

CHAPTER 16

AN AGENDA FOR CHANGE

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The many people and organizations – in business, government, civil society, and elsewhere – who together constitute the minerals sector have differing roles, perspectives, and values. But there is more convergence than might be expected. There is a broad acceptance that the various costs and benefits do not fall equally on all. There is a strong desire for improved performance, a better quality of life, and constructive engagement that produces results. There are experienced and committed people throughout the sector, in government, labour unions, civil society organizations, companies, and elsewhere, with useful ideas and considerable energy. Yet there is frustration about how hard it is to make change, to put ideas and energy into practice, or to produce concrete results.

The MMSD Project found from the beginning that sustainable development could provide a useful framework to guide the minerals sector. It also believed that by setting out the challenges – from all perspectives, in a fair and balanced way – new ways forward would emerge. It has not been an easy process, given the low levels of trust in the sector on the one hand and the complexity of the issues on the other.

This final chapter contains the broad conclusions that emerged from the MMSD process and an Agenda for Change. (See Box 16–1 for a description of the Project that formed the basis for this agenda.) The agenda sets out various actions for improving the mineral sector's contribution to sustainable development. In all the discussion the project has provoked, few quarrelled with the basic definition of sustainable development contained in the 1987 report of the World Commission on Environment and Development. The Agenda for Change assumes a broad set of goals that flow from that definition:

- material and other needs for a better quality of life have to be fulfilled for people of this generation
- as equitably as possible
- while respecting ecosystem limits and
- building the basis on which future generations can meet their own needs.

Box 16–1. The MMSD Project at a Glance

MMSD has tried to do three things: provide a means for surfacing ideas and information; offer some opportunity to test those ideas with diverse, knowledgeable audiences; and provide a 'snapshot' of where this evolution of ideas stands and what conclusions can be drawn.

The project has surfaced ideas through working and engaging with organizations and individuals from different regions of the world. This has included:

- a review of existing knowledge;
- assimilation of suggestions submitted to MMSD by many organizations and individuals;
- research conducted by staff of the International Institute for Environment and Development;
- four regional processes that have, in turn, drawn on contributions from many researchers to produce regional reports; and
- the commissioning of 12 country baseline studies and more than 100 expert studies on a range of topics.

It has tested those ideas as widely as possible through:

- posting important documents on the MMSD website and asking for comment;
- the distribution of Bulletins detailing MMSD progress and soliciting response sent to the MMSD database of over 5000 people;
- informal conversations with individuals and organizations working in the field;
- responses received when these emerging ideas were presented at meetings and conferences throughout the world;
- regional consultations in four key mineral-producing and -consuming regions around the globe;
- national processes of consultation in several countries;
- peer review and comment on critical pieces of background research;
- 23 global workshops on topics ranging from biological diversity and corruption to managing mineral wealth and indigenous concerns about mineral development, attended by 600–700 diverse stakeholders and interested parties;
- close work with a 25-member Assurance Group consisting of people from a broad spectrum of backgrounds and perspectives;
- wide publication of a draft report on 4 March 2002, with an invitation to submit comments and criticisms, which resulted in more than 100 sets of written comments as well as numerous less formal suggestions and an intense effort to evaluate, respond to, and where appropriate adopt the comments into this final report; and
- four regional forums to discuss the draft report.

MMSD has not been able to reach every group that is concerned about these issues or to engage all the relevant actors from all interest groups. It has not completed the analytical task, nor has it attempted to state a consensus where none exists.

From this MMSD derived a framework based on a set of guiding principles, as described in Chapter 1. (See Table 16–1.)

This framework requires that most decisions be based on multiple rather than single criteria. Choices, or trade-offs, are needed where a decision cannot satisfy all criteria simultaneously. But there is a need to maintain some limits with respect to parameters for trade-offs. This agenda assumes that there are some values subscribed to by all, such as basic human rights or honest justice systems, that cannot be cast aside. The idea of ‘critical natural capital’ should join this list once it has been more fully debated and is more widely understood.

Decision-makers have to operate within certain constraints. Different stakeholders emphasize different priorities: poverty alleviation and equity for those concerned with development; the ‘triple bottom line’ for industry; the integrity of ecosystems and their continued viability for environmentalists. To reach consensus through negotiation – especially for individuals such as the CEO of a company or the director of a non-governmental organization (NGO) – is a demanding task. This is complicated by the fact that not all groups have the same level of economic power or influence. Time is another constraint: time is needed to build trust, to even out power differentials, to learn to understand different perspectives and identify commonalities.

The right incentives need to be in place to encourage different actors to pursue their own objectives in ways that contribute to the wider goals of sustainable development. What is appropriate for each to do will be based on responsibilities and capacities. For each, it is important that actions:

- be consistent with organizational objectives as well as the objectives of sustainable development;
- build on strengths; and
- be measurable, so there must be some way to distinguish success from failure.

The next section outlines some overall conclusions from Part III, followed by a vision of the future for the mining and minerals sector in a sustainable world that provides some guidance on the actions needed to move this agenda forward.

Table 16–1. Sustainable Development Principles

Economic Sphere

- Maximize human well-being.
- Ensure efficient use of all resources, natural and otherwise, by maximizing rents.
- Seek to identify and internalize environmental and social costs.
- Maintain and enhance the conditions for viable enterprise.

Social Sphere

- Ensure a fair distribution of the costs and benefits of development for all those alive today.
- Respect and reinforce the fundamental rights of human beings, including civil and political liberties, cultural autonomy, social and economic freedoms, and personal security.
- Seek to sustain improvements over time; ensure that depletion of natural resources will not deprive future generations through replacement with other forms of capital.

Environmental Sphere

- Promote responsible stewardship of natural resources and the environment, including reparations for past damages.
- Minimize waste and environmental damage along the whole of the supply chain.
- Exercise prudence where impacts are unknown or uncertain.
- Operate within ecological limits and protect critical natural capital.

