

A PROFILE OF THE MINERALS SECTOR

58	Industry
61	<i>The Large Multinationals</i>
62	<i>Medium-Sized and National Players</i>
63	<i>Juniors</i>
63	<i>Consultants, Contractors, and Service Companies</i>
64	<i>Traders</i>
64	<i>Fabricators</i>
64	<i>Recyclers</i>
64	<i>State-Owned Companies</i>
65	<i>Workers and Labour Unions</i>
66	Governments
66	<i>National Governments</i>
67	<i>Other Levels of Government</i>
67	Inter-governmental Institutions
68	Civil Society and NGOs
70	Communities
70	Shareholders and Financial Institutions
71	Consumers
71	Research Institutions
72	Endnotes

Sustainable development requires a redefinition of roles and a strengthening of institutions dealing with economic development as well as social and environmental concerns. In the past, the key players in the minerals sector might include governments, a few companies licensed to extract minerals, and a few recognized traditional groups living in or near mineral reserves. While international organizations and financial institutions were active in aspects of minerals activities, their focus has changed over the past few decades. Other actors, including non-governmental organizations (NGOs) and consumers, have also become more involved in recent years and focused greater attention on the minerals sector. The number of constituencies and their demands are thus far more diverse today.

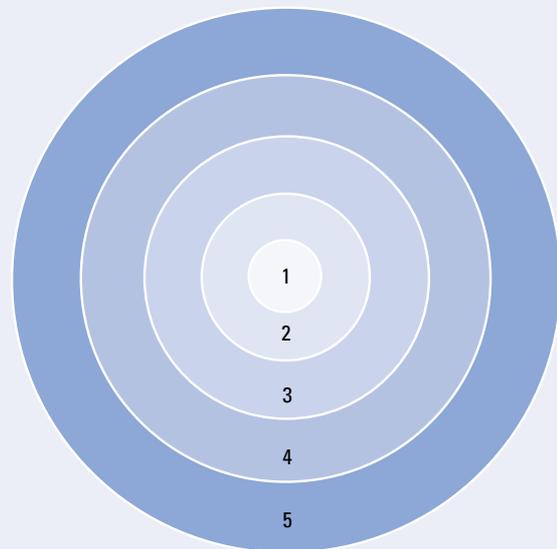
At every level, from the international to the local, there are constituencies who consider themselves legitimate voices in the minerals sector. At times, their claims of legitimacy can be difficult to evaluate. Central to sustainable development is the need to understand who the 'stakeholders' are, how to evaluate their legitimacy, how to ensure their accountability, and how to build their capacity. (See Box 3-1.) There is also a need to consider differing levels in capacity and differences in power among interested parties, not least because some participants lack power since they do not have the resources and information to be included in decision-making.

Industry

In the global context, the minerals industry is relatively small. The top 150 international minerals companies had a combined market capitalization of only US\$224 billion at the end of September 2001 – smaller than companies such as General Electric and ExxonMobil. (See Figures 3-1 and 3-2). There is one striking difference between the mining industry and the oil and gas industry, with which it is often lumped statistically: while there are individual mine projects that are quite profitable, mining companies that do better than the average, and years that are better than others, the industry as a whole has not been doing very well. The mining industry exhibits volatile returns: over the past 25 years, it has failed to produce a long-term return that meets its cost of capital.¹

Box 3-1. Who Is a Stakeholder?

There is a good deal of importance given to 'stakeholder process' in sustainable development. Of course, the definition of a 'stakeholder' in the minerals sector depends on the issue at hand. (See Figure for examples of different categories of stakeholders, from the smallest to the broadest group.) In some cases, such as local skills development, stakeholders will be concentrated in the local community but may also include company representatives, government, labour, and civil society groups. For other issues, such as the impact of energy use in the minerals sector on climate change, the stakeholder group is likely to be much larger and more globally distributed. Whatever topic is under discussion, there will be both direct and indirect stakeholders.



- 1 **Stakeholders with a veto**
Examples: Duly constituted government authorities with discretion to deny permits; landowners who own mineral rights who are under no obligation to sell.
- 2 **Stakeholders with a right to be compensated**
Examples: Surface owners who do not own mineral rights; injured workers; communities requiring resettlement.
- 3 **Stakeholders with a right to participation**
Examples: Some national indigenous agencies; local planning authorities; people entitled to participate in EIA processes.
- 4 **Stakeholders with a right to consultation**
Examples: Affected persons whose views must be sought; neighbours; non-decision-making government agencies.
- 5 **Stakeholders who should be informed**
Examples: Suppliers; the media.

