chance that the mining sector could make some contribute to conservation. Without some such support, and not only from the mining sector, 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, notably through IUCN, 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 therefore lies 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 7–6.)

The Way Forward

Integrated Land Use Planning

Integrated land use planning is the starting point for a framework capable of making the trade-offs necessary for sustainable development. The focus of land use planning efforts can be a river basin, an administrative region, or other appropriate unit. 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. This requires effective answers for dealing with indigenous territories, compensation problems, the difficult issues of resettlement, and environmental management. The planning process should recognize legal patterns of landownership but also the reality of land use as it exists – even if the uses are traditional or informal – and the expectations of local communities based on those uses.

Indigenous Territories

One of the most useful ideas in this area to emerge from the MMSD process is one that 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.

International agencies or organizations could:

- Assist in the formation of an international body to deal with the implications of mining for indigenous groups. Such a body could be housed within an existing structure such

as the United Nations High Commission on Human Rights. It would convene on a regular basis around a small secretariat of indigenous experts and be comparatively low-cost, without a huge new institutional apparatus. It would be linked to regional organizations, particularly in civil society, and should help develop principles of best-practice 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 that accredited companies will not breach. Such a body could also play a vital watchdog role in calling attention to situations in which indigenous or aboriginal groups are abused by national government, and in establishing norms or standards for the gradual negotiation and resolution of conflicts between national and indigenous territorial claims.

- Establish an information database, including information relating broadly to indigenous territories, mining, and protected areas, while taking care 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.
- Investigate the establishment of independent arbitration to deal with disputes.
- Bring increasing pressure to bear on states to recognize the land and other rights of non-dominant groups.

National governments should consider:

- working toward integrated land use planning decision-making and development through attention to the capacities of the land planning and policy making departments of government;
- developing the capacities needed for a definition of property rights that will satisfy local aspirations but still create an environment in which development can take place;
- setting in place the mechanisms for equitably negotiated settlement of land claims;
- incorporating the role of indigenous knowledge into delineating sacred and heritage sites;
- providing economic development funds from royalties and public land rents;
- requiring performance bonds;
- negotiating mechanisms that recognize the rights of all stakeholders and particularly the right of the community to say no when there is clear indication of a well-established collective decision-making process that has rejected a project;
- making an exploration and mining code of conduct part of statutory requirement that will attract penalties if breached;
- being encouraged to devise a code that lays down specific procedures for interacting with indigenous groups, including customary protocols to be enforced;
- suspending operations that do not conform to the requirements of state and international law; and
- developing new ways for dealing with indigenous people and mining based on an improved livelihoods approach.

Governments can also:

- incorporate the role of indigenous knowledge into delineating sacred and heritage sites;
- provide economic development funds from royalties and public land rents;
- make an exploration and mining code of conduct part of statutory requirement that will attract penalties if breached;
- be encouraged to devise a code that lays down specific procedures for interacting with indigenous groups, including customary protocols to be enforced; and
- suspend operations that do not conform to the requirements of state and international law.

Industry should police compliance through associations or a global ombudsman. In addition, it could:

- police compliance with negotiated multistakeholder standards for dealing with land issues and in particular indigenous peoples, through associations or a global ombudsman;
- encourage a corporate culture at the project level that strives to include full community participation and harmonious relationships through the use of instruments such as good neighbour agreements where these are not already in use; and
- deal with indigenous people as if consent to mine were needed, regardless of the law.

Resettlement

Involuntary displacement is to be avoided, but it then it could be said that all resettlement can be regarded as involuntary until a negotiated agreement is reached between the parties. 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. Another relevant factor is who is being resettled and what ties those people have to the land. Resettling a few individuals who have lived on the land for a short time seems much easier to accept than resettlement of substantial communities with ties that go back generations. There are, as so often is the case, trade-offs.

It is tempting to say that there should never be an involuntary resettlement. Indeed, the ideal is to create conditions of resettlement that will be voluntarily accepted by the affected people. But at the extreme, it is hard to say that a handful of people should have an absolute veto over the future of a major project any more than that one recalcitrant landowner should be allowed to prevent the building of a rail line or highway.

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;
- an explicit policy that recognizes these effects of displacement and the necessity of mitigating them;
- practices in place 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 pro-active ‘improved livelihoods’ approach to the negotiation of land and resettlement issues; and
- deep involvement of affected people in design of the resettlement plan.