Governance Sphere

- Support representative democracy, including participatory decision-making.
- Encourage free enterprise within a system of clear and fair rules and incentives.
- Avoid excessive concentration of power through appropriate checks and balances.
- Ensure transparency through providing all stakeholders with access to relevant and accurate information.
- Ensure accountability for decisions and actions, which are based on comprehensive and reliable analysis.
- Encourage cooperation in order to build trust and shared goals and values.
- Ensure that decisions are made at the appropriate level, adhering to the principle of subsidiarity where possible.

Broad Conclusions

Breaking New Ground contains only a fraction of the analysis generated by the MMSD process, much of which is provided on the accompanying CD. Given the heterogeneous nature of this sector, few generalizations can or should be made. With that disclaimer in mind, here are some general conclusions of the MMSD Project:

Need – Society’s need for mineral commodities is clear, as they provide the substrate for numerous products upon which modern society depends. Even in the case of non-recyclable mineral commodities such as coal, it will take years to phase out use, given current dependencies. It is not currently possible to meet the world’s legitimate basic needs without more of at least some kinds of mineral commodities in circulation.

Structure of the Sector – Though there is a great deal of interdependence among companies along the value chain, the lack of vertical integration in some of the minerals industry can be an obstacle to effective product stewardship. Improving this situation will require much more collaboration in the industry than has occurred in the past. If the industry is to move towards providing mineral ‘services’ as opposed to material supply, restructuring and alliances will need to be established.

Stakeholders – The sector includes stakeholders from the local to the global – with a wide variety of interests. There is a difference between those with a direct and often involuntary interest and those who are concerned indirectly because they choose to be. The term ‘stakeholder’ therefore requires further clarification. Talking of multistakeholder processes without some clarity around the different kinds of ‘stakes’ is too simplistic.

Subsidiarity – Local issues should be solved locally, as local endowments and priorities differ from place to place. Local actors will be directly involved when their interests are threatened. While international action and solidarity remain crucial, decentralizing decision-making to the point as close to the impact as possible should be the norm. Local actors often resent interventions from national or international quarters ‘on their behalf’, particularly if this involves the assumption of a mandate.

Best Practice – Similarly, the concept of ‘best practice’ requires local solutions. A frequent response to questions about what constitutes ‘best practice’ is that ‘it all depends’. Best practice should be defined by decentralized and iterative processes, not by a fixed set of parameters that can be read out of a manual.

Incentives – Win-win solutions are not always possible; voluntary approaches alone are insufficient where there is a compelling social priority but little or no business case to justify the additional expenditures needed to meet it. There are then two options: collective action on a voluntary basis that is enforced internally by a group, or governmental intervention or regulation to achieve the same result. Unless the law is clear and enforced, some enterprises will resist change. In addition, if civil society groups put pressure only on a large few companies and fail to recognize progress, the rest will ride free. From the MMSD finance dialogue, it is clear that market-base incentives on sustainable development criteria are difficult though probably not impossible to design. At present, the discussion is couched in terms of the management of risk, increasing shareholder value, and the occasional marketing advantage. Devising a system of customer-driven certification is also problematic due to the heterogeneity of the industry.

Capacities – There is a genuine and critical need to build the capacity of all the actors. Though MMSD has not surveyed in detail respective capacities, the overall conclusion must be that sustainable development for the sector calls for a new and different mix of skills. The current mix, whether looking at companies, NGOs, or governments, will need to improve for the sector to contribute to sustainable development.

Managing Mineral Wealth – The full potential contribution of minerals to national economies is mostly far from realized. In all too many instances, incentives for foreign investment reduce the wealth available to the host nation. The ability of mineral-rich countries to add value to their wealth by way of beneficiation and processing is often denied by lack of capacity, tariff, and other trade barriers. In some cases, subsidies make the position worse for others. The mismanagement of wealth through inefficiency and corruption does not help. Those who have mineral wealth now should be determined to use it to produce diverse and stable economies for tomorrow – and they need help to do so.

Legacies – The negative social and environmental legacy of the sector is a major obstacle to building trust and moving forward. Abandoned sites and communities, persistent waste and pollution issues, aggrieved peoples: the list is long. Historically, consumers – mostly in the industrial world – have not paid the full costs of using mineral commodities; the failure to internalize many of these costs has only been recognized recently. The obstacles to progress in dealing with legacies include establishing priorities on the worst sites, identifying who will pay, and deciding on the source of the funding.

Collective Efforts – Corporate performance in the minerals sector, measured against any indicator, is variable. Some good companies are improving, but the bad are inexcusable, and the past record is even worse. Action by companies, individually and collectively, is clearly required. In an open trading and competitive world, a ‘rush to the bottom’ caused by ‘free riders’ is a real danger. In many areas, small companies are crucial to the standards of large ones. If, for example, projects near closure are simply sold by multinationals to private, less visible entities, other routes are opened to avoid obligations. Collective action must include companies of all sizes in order to produce positive results.

Use of Existing Institutions – Existing organizations should be encouraged to continue facilitating collective action. Institutions such as national and international chambers of mining and regional governmental organizations currently offer the best opportunity for collective action to move forward. Mutual recognition of their respective roles and collaboration is needed. All need to engage more openly with other constituencies.

Dilemmas remain on a range of issues, including how to:

- raise the capacity of all to act to the best of standards,
- define the boundaries of responsibility among different actors when governance is weak,
- balance the role of regulation with that of voluntary initiatives,
- apply the precautionary principle so as to have a proportional response,
- remove subsidies and trade barriers that favour the better-off,
- achieve better balances between risks and opportunities,

- act when there is a democratic and governance deficit,
- stop the free riders yet maintain competition in an open trading world, and
- ensure that the price of a product reflects its total costs.

A Vision of the Minerals Sector

The MMSD process sought to create a picture of what the minerals sector would look like if it were to maximize its contribution to sustainable development. (See Table 16–2.) In this vision of the future, the minerals industry is integrated throughout the value chain and providing mineral services rather than primary products. To raise the performance of all, a leading group of companies – both large and small – provides a model and supports the efforts of others.