Figure 3–1. Market Capitalization in the Mining Sector, 28 September 2001

Source: NM Rothschild & Sons (Australia) Ltd, Bloomberg

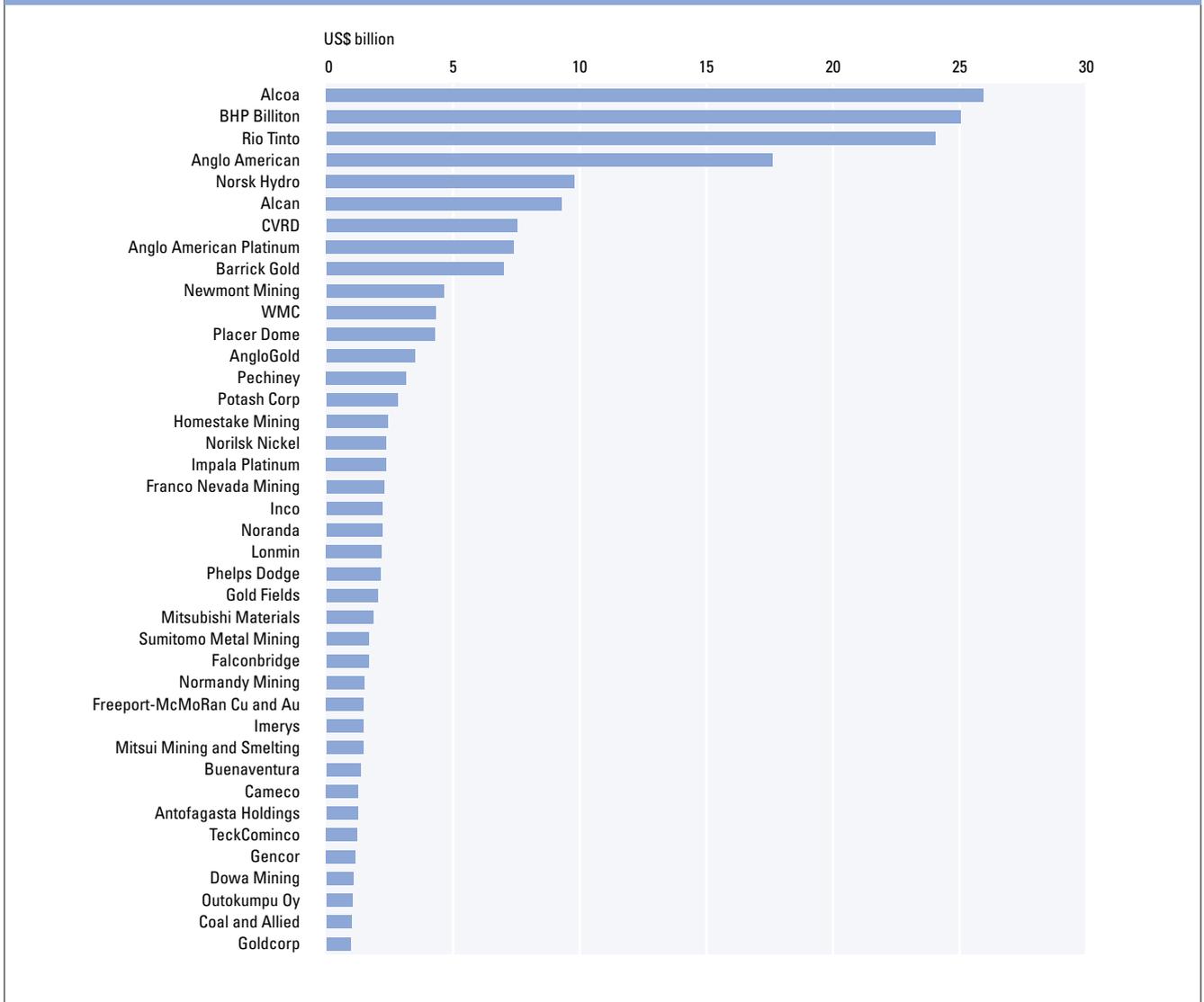
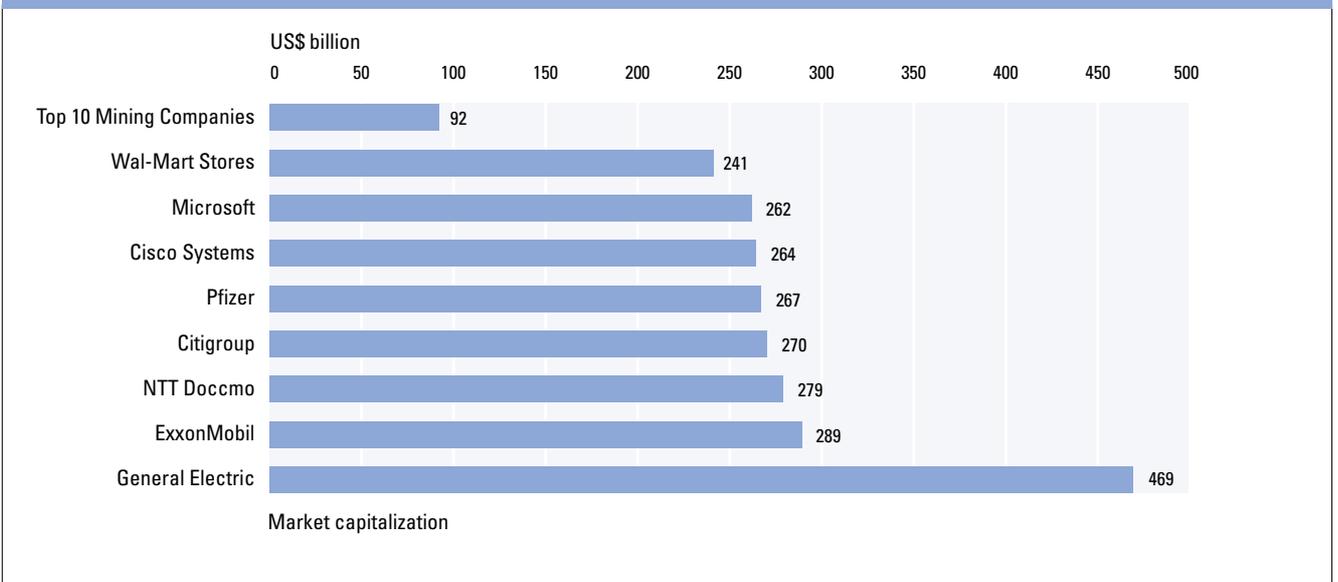


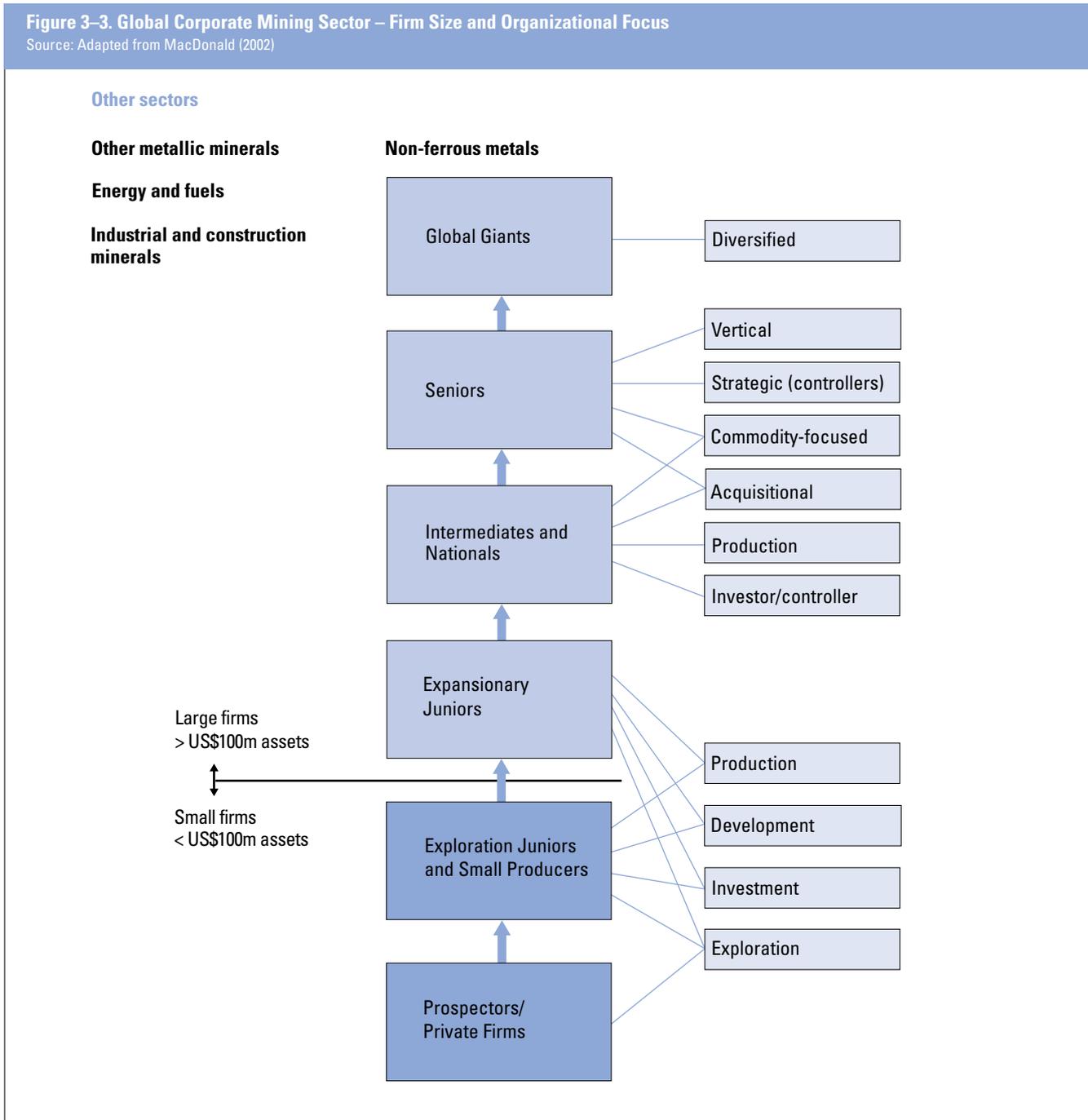
Figure 3–2. Mining Sector Capitalization versus Other Sectors