The task of consulting and informing the community might best be given to a locally trusted organization or figure independent of the company rather than company officials. In some places, this might be local government. In others, government motives are mistrusted at least as much as those of the company.

Equally, 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 and the private sector, be it mining or tourism interests. The various actors, as appropriate to their strengths and opportunities, need to undertake the following:⁵⁵

- 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 fora, on:
 - mining in 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 – this could be done in conjunction with updates of the World Protected Areas Database;
 - 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.
- Mining companies should make every effort, when mining within or near to a protected area, to implement the highest levels of good environmental practice. Wherever possible, technologies that minimize impacts should be applied within these 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 and areas of high mineral potential.
- 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.
- The mining sector and conservation organizations should engaged in research and capacity-building partnerships on these issues 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 protected areas, such as offsets or trade-offs, 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 (2001).
- 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 (2001).
- 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 Leyton (2001) p.13.
- ¹² Bastida (2001).
- ¹³ See Warden-Fernandez (2001).
- ¹⁴ Naito et al. (forthcoming).
- ¹⁵ Williams (2001) quoted in Bastida (2001b).
- ¹⁶ Bastida (2001b).
- ¹⁷ McShane (2001); 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 Definition accepted by the United Nations Working Group on Indigenous Populations, taken from Martinez Cobo (1987).
- ²⁴ Crain (2001) p.57.
- ²⁵ Echavarría and Correa (2000).
- ²⁶ Office of the High Commissioner for Human Rights (1991).
- ²⁷ Dalisay (1999) p.113.
- ²⁸ Forest Peoples Programme, Philippine Indigenous Peoples Links and the World rainforest Movement (2000) p.89.
- ²⁹ Government of Australia (1993).
- ³⁰ Senior (1998) p.14.
- ³¹ Ibid.
- ³² Downing et al. (2001).
- ³³ Innu Nation (1995).
- ³⁴ Downing et al. (2001).
- ³⁵ Hall (2001) p.A3.
- ³⁶ Moran (1999) p.22.
- ³⁷ Cernea (2000) pp.11-55.
- ³⁸ From Sonnenberg and Munster (2001) pp..
- ³⁹ Oxfam Community Aid Abroad (2001) p.61.
- ⁴⁰ Filer (2000).
- ⁴¹ TERI (2001) p.93.
- ⁴² Ballard (2001).
- ⁴³ World Commission on Dams (2000).

⁴⁴ This section is partly based on contributions from Adrian Phillips, Senior Adviser to IUCN, and Dave Richards, Senior Environment Adviser, Rio Tinto plc, and participants' contributions from the two MMSD Mining and Biodiversity Workshop held in June and October 2001.

⁴⁵ Rössler (2000).

⁴⁶ Valmik Thapar personal communication. [[Date needed]]

⁴⁷ See <http://iucn.org/amman/content/resolutions/index.html> for more information.

⁴⁸ See outputs of workshop held in Gland: International Union for the Conservation of Nature, UNESCO World Heritage Centre and International Council on Metals and the Environment (2000). Also outputs of workshop held in Kew Gardens, also in 2000.

⁴⁹ A collaborative venture between WMC Resources Ltd, Adelaide University and the SA Department of Environment, Heritage and Aboriginal Affairs, and the Friends of the Arid Recovery Project in the Roxby Downs area of South Australia. The aim of this venture is to restore the desert area to its condition prior to damage caused by cattle grazing and feral predators.

⁵⁰ Toronto Globe and Mail (2001). Or, Press Release from Wildlands League, Canadian Parks and Wilderness Society at <http://www.wildlandsleague.org/nov2601.html>

⁵¹ McNamee (1999).

⁵² For advances, see MMSD Mining and Biodiversity Workshop Minutes, June and October 2001 at <http://www.iied.org/mmsd>; for decision-making criteria, see Dudley and Stolton (2001). The Centre for Environmental Business and Leadership of Conservation International has also been working on the protected areas issue as part of their Energy and Biodiversity Initiative.

⁵³ Grassle (1991).

⁵⁴ Mittermeier et al. (1998).

⁵⁵ Based on suggestions put forward by participants at the two MMSD Mining and Biodiversity workshops.