Legal and regulatory frameworks will be complemented by voluntary initiatives, such as mine-site or company-wide verification. These measures will be developed through transparent and inclusive processes, defining concrete performance standards at the global, national, and local levels. Governments will have sufficient capability and willingness to impose sanctions on those who will not meet these standards. There will be fair and accepted mechanisms to facilitate access to information, public participation in decision-making processes, and access to justice to resolve disputes.

All actors will have sufficient capacity to meet higher standards, to define and enforce constructive interventions, and to monitor performance and facilitate sustainable development objectives. Costs will be much better internalized, and there will be a concerted effort to address the legacies of abandoned mines.

There will be clear incentives for all actors. Companies that perform well will retain their social licence to operate – including lower operating costs, favourable borrowing terms, and lower insurance rates. Governments will benefit from harmonious social, economic, and political relations. Labour will enjoy better working conditions and better health. NGOs will play a positive role in meeting society’s needs. Consumers will be assured that their use of mineral products is supporting sustainable livelihoods. And communities overall will have better standards of living and greater involvement in decision-making processes.

Table 16–2. Towards a Sustainable Future for the Mining and Minerals Sector

The Worst of the Past	A Vision of the Future
Mineral revenues that are spent outside the public view for the benefit of a few	Mineral wealth spent transparently to support social and economic goals
Long-running disputes with landowners about compensation	Disputes resolved efficiently and fairly
Tariff and non-tariff barriers that deter developing countries from establishing downstream industries	A level playing field where free trade works more equitably
Minerals development as a threat to protected areas and biological diversity	Mineral development in appropriate places and as a source of revenue to ensure the protection of areas critical to biodiversity
Companies that set their own rules in protected enclaves	A shared system of laws and practices that applies to everyone
Government decisions taken privately and unaccountably, based on poor information	Decisions taken publicly, after consultation with affected parties, based on clear criteria
Mining and recycling industries seeing each other as competitors	An integrated, complementary approach to management of materials in use
Consumers who have no idea of the source of the minerals they use	Consumers who know the source of the products they use and increasingly act on that knowledge
Minerals development as a threat to indigenous peoples' cultures and societies	A minerals industry that works in partnership with indigenous peoples and communities
Frequent disputes and armed conflicts	Fair, equitable, and accepted ways of preventing and resolving disputes
Minerals operations endangering worker and public health and causing deaths	A minerals industry that promotes improvements in public health
A legacy of ghost towns, poverty, and pollution	Integrated planning for sustained post-closure environmental, social, and economic benefits
Infrequent exchanges among a few stakeholders	Ongoing and inclusive dialogue among all stakeholder groups

Supporting Sustainable Development in the Minerals Sector

One of the principal difficulties in adopting the agenda of sustainable development is the multiplicity of the individual issues, problems, and proposed solutions. This Agenda for Change proposes a relatively small number of overarching ideas that can be used to organize those many individual concerns and priorities into manageable tasks. In each chapter in Part III, risks and opportunities are outlined and current problems identified, with some specific steps suggested that may lead to progress in problem solving.

This chapter does not attempt to capture and summarize all those proposals and suggestions; its function is quite different. The goal here is to recommend some broader steps that can be taken to integrate many of the suggestions in Part III. These can be grouped into four major categories of actions to support sustainable development in the minerals sector:

- Increase understanding of sustainable development.
- Create organizational-level policies and management systems for implementing the principles of sustainable development.

- Collaborate with others with common interests to take joint steps towards sustainable development.
- Increase the ability to work towards sustainable development at local, national, and global levels.

The proposals are directed principally to those with a high level of interest and involvement in the sector. Many of the proposals are more applicable to some actors than to others.

Step One – Understanding Sustainable Development

Realizing the potential of sustainable development requires a commitment to education and research, including a focus on the development of practical tools for making decisions and taking actions.

Education

There is a need to increase the understanding of sustainable development among employees of minerals companies, relevant government agencies, labour and civil society organizations, and others with important roles in the sector.

- Institutions such as mining schools that have a role in educating future mining and minerals professionals – who may work in the future in companies, governments, or elsewhere in the sector – should incorporate sustainable development in their curricula.
- Donors to these institutions should support, encourage, and insist on these broadened curricula.
- Industry associations, labour unions, and NGOs should work with educational institutions on their curricula. They could also assist in developing short courses or distance learning modules for current professionals.
- Educational institutions with more general mandates should strive to incorporate broader understanding of the role of minerals in society, as well as the sector's contribution to sustainable development.

Research on Priority Issues

While the MMSD Project has compiled a considerable amount of information, it has also highlighted areas where more research is needed. Research will face increasing demands to ensure relevance to the concerns of stakeholders in the sector, and there is a need to find mechanisms to ensure this broadening of focus occurs. In the minerals sector, research has also

been used in the past to gain political capital, or to ensure that research reaches conclusions that are not damaging to particular interests. This leads to dismissal and rejection on one or another side of even good research results.

- Any organization funding significant research in this area should have clearly stated policies ensuring the rigour of the research it is supporting, including publication of data, citation to publicly available sources, and peer review.
- There is an important role for panels with representatives selected by a variety of stakeholders to establish research priorities for organizations supporting research related to sustainable development in the minerals sector, especially in reflecting the needs of developing countries.
- Many research priorities are identified throughout Part III. Specific areas needing attention include the development of a business case relating to the use and recycling of metals and minerals, and the positive and negative impacts of minerals development on community health.
- More funding could be committed to research that aims to integrate existing disparate sets of knowledge or expertise within a sustainable development framework.
- International mechanisms exist to coordinate and fund research of public interest on topics such as public health and climate change. While there are already some international alliances for research in the minerals sector, it is hoped that either research networks with specialist university departments, national research institutions, or a UN agency would convene meetings of interested parties to discuss research of public interest.