Source: World Bank, July 2001 figures



The structure of the minerals industry appears complicated and disparate. On closer examination, however, it can be shown to exhibit the characteristics of an integrated production system, with companies occupying identifiable niches and using various business strategies to reduce risk and to create opportunities for growth and upward mobility in the system.² (See Figure 3-3). Junior companies find new

ore bodies and sell them on to the larger companies. Intermediates offer growth potential through merger among themselves or by being taken over by the largest corporations. Miners feed product to smelters and refiners, who in turn provide metals or mineral products to fabricators, and so on. Thus, in this sense, the industry is highly interdependent, both along the product supply chain and across different mineral groups.



Artisanal and small-scale mining (ASM) plays an important role in some minerals, especially gold and gemstones. The profile, potential contributions to sustainable livelihoods, and environmental impact of this segment of the minerals sector is quite different from the other players described in this chapter. ASM is described in greater detail in Chapter 13.

Throughout the 1990s, mining companies – both large and small – became more international, driven by changing regulatory structures, falling ore grades in well-established mining countries such as Canada and Australia, and the opening up of several mineral-rich developing countries to foreign investment. But the industry, despite its interdependence – from exploration through mining, metal production, smelting, fabrication, and recycling – remains fragmented, lacking a consolidated vision. This has significant implications for any collective action towards sustainable development.

The Large Multinationals

Large multinational corporations explore, mine, smelt, refine, and sell metal concentrates and metals on world markets. About 30–40 companies are in this category, although there has been increasing concentration in the last couple of years in response to low commodity prices and poor returns among the big players. (See Table 3-1.) Recent mergers include, for example, BHP and Billiton, Cominco and Teck, and the acquisition of Asarco by Grupo Mexico. The concentration of producers of metals and minerals varies significantly. (See Table 3-2.) For steel, the 10 largest producers

manufacture less than 30% of global output. But for platinum and molybdenum, the 10 largest account for more than 90%.

Big producers of iron ore tend to be mining companies, not steel companies, and the trend in the industry is to move away from vertical integration. BHP Billiton is currently a significant producer of steel, but it plans to sell its steel division to concentrate on mining. Kumba Resources is a spin-off from Iscor, as the South African steel company wanted to separate its manufacturing and mining activities. Iron ore producers concentrate on countries with large individual deposits, rather than on a diverse group of countries. Of the top five iron ore producers, only Rio Tinto is active in as many as three countries.

BHP Billiton and Rio Tinto are also among the main producers of coal and the major producers of coking coal for the world export market. The largest single producer is the state-owned Coal India Limited. The other two big producers are private and are totally focused on coal and related businesses.

The biggest copper producers include two big mining groups and three producers that specialize in copper and, to a lesser extent, molybdenum. Codelco operates only in Chile, but the other companies operate further afield. Although the big nickel producers derive most of their revenue from nickel, by-product revenues (including copper, cobalt, and precious metals) are significant for production derived from sulphide ores (Inco, Norilsk, and Falconbridge).

Table 3-1. World's Largest Mining and Metal Companies

Company	Home country	Sales (US\$ billion)	Main activities
Alcoa	United States	23	Aluminium
Nippon Steel	Japan	22	Carbon and stainless steel
Anglo American	United Kingdom	21	Non-ferrous metals (NFM), platinum group metals (PGM), coal, steel, forest products, ferroalloys, diamonds
BHPBilliton	Australia	19	NFM, PGM, coal, steel, oil and gas, ferroalloys
Posco	South Korea	11	Carbon and stainless steel
Rio Tinto	United Kingdom	10	NFM, PGM, coal, iron ore, industrial minerals, diamonds
Alcan	Canada	9	Aluminium

Table 3–2. Top Five Producers of Selected Minerals and Metals

Iron Ore	Market Share (%)	Coal	Market share (%)	Copper	Market share (%)
1 CVRD (Brazil)	15.5	CIL (India)*	17.6	Codelco (Chile)*	12.3
2 Rio Tinto (UK)	8.8	Peabody (US)	5.0	Phelps Dodge (US)	7.8
3 BHP Billiton (Australia)	6.2	Rio Tinto (UK)	4.7	BHP Billiton (Australia)	7.0
4 Caemi (Brazil)	2.5	BHP Billiton (Australia)	4.1	Rio Tinto (UK)	6.2
5 Kumba (South Africa)	2.5	RAG (Germany)	3.2	Grupo Mexico	5.5

Nickel	Market Share (%)	Aluminium	Market share (%)	Gold	Market share (%)
1 Norilsk (Russia)	19.1	Alcoa (US)	14.4	AngloGold (South Africa)	8.3
2 Inco (Canada)	12.2	Alcan (Canada)	8.4	Barrick (Canada)	7.6
3 Falconbridge (Canada)	7.8	Russian Aluminium	7.3	Newmont (US)	6.7
4 BHP Billiton (Australia)	5.9	BHP Billiton (Australia)	4.0	Gold Fields Ltd (South Africa)	4.7
5 Eramet (France)	5.3	Pechiney (France)	3.6	Placer Dome (Canada)	3.4

*State-owned.
Source: CRU International (2001).