Development of Practical Tools

There is great emphasis on the development of tools for taking concrete steps towards the goals and principles of sustainable development, especially in the business world. This is necessary and should be encouraged; but there is also a danger that the market may be flooded with duplicative and poorly thought out tools that will ultimately discredit the idea.

- An industry body, such as the International Council on Mining & Metals (ICMM) or the Prospectors and Developers Association of Canada (PDAC), could commission respected institutions – perhaps involving a partnership of leading business schools –

to survey industry needs and develop criteria to distinguish appropriate types of decision-making tools. These tasks should be undertaken with the appropriate participation of affected stakeholders.

- Many specific tools should be developed or refined. These include, for example, indicators on human rights, conflict, or social conditions.
- Donor governments, regional and international organizations, or a group of like-minded governments could support surveys on the kind of decision-making tools needed to enhance decision-making in governments.

Improving Professional Practice and Knowledge

The knowledge and practice of the various professions needed by organizations may not encourage practices consistent with sustainable development, or may even serve as obstacles to progress. In companies, for example, current accounting standards may not provide clear answers for integrated planning for mine closure, purchasing standards may not be appropriate to the emerging concepts of supply chain assurance or community development, and methods for evaluating mineral prospects may not take into account the best current understanding of sustainable development.

Specialists of different disciplines and technical fields at all stages of the minerals cycle – from geology to accounting – will need to evaluate how to apply the principles of sustainable development to their current activities. This task may be aided by collaboration with others in the same fields, through, for example, the work of professional associations.

- At the international level, appropriate industry bodies from all stages of the minerals chain, such as ICMM or PDAC, in partnership with international associations of professionals and specialists, could convene meetings to examine priority issues facing different disciplines working to apply the principles of sustainable development. Associations of exploration geologists, accountants, engineers, human resource directors, purchasing managers, marketing professionals, lawyers, and others would be among the high priorities for such meetings.
- At the national level, national mining associations or organizations of processing, fabricating or recycling companies could convene similar events with national associations of professionals.
- Labour unions, working with other actors, could convene events designed to understand workers’ concerns about sustainable development, to

Key Actions for Understanding Sustainable Development	
Actions	Responsibilities
<p>Education and Research</p> <ul style="list-style-type: none"> • Incorporate sustainable development into curricula for mineral professionals • Policies for transparency and rigour for research • Establish research priorities • Undertake research • Fund integrative research 	<ul style="list-style-type: none"> • Educational institutions supported by donors, industry associations, labour unions, and NGOs • Donors, research institutions • Multistakeholder panel • Research institutes and other organizations that undertake research • Donors
<p>Development of Practical Tools</p> <ul style="list-style-type: none"> • Quality assurance for decision tools • Development of specific tools • Survey of government decision-making tools 	<ul style="list-style-type: none"> • Industry bodies such as ICMM or PDAC, business schools, and research institutions • All actors • Donors, governments, regional, and international organizations
<p>Improving Professional Practice and Knowledge</p> <ul style="list-style-type: none"> • Meetings at the international level • Meetings at the national level • Meetings focused on the role and concerns of labour 	<ul style="list-style-type: none"> • Industry bodies such as ICMM and PDAC, international professional associations • National industry associations, national professional associations • Labour unions

strengthen their roles in dealing with a variety of issues, and to identify areas in which the training of workers should be improved. These can build on existing work in areas of health and safety, retrenchment, and broader community issues.

Step Two – Creating Organizational Policies and Management Systems

Most organizations do not have sustainable development policies and should consider developing them. This is important for all actors, including large consumers of mineral products, lenders, and institutional investors. Such a policy can be used to create internal change and to integrate sustainable development into mainstream thinking in ways that add value to the organization.

As a first step in developing such a policy, an organization should review its overall objectives and functions from a sustainable development perspective. This could include understanding how the organization can contribute to sustainable development; identifying the potential costs and benefits of doing so; and maximizing the benefits for the organization as a whole by integrating individual activities into a coherent, organization-wide management system. Institutions, government agencies, businesses, and other groups that already have sustainable development policies should review the extent to which these have penetrated the organization and its decision-making processes, and should consider more effective ways of integrating them into practices and deriving organizational value from them.

Sustainable development policies are a starting point for action, but integrated management systems are required to ensure their effective implementation. These will involve the integrated use of specific tools and may be based on models such as those that have driven improvements in worker health and safety or environmental impacts. All actors need to review existing organizational management systems to assess whether the right mechanisms are in place and to determine whether they have sufficient capacity to undertake necessary changes. In particular, organizations need to ensure that mechanisms are in place to evaluate progress in implementation and to report findings to management and key stakeholders in a credible manner.

The remainder of this section considers the development of policy and management systems by individual actors. Actions that involve cooperative efforts with others are dealt with later in the chapter.

Companies

A company-level sustainable development policy can incorporate other relevant company policies such as those on environmental issues, worker health and safety, employee integrity, community relations, human rights, reporting, and so on. This should enable the integration of these policies within a coherent, more efficient and effective, and less costly management system. The whole company should be engaged, as this partial list of the departments that might be included indicates:

- Human resources – recruiting and retaining good-quality staff, evaluation and compensation.
- Legal departments – permitting, contracts, managing liabilities, better due diligence, making clear that no corruption will be tolerated, adequate provisions for enforcement.
- Purchasing – supply chain assurance, community development.
- Accounting – treatment of risks, costs, and liabilities; accurate and informative reporting to senior management, Boards of Directors, and external audiences.
- Boards of directors and senior management – identification of sources of risk and potential business opportunities.
- Exploration and property acquisition – better due diligence in identifying liabilities, more effective assessment of the pros and cons on acquisitions and divestitures.
- Health, safety, and environment – further progress in integrating programmes into employee consciousness; improved relations with regulators.
- Site management – long-term planning; improved relations with local communities.
- Marketing – moving beyond selling commodities to more complex relationships with customers that are harder for competitors to match.
- Corporate strategy – better planning and assessment of future business opportunities.
- Communications and external relations – improving communications and delivery of information to external stakeholders, whether they be shareholders, surrounding communities, or NGOs.