Aluminium producers tend to move in a world of their own. Of the largest aluminium companies, only BHP Billiton is a major participant in the mining of other commodity minerals. The big companies, apart from Russian Aluminium, usually have interests in smelting around the world. They are also likely to be integrated back into bauxite mining and alumina refining and forward into fabrication and marketing.

Among the multinationals, an important group is the custom smelters and refiners, usually based in Europe and Japan, which are largely focused on mineral processing. Some of these companies, such as Umicore of Belgium and Noranda of Canada, are pioneering ways to use recycled metallic materials and recover various metals from complicated multi-metal scrap.

These large multinational companies are high-profile

organizations conscious of the need to have a social licence to operate. Many of them have well-developed codes of practice and ways of doing business, as well as reporting procedures that take account of a broad range of environmental and social concerns. When a company like BHP Billiton or Rio Tinto opens a new mine, there is likely to be a substantial effort to assess, minimize, and mitigate many of the environmental and social impacts, to develop an effective mine closure plan, and to foster constructive and consensual involvement with the local community.

Medium-Sized and National Players

A typical intermediate company operates several small to medium-sized mines, possibly in a number of countries; it is also likely to be a gold producer, an industrial minerals company, or a base metal miner

selling concentrates to a trader or custom smelter. For most locally and regionally traded minerals, particularly industrial minerals, the intermediates predominate.

Many medium-sized processing and fabricating companies also operate mainly at a regional or national level. These companies may buy raw materials to produce metallic or non-metallic mineral products, or they may be involved further downstream in fabricating minerals or metal into products.

Juniors

Although grouped under one heading, juniors are diverse in their business strategies, risk management, financial situation, commitment to long-term positions and relationships, countries of operation, and so on.

Two broad sub-groups can be identified.³ One is involved exclusively in mineral exploration, seeking to negotiate arrangements with larger players for the development of any ore body they discover. These companies often have considerable technical expertise and business acumen and provide an essential service by discovering and evaluating the new ore bodies needed by the larger companies to replace reserves.

The second group, the expansionary or producing juniors, is more ambitious and will try to hang on to an ore body they discover and gain a controlling interest in the operating mine. Also included in the junior category are the many small, often family-owned, mining companies found throughout Latin America, Asia, and parts of Europe.

Junior companies can be found in large concentration in some countries. Canada has more than 1000 junior companies (in contrast to 100 in the United States), and they are particularly active in Latin America.⁴ Other major centres for junior companies include Australia, operating largely in the Pacific Rim, and Europe, operating largely in Africa.

There are intermediate and junior companies that are fully committed to the highest standards of environmental and social performance, but these are currently a minority. A majority of junior companies emphasize their mine-finding abilities and currently believe sustainable development to be a 'big company game' that has little relevance to them.⁵ As a consequence, there are significant weaknesses and vulnerabilities among both the junior and intermediate companies. Two situations are of note that can lead to

undesirable outcomes and affect the image of the entire industry.

First, there are the 'promotional juniors' that focus on speculative, market-driven practices and are often guilty of activities that give the sector a bad name. Second, some of the smaller intermediate and junior producing companies are undercapitalized and short of management expertise, while at the same time under intense pressure to succeed and hence likely to take on marginal risks. With limited capacity to deal with failures or other unexpected events, there is a high risk of creating negative environmental and social situations at their operations. As such, it should be no surprise that a disproportionate number of the 'bad actors' have come from this sector in recent times. One of the major challenges facing the industry is how to ensure that the performance of this small group of companies is raised, or that their licence to operate is removed.

Consultants, Contractors, and Service Companies

The mining industry is supported by an extensive network of consultants, contractors, and service companies, which range in character from small, often highly specialized firms to large, integrated engineering and environmental organizations such as AMEC and Hatch Associates Ltd. Many aspects of the work of the mining industry are routinely assigned to the service sector, including drilling, the design and construction of new mines and, most notably, the environmental and social studies required for an environmental impact statement. In some cases mining is carried out under contract, leaving milling and the marketing of mine products to the company owning the resource. Consultants and service companies are particularly numerous and prominent in the exploration phase of the mine cycle.

The service sector can play an increasingly important role in reaching the goals of sustainable development by providing expertise in the management, engineering, environmental, and social aspects of the mining industry, which is available to all corporate interests. However, mining companies committed to sustainable development principles will need to ensure that contractors working for them, particularly those involved in activities with direct social and environmental impacts, such as drilling and construction companies, are bound by the same policies and principles of sustainable development.

Traders

The larger base-metal mines sell concentrates directly to a smelter, often within the same vertically integrated company. Smaller mines typically sell concentrate to a trader who consolidates product from several sources to create the volume and quality that is acceptable to smelters. Refined metal product may also be either sold directly to fabricators or marketed through metals traders.

In either event, trading patterns in concentrates and refined metal products among mines, smelters and refiners, and fabricators create obvious difficulties in tracking metals reliably from mine to customer. Hence, it is perhaps only the most fully integrated companies, such as aluminium firms, that currently have the potential to demonstrate that a metal has been mined, refined, and fabricated under conditions that meet sustainable development objectives.

Fabricators

Fabricators are important players in the value chain for many metals. These companies convert primary metal products such as steel slabs and copper cathodes into usable metal products in a series of cutting, shaping, forming, bending, coating, welding, and other steps. The extent of vertical integration and the number of steps varies from metal to metal and from one end-use application to another. These companies vary hugely in size and nature of business, ranging from large, fully integrated multinational producers such as Phelps Dodge, which is involved in all stages of copper production from mining to wire making, to independent subcontractors operating a few pieces of welding equipment for steel plate in a single workshop. Thus it is impossible to make any generalizations about this part of the minerals cycle.

Recyclers

Scrap merchants and recycling companies handle the collection and sorting of metal commodities for secondary production. Secondary smelters specialize in processing recycled metals. Scrap is also used as feed by the primary smelters and refiners and by the steel mills. Methods of scrap collection vary from 'mom and pop' operations with scrap metal (mostly aluminium and copper) piled in their backyard to large, sophisticated central collection and recovery centres such as those for lead-acid batteries.