Companies can develop management systems for key issues to help implement sustainable development policies, or even where such policies have not been established. An example is establishing a management system to review end-of-life plans at existing operations, to take necessary action to strengthen them, and to continue to monitor them throughout the project life.

The company review should focus on whether existing plans fully address the end-of-life environmental, social, and economic conditions of affected communities; care and opportunities for displaced workers; and the implications for government at all levels. Key questions are whether the different actors share an understanding of their respective roles and responsibilities, and whether these are clearly spelled out. Appropriate measures should be in place to ensure that benefits achieved during the project life can be sustained to the maximum extent and that negative impacts at closure are eliminated or minimized. This process can be useful in surfacing potential future liabilities and allowing them to be managed.

The company should extend this review to involve key stakeholders and should facilitate discussion among the principal actors in the community and local government. The aim is to develop a shared vision of the environmental, economic, and social life of the community post-closure; to elaborate specific objectives; and to allocate the roles, responsibilities, and obligations for achieving those goals. Plans should build on and supplement any existing government planning processes and requirements.

Labour Organizations

Labour organizations can develop policies for sustainable development as a way of bringing members together in a shared understanding of priorities and objectives for themselves and for the organization as a whole. The policy can identify priority areas in which the organization seeks to collaborate with other actors to promote sustainable development. In addition to its traditional responsibilities towards workers, this could include involvement in broader community concerns such as health and local development.

Government

Government policy on sustainable development in the minerals sector can be a useful tool to integrate, coordinate, and harmonize the missions of different

departments in pursuit of common objectives. It can provide guidance to all departments in orienting their policies and enable an increased level of cooperation and integration of efforts. The departments involved in developing and adopting the policy should at a minimum include those dealing with minerals exploration and development, the environment, trade and industry, labour, and economic development.

A country with significant mineral endowments should consider undertaking a comprehensive review of the impact of its legal and policy framework for the minerals sector. This should focus on looking at how the mineral endowment is managed for sustainable development, identifying deficiencies, and finding ways to remedy them. It should consider different parts of the minerals sector, from exploration to the manufacture of mineral-related products, and should consider all sizes of operations. Of equal importance is ensuring that the government departments involved have adequate resources and the tools they need to do their work effectively.

Any review would be most beneficial if it takes the form of an open discussion involving key actors in industry, labour, and civil society. The World Bank Group is already active in a number of countries promoting national mining policy dialogues, development frameworks, and country strategies; it may well be a source of advice or assistance for those countries that desire its support. At the same time, the Bank can use the conclusions of its ongoing Extractive Industries Review to examine how its activities in the minerals sector can best contribute to sustainable development and improve performance.

Non-Governmental Organizations

NGOs could develop policies to clarify the link between organizational purposes and broader sustainable development goals, to provide guidance to employees, to serve as guidance in making decisions, and to make the organization's position clear to other actors.

NGOs can also enhance their effectiveness and reduce risks by developing clear and public policies of investigation and assurance that they apply to data they use. Although accuracy of information is important to all actors, this is particularly so for campaigning NGOs, since their effectiveness is closely tied to their reputation for accuracy and since they are increasingly

Key Actions for Creating Organizational Policies and Management Systems	
Actions	Responsibilities
<p>Organizational-Level Policy</p> <ul style="list-style-type: none"> • Policy review and development • Coordination among government agencies to implement sustainable development policies • NGO policies to deliver developmental services for companies • World Bank Extractive Industries Review 	<ul style="list-style-type: none"> • Companies, labour organizations, government, NGOs, international organizations • Government ministries • NGOs • Eminent Person and World Bank
<p>Management Systems</p> <ul style="list-style-type: none"> • End-of Life Planning • Identifying gaps in government capacity • Systems for assuring quality of information 	<ul style="list-style-type: none"> • Companies, with stakeholder input • Government, with assistance from international organizations • NGOs

asked to campaign on issues arising in parts of the world far from their home base. NGOs that have adopted explicit policies and management systems to ensure thorough investigation of information, as is the case with some human rights organizations, have clearly enhanced their effectiveness and credibility.

Step Three – Achieving Cooperation Among Those With Similar Interests

Groups of actors with common roles, responsibilities, and interests can benefit from collaboration in a number of ways. For example, they can form associations or networks to share understanding and lessons of good practice, to enable more effective communication with other groups to pool resources, and to minimize transaction costs. Groups of actors, whether at the national or international level, focus more effectively on the concerns of a broad association of organizations than on the opinions of single organizations or communities. Collaboration may occur from the local to international level and may take a number of different forms – everything from informal information-sharing networks to formal associations requiring membership and adherence to certain norms.

Existing Associations

- *Review and Formulation of Sustainable Development Policies*

Associations and networks should review existing policies with a view to developing sustainable

development policies. In some cases these already exist. The Sustainable Development Charter of ICMM is one example; several national industry associations have also either developed or are developing such policies. Networks such as the World Mines Ministries Forum, regional associations such as the Mines Ministries of the Americas (CAMMA) and ministries in Asia Pacific Economic Cooperation (APEC), and NGO initiatives such as the Global Mining Campaign should also consider adopting sustainable development policies.

- *Sharing Information and Capacity Building Among Members*

International bodies of ministers, including those of mines, finance, and the environment, can be instrumental in sharing experience and ideas for improving the contribution of the minerals sector to sustainable development. National, regional, and international industry associations, such as Eurometaux and the International Zinc Association, have also done valuable work in sharing ideas and approaches among member companies. They provide a platform for companies to share experiences and facilitate capacity building among members. The same is true of national associations of artisanal and small-scale miners (ASM). Labour unions have among the best developed networks for these purposes. Other associations or networks such as the Global Mining Campaign or ICMM are newer but have considerable potential in information sharing and capacity building. Associations and networks should examine ways they can strengthen and expand these roles.