The recycling business is critically important to the metals sector and for some of the non-metallic minerals. At all possible junctures, the mining companies and proponents of the sector promote the recyclability of metals as a major advantage of metals use in a more sustainable future. However, recyclability and the recycling rate are not the same. (See Chapter 11.)

State-Owned Companies

State ownership no longer accounts for a major share of world mining and metals activity, and most mining and processing is today in private hands. There has been a trend in the last 20 years towards the privatization of nationalized industries in general, of which mining has made up just a small part of the world total. Privatization examples in the minerals sector include copper producer ZCCM in Zambia, tin producer Comibol in Bolivia, copper producer Tintaya in Peru, and Karaganda Steelworks in Kazakhstan, to mention just a few.

State-owned companies are concentrated in a few countries, and in some, in only a few products. State ownership is still widespread in China, although the government is trying to encourage private ownership. In Chile, the large copper-molybdenum producer Codelco is state-owned, but most other mining and metallurgical activities are private. In some countries, the state takes a minority share in mining activities (in, for example, Papua New Guinea, Botswana, and Namibia).

In Eastern Europe and the former Soviet Union, the states have sold off most of their more attractive nationalized assets, even though some of the less profitable enterprises are still state-run so as to maintain employment. Most mining enterprises in Iran are still state-owned. In Turkey, the mining holding company Eti Holdings is a state-owned group, although a privatized mining and metallurgical sector flourishes alongside it. India still has state-owned giants such as coal producer CIL, steel producer Sail, base metals companies Hindustan Copper and Hindustan Zinc, and aluminium company Nalco; attempts at privatization have been few and far between, although a private-sector industry has sprung up alongside these companies in many areas. Various governments in the Middle East still operate mining and metallurgical companies.

Workers and Labour Unions

The modern mining industry in its best operations represents a remarkable advance from dire conditions in the past. In many parts of the world today, mine labour represents relatively high-wage work. The rates of accidents and injuries as well as occupational disease have been reduced to levels unimaginable just a few decades ago, in many cases as a result of collaborative approaches. Miners in these operations live in integrated local communities, where they and their families share the same social and educational opportunities as the society at large. When mines close, workers may have skills that are in demand elsewhere or the opportunity for training programmes to learn new job skills, along with a safety net of social benefits to support them during periods of unemployment. They are free to form and join unions, in an atmosphere that encourages management and other parts of the work force to focus on shared interests.

Even though gains have been achieved, this kind of progress is quite uneven through a global lens. Every one of the situations that were of concern earlier still exists somewhere in the world. Mine accidents that kill or disable workers are still frequent. Over 170 miners a year have died recently in the South African gold industry.⁶ While statistics for China are unavailable or hard to interpret, it is known that there is a high rate of accidents in underground coal mines, and the official figures record some 10,000 fatalities a year. Smaller Bolivian tin mines are also examples of this problem. Occupational illness can result from working conditions and exposures to chemicals. Miners still live in isolation in many parts of the world, or in overcrowded 'boom towns' with few social and cultural opportunities. The predominantly male workers, linked with groups of female sex workers, have led to the rapid spread of HIV in some parts of the work force.

Significantly, the right to form free and independent unions for collective representation is still not recognized in parts of the mining world, from some of the republics of the former Soviet Union to Colombia, where threats and attacks on union officials and organizers are reported to be frequent. For example, three union leaders of the La Loma mine in northern Colombia were murdered in 2001.⁷ These incidents are not restricted to the developing world but also occur in industrial countries, such as the coal miners' strike in the UK in 1984-85.⁸

World-wide, mine-related employment has been declining, with layoffs and mine closures a dominant feature in the industry in recent years. Reductions in the labour force have been dramatic as the former socialist economies have integrated into the world market-place, as previously state-owned mines have been privatized, as large companies have mechanized, and as marginal mines have closed under the relentless advance of lower prices.

Although workers and trade unions are well placed to monitor and oversee industry practices, only recently has full emphasis been placed on their role as a key partner in sustainable development. They are able to contribute to sustainable development in the work place by seeking compliance from their employer on issues such as the protection of workers' rights, equal opportunities, and worker safety. At the community level, trade unions are able to contribute to the goals of sustainable development by playing the role of ambassadors of industry interest or understanding. At the national and international levels, trade unions participate in developing global policies that promote sustainable development through active consultation with industry leaders, governments, and inter-governmental institutions.⁹

At the global level, two organizations are particularly active on labour issues in the minerals sector. The first one is the International Federation of Chemical, Energy, Mine and General Workers Unions (ICEM). As of June 2001, ICEM represented 399 industrial trade unions in 108 countries, covering 20 million workers.¹⁰ Many of these are employed in the mining industry. A key activity of ICEM is negotiating and monitoring global agreements with multinational companies. Activities of ICEM include the promotion of workers' rights and standards for health, safety, and environmental protection. ICEM makes representations on workers' behalf to national authorities and international bodies.

The second body is the International Labour Organization (ILO), whose work on labour and social issues related to mining can be traced back 70 years to the Hours of Work (Coal Mines) Convention of 1931. Unique in the UN system because of its tripartite structure (government, employer, employee), the ILO has hosted the development of at least 19 international conventions on aspects of work place health and safety and fundamental work place rights. A recent example

is the 1995 Safety and Health in Mines Convention, which has been ratified by 18 countries.¹¹ The ILO has also been involved in developing codes of practice and assisting national governments in implementing internationally agreed regulations on health and safety. Other areas of activity include industrial relations, employment, and small-scale mining.

A small number of ILO conventions deal with what are today recognized as ‘fundamental rights’. Freedom of association and collective bargaining and freedom from discrimination and forced labour are among these. But the ILO has also developed a more specific role in relation to the mining industry through the non-binding ILO codes of practice for mining and topics relevant to mining.

Governments

Good governance includes the rule of law, effective state institutions, transparency, control of corruption, accountability in the management of public affairs, respect for human rights, and the participation of all citizens in decisions that affect their lives.¹²

Governments need to be transparent, inclusive, coordinated for long-term planning, and able to act as stewards of the public interest. While there may be some debates about the most appropriate form, the need for good governance cannot be disputed.

The recent emphasis on foreign direct investment and private-sector development has not diminished the role of the state. Far from it. Governments today, from national to regional to local, are seen to be the central ‘enabler’ of national economic development, providing that they are transparent, efficient, and aimed at inducing growth. But weak states and institutions continue to be one of the major impediments of effective governance today and of attracting investment.

National Governments

National governments provide the overall framework of rules in which markets function and social processes take place, and they create favourable macroeconomic and political conditions for economic development. The needed conditions include, for example, a stable foundation of law based on equity, a non-distortionary policy environment, basic social services and

infrastructure, protection of the vulnerable, and protection of the environment.¹³ The record of governments has thus far been mixed.

National governments play a pivotal role in the minerals sector and will be one of the most significant actors in managing the transition to sustainable development: not least because in most countries sub-surface mineral resources are owned by the state. Government is responsible for granting licences and permits, reviewing environmental and social impact assessments, planning for regional and local development, upholding environmental standards and health and safety standards, and investing and distributing revenues from mineral development to build social and human capital.¹⁴ Normally, relevant ministries using the tools of policy, legislation, regulation, monitoring, and enforcement carry out these responsibilities. Governments also document geological information and communicate or promote it to potential investors.

In many areas of the world, however, governments lack the capacity to fulfil their duties due to scarce human and financial resources. In some cases, there is a lack of political will to meet these obligations or there is corruption, which inevitably means that the poorest peoples are excluded from sharing the potential benefits of mineral development. A further challenge arises where local goals and customs are not in alignment with stated national goals, especially where the latter have been forced into a cultural framework without adequate local consultation.

Where governments are weak or not trusted by people, there are frequently problems of credibility, which are aggravated where ministries assume multiple and potentially incompatible responsibilities. For example, a conflict of interest is seen where the same ministry is designated as manager of the sub-surface resource, promoter of mineral development, partner in some private-sector development projects at formerly state-owned mines (as occurs in a number of countries), and also regulator of environmental performance by companies. The lack of a credible institutional mechanism for demonstrating compliance with national laws, particularly environmental regulations, creates a difficult operational environment for miners with a high risk of confrontation with communities and civil society organizations. While the use of third parties to verify corporate performance

may offer a short-term solution to this problem, the longer-term need is for policies, practices, and structures that create demonstrably good governance and the institutional credibility that benefits all parties.

Other Levels of Government

In some countries, such as Australia and Canada, the responsibilities just described are largely devolved to the level of the province or state. Elsewhere, it is more common that lower levels of government – regional, district, municipal, and so on – are responsible for aspects of the equitable distribution of wealth, infrastructure, environmental monitoring and enforcement, and regional and local land use and development planning.

The weakness and ineffectiveness of local governments in many countries in Africa, Asia, and Latin America can be partly explained by national economic weakness: effective local government is much more difficult without a stable and reasonably prosperous economy. Lack of resources and professional knowledge, as well as limited powers at the local level, are contributory factors. Since the late 1980s, there has been a growing recognition that the lack of democracy and accountability is a serious problem. In response, democratic reforms have been implemented at the local level in many countries. This shift in thinking from supporting government to improving governance has helped highlight the critical role of citizen groups and community organizations. It has also drawn attention to the need for a political, legal, and institutional framework that guarantees citizens civil and political rights and access to justice.

With the growing movement towards decentralization in many countries, local governments have an important role to play in the minerals sector. In some instances, they have succeeded without national support – for example, in the customary or locally approved exploitation of natural resources. Increasingly, they are assuming the responsibility for distributing revenues to local communities and for ensuring that minerals development is integrated into broader local planning. Invariably the ability of local government to perform these new roles is constrained by capacity deficits, confusion over the boundary of responsibility with central government, and lengthy bureaucratic procedures.

Photograph not shown

Inter-governmental Institutions

In the minerals sector, inter-governmental or multilateral institutions have been most active in the areas of immediate relevance to security of investment, sovereign risk, and political risk assessment. The World Bank Group has been a significant player in the sector; it consists of the International Bank for Reconstruction and Development (IBRD)/ International Development Association (IDA), the International Finance Corporation (IFC), and the Multilateral Investment Guarantee Agency (MIGA), each of which plays a distinct and different role in the mining sector. IBRD/IDA provide lending and technical assistance to governments for mining sector development and reform as well as broader activities regarding environmental and social protection and overall macroeconomic management. The IFC provides loans and investment funds, while MIGA provides guarantees for specific private-sector mining operations. The World Bank is in the midst of an Extractive Industries Review to consider its role.

Other inter-governmental institutions involved with the sector include the Organisation for Economic Co-operation and Development (OECD), the UN regional economic commissions, the UN Environment Programme (UNEP), the UN Development Programme, the UN Conference on Trade and Development (UNCTAD), the World Trade Organization, the ILO, the UN High Commissioner for Refugees, and the Executive Office of the Secretary-General (through the Global Compact).

Each of these institutions has a specific role and varying capacities or resources to address issues related to the minerals sector. While many international organizations have been working to improve capacity in poor countries, their ability to help governments to do this is contingent on shrinking funds for official development assistance. Nevertheless, many of these institutions are today providing and convening important forums for debates, and are playing an increasingly active role in the development of voluntary measures. (See Table 3-3.)

Many regional governmental institutions are involved in mining sector activities. The Southern African Development Community, under its newly formed Trade, Finance, Industry and Investment Directorate, deals specifically with mining in terms of the

development and beneficiation of mineral resources consistent with broader policy objectives for the region.¹⁵ Elsewhere, the Division of Natural Resources and Infrastructure at the Economic Commission for Latin America and the Caribbean has several mining-related programmes to determine the contribution of natural resources to sustainable development, for both large-scale and small-scale mining.¹⁶

Civil Society and NGOs

Civil society encompasses a wide array of organizations of different types, sizes, and functions, including not-for-profit NGOs, community-based organizations (CBOs), faith-based organizations, cooperatives, and

Table 3-3. Inter-governmental Initiatives Relevant to the Minerals Sector

Initiative	Description
Global Compact	Launched in 1999 by the Secretary-General of the UN, a commitment by a network of organizations from business, labour, and civil society to support a global set of principles for corporate social responsibility. Mechanisms for more specific sector-by-sector agreements are being explored.
Global Reporting Initiative (GRI)	Established in 1997 by the Coalition for Environmentally Responsible Economies (CERES) in partnership with UNEP to develop globally applicable guidelines through a multistakeholder process for reporting on economic, environmental, and social performance. The GRI is now developing specific guidelines for the mining sector.
ISO 14001	ISO 14001 is an internationally recognized environmental management system (EMS) standard developed by the International Organization for Standardization (ISO) in response to the 1992 Earth Summit. Approximately 30,000 companies in over 40 countries have received ISO 14001 certification and many as 300,000 companies have based their EMSs on the standard, without seeking certification.
OECD Guidelines for Multinational Enterprises	Adopted in 1976 with the objective of strengthening the basis of mutual confidence between enterprises and government authorities and promoting the economic, social, and environmental benefits of foreign direct investment and trade while minimizing the problems. A thorough review process was undertaken in 2000.
OECD Principles of Corporate Governance	Adopted in June 1999, the first multilateral effort to produce a common language of corporate governance. The principles are intended to assist both OECD and non-OECD governments evaluate and improve their own framework for corporate governance and to provide guidance and suggestions for stock exchanges, investors, corporations, and other parties that have a role in developing good corporate governance.
UNEP Declaration	The UNEP Declaration is a voluntary commitment to adopt improved sustainable production practices involving the continuous application of an integrated preventative strategy applied to processes, products, and services. In October 2000, the International Council on Metals and the Environment became a signatory to the UNEP Declaration. The Declaration is a set of high-level commitments that will need to be advanced with and through members of the International Council on Mining & Metals over time.