Forming Associations or Networks

Where appropriate, stakeholder groups in the minerals sector should be encouraged to form associations to advance their interests and improve their contribution. The impetus must come from within the groups themselves, but others can help create opportunities for engagement. More powerful groups of actors should provide financial and other support to groups that are shy of resources to organize themselves into associations. To be represented effectively, groups must select leaders in a way regarded as legitimate and ensure that the mandate of leadership is periodically renewed.

- *Stronger Networks for Artisanal and Small-Scale Miners*
Associations of artisanal and small-scale miners exist in some countries but not others. Even where they do exist, their ability to participate in global policy processes is limited. A key goal is to develop the ability of small-scale and artisanal miners to speak for themselves, through their own organizations, in policy and other processes that affect their interests. The Communities and Small-Scale Mining initiative is critical in providing a forum to facilitate communication and coordination between miners, communities, donors, governments, industry, and other stakeholders and in actively promoting the sharing of knowledge, lessons learned, good practices, and policies. Continued and increased support of this initiative is needed in order for it to have a real impact.

- *Stronger Networks for Communities*
Communities affected by mining could benefit from the development of stronger networks for sharing experience and as a means of bringing their views to attention at the national and global level. Conferences of local governments and other community organizations, supported by donors and organized on an inclusive basis, might be a first step towards building these stronger networks. They could take place at the national, regional, and global levels. One challenge in assuring the effectiveness and value of this approach is ensuring a balance and representation of all community views. In addition, local governments in areas with minerals development should be encouraged to network with each other to share experiences, so that their concerns can be reflected internationally.

- *International Indigenous Peoples Organization*
In two workshops held by MMSD on indigenous

people and mining, it was suggested that an international indigenous peoples organization be established to share experience and strategically advise, direct, and monitor industry performance in the arena of indigenous relations. With the help of governments and the international community, this organization could oversee development and implementation of a set of core principles on relationships with indigenous people. Leadership from existing indigenous organizations will be necessary if this new group is to succeed. Its value would in part depend on inclusiveness and the ability to attract a wide range of indigenous organizations with disparate views. It should also build on the networks established through the efforts of other groups.

Protocols and Statements of Principle

Within associations of actors, standards can be improved collectively through the development of and agreement on norms and principles. As described in Chapter 14, these range from non-binding statements to requirements for specified practices as a condition of membership, and sometimes include codes or protocols that verify performance through third-party audits.

- *A Global Declaration and Establishment of a Protocol*
The mining industry should consider adopting a Declaration on Sustainable Development and establishing a Protocol to support its commitment. These tools are intended to complement, not replace, other priorities and initiatives identified at other points in this chapter. The proposal is designed to simplify the current multiple codes of conduct and sources of guidance by providing a way to bring these together over time into one management system. It would start by building on the recently adopted Sustainable Development Charter of ICMM.

The Declaration is a means to address two potentially competing objectives. First, there is a strong interest among many in industry, made evident in the MMSD process, for some kind of rigorous process to define a better level of performance through means recognized by and acceptable to key external stakeholders, and to verify that performance. Second, there is a strong desire to act promptly, to maintain momentum, and to show seriousness of purpose. Some variety of a certification system, a Protocol, or a stewardship council might meet the first objective but will take time to create, and more immediate action is important.

Phase I – ICMM and other appropriate organizations could develop the Declaration. (See Box 16–2 for suggested basic elements.) While it would inform and consult key stakeholders in the process, the Declaration would be a unilateral action by industry. Companies would be encouraged to adopt and sign on to it.

The Declaration might be most effective if it:

- pledges to review the ICMM charter in light of the conclusions of the MMSD report;
- includes a commitment to developing specific, measurable criteria as a set of protocols, to be brought together in a Protocol to the ICMM Charter, dealing with specific areas of concern such as those identified in this report, along with a system of verification of performance; and
- suggests how that system of protocols could be extended more broadly to others in all parts of the industry.

Phase II – This phase would establish a fully articulated Protocol, dealing with key areas of concern for sustainable development and industry performance. This would be done through a process encouraged and catalysed by ICMM, but managed in a way acceptable to principal constituencies and including them in

Box 16–2. Basic Elements of the Declaration on Mining, Minerals, and Sustainable Development

Companies could agree to:

- Participate in review of their association charters and policies in light of the conclusions of this report.
- Work with other companies, within a defined time, to establish a Protocol dealing with key issues of sustainable development and corporate performance, in a process acceptable to key external stakeholders.
- Work with other companies to develop an accepted system of verification to accompany the Protocol.
- Devise a set of immediate commitments embodied in the Declaration; one approach would be adoption of the basic principles outlined in a manageable number of existing agreements and guidelines.
- Develop internal management procedures to familiarize employees with the meaning of these commitments, their importance as company policy, and their alignment with business success.
- Develop reporting procedures that address the principles in the Declaration.
- Conduct, over a defined period, an independent audit by a reputable outside organization of the state of company compliance with the requirements of the Declaration.

appropriate roles to which they agree. The goal of Phase II would be to create the basis for an accepted Protocol for individual minerals facilities or projects. Elements for individual sets of issues could be adopted as they were agreed; there is no reason to wait for agreement on every issue before adopting measures that are not in dispute. The Protocol should be accompanied by a clear system of rigorous third-party verification. There should be a comprehensive investigation of whether this should lead to a certification system at the project level.

Representatives of key stakeholder groups should be involved in development of the Protocol and the verification process. Commercial lenders could support the Declaration and Protocol as a means to the better management of risk. Insurers would benefit from risk reduction. Where the risk is better managed, they can make a broader range of insurance products available, or offer existing products to higher limits. Equity investors may want to evaluate the extent to which company participation in the proposed Declaration and Protocol is likely to be relevant to investor risks and share value. As the Protocol becomes company-wide, it will be increasingly relevant to investors, particularly those who publish ‘sustainability listings’ for share issues, and ethical or sustainable development funds. The World Bank Group could also use the Protocol as a tool for considering its lending conditions for mineral projects.