Source: www.unglobalcompact.org; www.un.org/esa/sustdev/viaprofiles/OECD_Guidelines.html; www.oecd.org/daf/investment/guidelines/mnetext.htm; www.iso.org; www.globalreporting.org; www.unep.org/Documents/Default.asp?DocumentID=174&ArticleID=2621.

many more. Some employ thousands of people while others are run by one individual. They cover a multitude of issues and causes. NGOs and other indigenous and community organizations have become important actors in the mining sector in the past decade. In association with the media, they have become critical agents for stimulating greater corporate accountability through their power to influence public opinion and challenge government policies. Today, it is not enough for mining companies to win approval from national government for new developments: the acceptance of civil society is also necessary if the informal but all-important ‘licence to operate’ is to follow. This particularly applies to companies domiciled in the OECD.

The NGO movement is not homogeneous and it is misleading to talk of them as one group. It includes organizations that are global or regional, national, and local. Some NGOs have broad purposes (such as alleviation of poverty or wildlife conservation) and deal with the minerals sector only incidentally as it relates to these. Others are focused specifically on mining or even on particular mineral projects or mines. A few campaign against mining in a generic sense because of its reliance on finite resources, but most who are concerned concentrate on questions relating to the performance of specific operations or companies. A small but increasing number (such as the World Wide Fund for Nature, Conservation International, and Transparency International) work in partnership at times with industry to improve best practice, but many more prefer to campaign against corporations and to avoid working with them. Some address governments and inter-governmental institutions to argue for reform. Others work to ensure that communities and indigenous people have an effective voice. Judging from the experience of the MMSD regional processes, many NGOs are happy to engage in multistakeholder processes with industry and governments, provided that the rules of the game are clear.

NGOs concerned with this sector (or parts of it) have been attempting to develop a more unified policy. In November 2001, the Mineral Policy Center in Washington, DC, hosted an international meeting on Building a Global Mining Campaign. Participation from NGO representatives, activists, and community leaders was sought. The aim was to ‘discuss the potential for a coordinated international campaign to

improve the mining industry’s global performance on environmental, social, cultural and human rights issues’.¹⁷ The intention was to develop collaboration for a campaign that would stop what participants considered to be ill-conceived or irresponsible mines.

Despite these moves, some of the dilemmas faced by NGOs will remain. Many owe their reputation and visible public identity to campaigns based on single issues. For some NGOs, making trade-offs among competing values is not a highly developed part of their agenda – at least not yet with respect to mining. (This also applies, of course, to other actors.) Many people who are not from NGOs (and some who are) raise issues concerning the accountability and transparency of NGOs. From the industry perspective, all too often the extent to which different NGOs represent different stakeholder groups is not known and is difficult to establish; who speaks for whom is a frequently heard question. It is clear that the level of internal democracy and participation in policy-making also varies dramatically. Many in the industry also question the capacity of NGOs to establish the facts of particular issue rather than to rely on secondary sources.

In reality, NGO constitutions vary. In some cases NGO leadership is elected by a broad base of members, who also participate in formulation of policy. In others, there is no membership, and leaders set any policies. Where the NGO raises funds from members, it tends to be more attuned to member priorities. Where most of the funding comes from a limited number of external sources, such as foundations or governments, there is often less accountability.¹⁸

Nevertheless, policies established by civil society organizations may have sufficient moral authority and public support in many regions of the world to serve as a standard for the behaviour of other organizations. Examples of this are Transparency International’s principles of transparency and accountability, and the position statement on mining and associated activities in relation to protected areas produced by the IUCN World Commission on Protected Areas. (See Chapter 7.) No one can deny that NGOs are champions for change. Even the tracts that first established the very idea of sustainable development came from NGO sources.

Communities

Debates over sustainable development require equal and adequate representation of communities affected by mining. The success of a project requires an understanding of its location and social context. The involvement of civil society at the community level varies with the degree of political openness in a country. Many international and national commentators around development issues acknowledge the failure to engage local communities and affected people in development decisions and to give them the opportunity and authority to participate in the decision-making process. This issue is not confined to the minerals sector. But one of the key challenges facing it today is putting in place mechanisms to ensure that communities can effectively engage in decision-making on issues that affect them. (See Chapter 9.)

There is a great need to strengthen community-based organizations and their ability to represent their views effectively at all levels. In May 2001, partners of the former Minewatch, Partizans, and Minewatch Asia-Pacific met in London at a conference entitled *Communities Addressing the Corporate Challenge: The Case of Mining*. Co-funded by the Catholic Agency for Overseas Development and Christian Aid, the meeting provided a forum for discussion on the impacts of mining operations. Key issues addressed included codes of conduct for the mining industry, appropriate modes of dialogue between mining companies and communities, the role of central and local government, relationships between mineworkers and communities, and the impacts of mining on women and youth. Participants issued a London Declaration, which demanded a series of actions, including an end to all new large-scale mining projects in 'greenfield' areas of Asia, Africa, and Latin America. It also proposed that mining companies should accept complete responsibility for the impacts of their actions. The declaration called on international financing institutions to end the funding of industry-initiated mining codes.¹⁹

There is a potential for NGOs skilled in community development to work with various components of the mining sector. But that potential is as yet largely undeveloped. Either the sector itself will have to develop such skills or it will have to employ intermediaries in greater numbers.

Shareholders and Financial Institutions

Shareholders and financial institutions, including banks and insurance companies, all have a direct interest in the economic success of a mining venture. Of note is the range and number of mutual funds, pension funds, and similar collective investment vehicles holding shares in publicly traded mining companies. Indeed, part of the continuing consolidation in the industry is to create corporations of a size and character that appeal to managers of the larger, more influential funds.

Shareholder (equity) financing is normally the only source of funding for the junior companies involved in exploration. Expansionary junior and intermediate companies also rely heavily on equity financing to fund new operations or mine expansions.