Phase III – This phase is envisioned to be an expanded Protocol for company-wide application. Participation by external stakeholders in management of the process would be deepened at this stage. It may lead to a system of company-wide certification or verification. Phase III could ultimately, if the parties deem it appropriate, approach the question of product certification for certain mineral commodities.

While ICMM must have the key role in reviewing its own Charter, and should take leadership in developing the language of the Declaration and the subsequent adoption of the Protocol, it should be absolutely clear that companies choosing not to join ICMM should be able to participate in this system. It should be open to all levels of the industry, and therefore should be a subject of early discussion with national associations and such bodies as PDAC or Eurometaux. Any or all of these bodies could eventually decide that adhering to the Protocol is a requirement of

membership. But the Protocol should not require membership in ICMM.

The Declaration could call for an immediate set of commitments that could be adopted by individual companies, together with a commitment to a longer-term process of multistakeholder engagement to develop the more comprehensive and specific guidelines for responsible management in the minerals industry. It should also provide for a company commitment to adopt and comply with national or regional industry codes of conduct where they exist. For example, companies operating in Australia should initially comply with the Australian Minerals Industry Code for Environmental Management, and those in Canada should adhere to the Mining Association of Canada’s environmental policy and sustainable development principles as they are developed.

- *National and Regional Industry Codes of Conduct*
Many issues can be dealt with more effectively at the national or regional level, such as within the region defined by the Southern African Development Community (SADC). A number of national industry

associations have adopted sustainable development policies. There may be benefits in developing these further into codes of conduct, on the model of the environmental codes already in place in some associations.

- *Regional Statements of Principle by Governments*
Regional government organizations such as SADC, APEC, or CAMMA may want to consider adopting sustainable development policies for the minerals sector that can help governments seek greater convergence and harmonization.
- *Statements of Principles by Nongovernmental Organizations*
A collective statement of principles by NGOs that focuses on mineral-related issues might strengthen their influence and increase the contribution they are able to make in the sector.

Developing the Capacity to Prevent and Respond to Emergencies

Preventing accidents is a high priority. When they occur, their impacts are greatly magnified if the capacity to deal with them promptly and effectively is lacking. Moreover, uncertainty, lack of knowledge, and

Key Actions for Achieving Cooperation Among Stakeholders	
Actions	Responsibilities
<p>Existing Associations and Networks</p> <ul style="list-style-type: none"> • Policy review and development • Sharing information and capacity building among members 	<ul style="list-style-type: none"> • All associations and networks including intergovernmental bodies such as ICMM and PDAC, other regional and international industry associations, international bodies of ministers, labour unions
<p>Forming Associations and Networks</p> <ul style="list-style-type: none"> • National and international networks for small-scale and artisanal miners • National and international networks of local governments and community organizations • International indigenous peoples organization 	<ul style="list-style-type: none"> • Artisanal and small-scale mining organizations, donors • Community representatives, local governments, donors • Indigenous organizations, governments, donors
<p>Protocols and Statements of Principle</p> <ul style="list-style-type: none"> • A global industry Declaration and Sustainable Development Protocol • National and regional industry codes • Regional governmental statements of principle • NGO statements of principles 	<ul style="list-style-type: none"> • ICMM and other international industry bodies • National industry associations • Governments, regional bodies such as SADC and CAMMA • Global Mining Campaign or other associations of NGOs
<p>Preventing and Responding to Emergencies</p> <ul style="list-style-type: none"> • Emergency Response Facility 	<ul style="list-style-type: none"> • Industry associations, with governments, NGOs, experts, insurance companies

inaccurate information may cause as much public concern as the accident itself.

An international Emergency Response Facility, supported principally by industry and with appropriate involvement of other stakeholders, could play an important role. It could mobilize world-class experts to supplement government capacity to assess, respond, and control accidents and emergencies or to reduce the chance of them happening. This approach could assure the public that the best possible advice is available to responsible officials. This function would not have ongoing staff beyond a coordinator but would rely on experts from consulting firms, universities, governments, companies, NGOs, or other institutions on an ‘as needed’ basis. Minimizing the impact of one incident could achieve considerable direct and indirect savings.

The insurance industry is keen to prevent accidents and emergencies. Most insurance companies would like to see more frequent and effective inspections of key facilities such as tailings dams. The transaction costs to insurers of conducting these inspections themselves are high. The proposed emergency response capability could be of significant interest to insurers. They could participate in the design of the facility and in defining its tasks to ensure maximum business benefits. They could consider whether these benefits are sufficient to merit financial support from the insurance industry, just as this industry has supported other collective risk-reduction organizations in the past.

Step Four – Building Capacity for Effective Actions at All Levels

Community Level

Where a local community is affected by minerals development, a shared vision of the development path for the community is required, including agreement on how the costs and benefits of minerals activity are apportioned and how decisions taken. A key issue is who the ‘community’ is and how it makes decisions.

- *Community Engagement*

For most mining operations, engagement with local communities must begin at the exploration stage. There is no universal formula appropriate to every community or situation. Exploration companies through their associations are in some cases, such as PDCA’s 3Es initiative, developing programmes or guidelines designed to promote fairer and more

equitable dealings with communities at this early stage.

Companies should develop plans for continuous engagement during the operational life – from exploration through to closure. This plan should be discussed with the community to ensure that the mechanisms it proposes are considered appropriate. Companies must ensure that those in charge have the right skills and proper authority and that there is continuity of involvement. They must also be willing to invest time in the community.

- *Integrated Impact Assessment*

Currently, the almost universal tool used at the early stage of any large mining or minerals processing project and many smaller ones is environmental impact assessment. This is supplemented on an ad hoc basis by social impact assessments and a variety of other kinds of appraisals, often in a poorly integrated framework. Environmental and social assessment tools should be combined to enable a transition to integrated impact assessment.