Commercial banks are the main providers of debt financing to the minerals sector, the source of both project and corporate financing. Commercial banks provided the bulk of finance for 160 mining projects worth over US\$50 billion between 1996 and 2001.²⁰ The multilateral financial institutions, such as the World Bank Group and the regional development banks, have a broader mandate than providing finance, but they do provide additional funds when commercial financial institutions are unwilling or unable to. This funding can also be very important in raising the level of confidence that a particular project enjoys, and can attract other sources of finance.

The World Bank has a set of detailed environmental and social guidelines for its lending activities to industry through the IFC and for insurance services offered through MIGA, as well as some specific policies on the mining sector. These are broadly applied by private lenders, export credit agencies, regional banks, and others even where no World Bank financing is involved. Banks make significant efforts to analyse risks, and many expect adherence to World Bank and International Finance Corporation guidelines as a minimum. In this respect, the standards of the multilateral banks (led by the World Bank) have become important global policy instruments. They have challenged the capacity of borrower countries to implement their requirements. Not all believe the standards are always applied, as some suggest that performance criteria for staff have tended to be related to approvals and disbursement targets rather than any sustainability criteria.²¹

Sustainable development is already of consequence to the financial institutions. In April 2001, a multistakeholder group came together in Washington for a conference hosted by MMSD, UNEP, and the World Bank Group entitled Finance, Mining and Sustainability. Key observations made during the plenary sessions included the fact that many banks and insurance companies consider a proven commitment to sustainable development by a company as a proxy for good management and hence better returns and lower risk.

Fund managers and individual investors are showing increased interest in making long term investments in companies that are well managed and also environmentally and socially accountable. In this sense, shareholders can have a strong influence on corporate policy and behaviour. On the other hand, there is no evidence that a corporate commitment to sustainable development is of any consequence to the majority of equity investment decisions; those made seeking short-term capital gains from swings in the commodity cycles or the highly speculative junior exploration sector.

Consumers

In the context of mining and minerals, the term 'consumer' can be used to describe all users of products containing mineral commodities. This includes manufacturing companies of different sizes, service industries, and governments (through their purchase of goods) as well as private individuals.

The most influential consumers of minerals are large manufacturing companies. In terms of sustainable development, the activities of the manufacturing industry are significant in several regards: the quantity of minerals used in a product, the manner in which the product is used, the source of the components or raw materials, and to whom products are sold. Decisions taken by leading manufacturing companies can be an important driver for change, as demonstrated in the forest products sector, though the same is yet to take place for mineral commodities. Due to the lack of interest of large metals consumers, there is currently no mechanism to pass increased social and environmental costs on to the final consumers.

Most consumers of mineral products (with the possible exception of fabricators of raw metal products) feel remote from mining and minerals processing companies. This separation between production and

consumption is often a physical one, but it is also due to the complexity of many manufactured products, which may contain small quantities of many mineral commodities combined with other materials and distributed in hundreds of components. This disconnect between the producers and consumers of minerals poses serious challenges for the sector to move forward in a sustainable fashion. (See also Chapter 11.) In addition, individual consumers can also play a role in driving many low-value recycling initiatives, such as separating household waste.

Research Institutions

To meet the challenges of sustainable development, the minerals industry and others in the sector now more than ever need a steady supply of skilled professionals. The training of these professionals needs to adjust as mineral development becomes more complex and technical and as industry is asked to take on more responsibility for issues outside the usual training of mining engineers or metallurgists.²²

A number of global research initiatives look more directly at issues relating to mining, minerals, and sustainable development. Institutions or networks are significant contributors to current knowledge of the sector. Among these are:

- *Centre for Energy, Petroleum and Mineral Law and Policy (CEPMLP)/Dundee* – This is one of the largest graduate and research institution in the field of natural resources law and policy. CEPMLP also hosts ENATRES, a global internet forum for energy and natural resources discussion, and an internet journal, which is a significant source of information.
- *Mineral Resources Forum (MRF)* – This is an internet-based system for coordination of work on the relationship between mining, minerals, and sustainable development. The aim is to bring together governments, inter-governmental entities, resource companies, other concerned organizations, and civil society for discussion and information exchange. The MRF was established as an initiative of UNCTAD in partnership with UNEP.²³
- *Mining and Energy Research Network (MERN)* – This international collaborative research network, involving 140 research centres across the world, is based at the University of Warwick, UK. MERN's aim is to inform socially responsible decision-making in mining companies.

Endnotes

¹ MacDonald (2000).

² See McDonald (2000).

³ This categorization is taken from Marshall (2001). For a detailed typology, see, for example, MacDonald (2000) or MacDonald (2002).

⁴ MacDonald (2002).

⁵ Ibid.

⁶ Chamber of Mines of South Africa (2001).

⁷ Greenhouse (2002).

⁸ For detail of cases in Europe, for example, see ICFTU (2001)

⁹ Presentation of Fred Higgs, Secretary General of ICEM, at the MMSD Workshop on Managing Mineral Wealth, London, 15-17 August 2001.

¹⁰ International Federation of Chemical, Energy, Mine and General Workers Unions (ICEM) website, <http://www.icem.org>.

¹¹ Governments that ratify the convention commit to providing inspection services and the designation of a competent authority to monitor and regulate the various aspects of occupational health and safety in mines. The convention also sets out procedures for reporting and investigating disasters, accidents, and dangerous occurrences related to mines, and for compilation of the relevant statistics. Both workers' and employers' rights and responsibilities are set out. A non-binding recommendation that accompanies the convention provides more specific guidance on different sections of the convention.

¹² See, for example, Annan (2000) or World Bank (2001c).

¹³ World Bank (1997).

¹⁴ Eggert (2001).

¹⁵ See SADC webpage, <http://www.sadc.int>.

¹⁶ See ECLAC, Division of Natural Resources and Infrastructure web page, <http://www.eclac.cl/drni/>.

¹⁷ See Mineral Policy Center – Building a Mining Global Campaign web page, at

<http://www.globalminingcampaign.com/index.html>.

¹⁸ Presentation on the Trans-national Civil Society Seminar, 2001, London School of Economics, London, 1-2 June.

¹⁹ For the latest version of the London Declaration, see <http://www.minesandcommunities.org>. Christian Aid did not sign the declaration.

²⁰ From Mining Finance Database, published by Mining Finance Magazine (October 2001), as cited in UNEP/Standard Bank (2002).

²¹ World Commission on Dams (2000).

²² For details, see McDivitt (2002).

²³ See the Minerals Resource Forum web page, <http://www.mineralresourcesforum.org>.