An integrated impact assessment should include all significant social, economic, and environmental issues. It should be universal for new projects and include an early phase of consultation with the community to identify local concerns, and to design the assessment to ensure those concerns are addressed. It should include a community-level resource inventory and examine the whole spectrum of sustainable development issues in the project’s area of influence, in addition to those required by legislation. Such an assessment should become an inclusive, dynamic, ongoing process of integrating knowledge on potential impacts into decision-making and management practices. It should be endorsed by the local community and government, and entail independent monitoring of impacts. It could become the basis for developing effective communication with a community that will lead to development of a Community Sustainable Development Plan (CSDP).

- *Community Sustainable Development Plans*

Establishing a Community Sustainable Development Plan is a step that needs to be evaluated on a case-by-case basis. In some areas, the existing government framework and local or regional planning processes will suffice. Elsewhere, leadership from companies, labour organizations, or community organizations will be needed. The objective is not to replace but to supplement government while attempting to build or improve local capacity in the process.

The CSDP should be based on the community's concept of how the mine can best contribute to achieving its social, environmental, and economic goals. It should be grounded in the willingness and ability of the company and appropriate levels of government to contribute to and support those goals. It should be designed through a process of consultation that begins during the permitting phase (for new projects) and that is supported by the studies prepared in the integrated impact assessment process.

The plan should provide the fundamental framework for relationships among the company, the community, and the government (and any other parties) through the project life and into post-closure. It should identify the specific actions needed and the respective roles and responsibilities to achieve the agreed-upon vision. It could also create some obligations, on all sides, for taking those steps. Independent mechanisms for monitoring and evaluation, including clear and agreed indicators of performance, need to be included. The plan will need to evolve and be amended over the life of the project to reflect changing priorities and capacities.

While a company may facilitate and promote the process, the leadership role belongs to local government to the extent it has the capacity and willingness. Otherwise an NGO or development organization could step into this role. The process could also become, for example, part of the forum for discussion between local and national government over revenue sharing and responsibility for services.

Some companies are moving in this direction; it would be helpful if these arrangements were formalized. A system for learning by all from the growing experience in this or other sectors would also be valuable.

The World Bank could evaluate the usefulness of requiring or encouraging contractual Community Sustainable Development Plans, where they will be useful, in projects funded by the International Finance Corporation (IFC) or insured by the Multilateral Investment Guarantee Agency (MIGA). These could clarify the roles and responsibilities of the community, the company, and the host government for sustainable development, extending through closure into the post-closure phase. Commercial banks could review whether adopting a parallel requirement would be a

way to reduce their exposure to the results of proceeding without such plans.

- *Integrated Planning for Closure*

Since many mineral projects depend on specific deposits that have a finite life span, there is a need to focus on where the community wants to be when the project closes. This requires defining desired end-of-life environmental, social, and economic conditions; identifying the resources required to achieve them; and clearly allocating the roles and responsibilities of each of the actors. There needs to be a focus on sustaining benefits in areas such as housing, community health, and education. Plans could be developed through consultation with the community as part of the CSDP. Improving performance in closure planning will be helped by actions at the national and even global levels, as discussed later in this agenda.

- *Labour and Management Cooperation*

Employees have important bridging roles between the smelter, factory, or mine and the community in or around it. Employees could be central in the community-level processes: reviewing end-of-life plans and assisting in the design of CSDPs. This could be in the context of a labour-management agreement. If there is no leadership from the company in initiating the processes, labour could consider taking on that role. International labour organizations can also play a role in informing their national and local affiliates about the opportunities these processes could present, and how they might most effectively participate in them.

- *Dispute Resolution Mechanisms*

When problems, disputes, and controversies arise, government should usually be turned to first. But where there is restricted access to justice, especially at the community level, or when existing mechanisms are inadequate or not trusted, it may be necessary to design dispute resolution mechanisms at the community level. The question of how to resolve disputes should be discussed and agreed at the earliest stage of negotiations; they should be part of the consultation process or the CSDP. It may be impossible to design effective mechanisms that are self-contained at the community level. There may not be a 'neutral' organization in the community acceptable to everyone in a dispute resolution role.

Key Actions at the Community Level	
Actions	Responsibilities
<ul style="list-style-type: none"> • Community engagement • Integrated impact assessment (IIA) • Community Sustainable Development Plans (CSDP) • Integrated planning for closure • Labour-management agreement for sustainable development • Disputes and conflict resolution mechanisms • Cooperation between large companies and artisanal and small-scale miners 	<ul style="list-style-type: none"> • Companies, communities, local institutions • Companies, communities, local government, consultants • Companies, labour unions, local government, communities, civil society organizations • Companies, labour unions, local government, communities, civil society organizations • Labour organizations, companies • Companies, communities, labour unions, local government, civil society organizations • Companies, artisanal and small-scale miners

• *Large Companies and Artisanal and Small-Scale Mining*
Large companies could engage directly with small-scale miners and their communities, helping them to work in a more sustainable fashion and where necessary to find alternative economic activities.

National Level

National governments have many roles to play in the minerals sector. They are the facilitators of investment, regulators, and also the providers of public goods and services. Effective policy, coordination, and action at the national level will help to maximize the benefits of minerals activities and minimize the negative impacts. Different government agencies that deal with the minerals sector need to coordinate their activities to ensure coherence and consistency, from exploration to fabrication. In addition, as suggested earlier in the chapter, governments with mineral activities may consider comprehensive reviews of their legal and policy frameworks for the minerals sector to ensure that they are consistent with the vision of sustainable development.

• *Access to Information*

National legislation is needed to give interested parties the legal right to access information. Effective public participation cannot take place without it, nor can the building of trust and cooperation among actors. All levels of governments should have legal provisions and regulatory provisions for citizens to access information in government possession for which there is not a valid and publicly stated reason for non-disclosure. Mechanisms to support this may include contact points for regular exchange of information with civil society.

Governments and civil society organizations should also establish clear and agreed procedures for requesting, receiving, and disseminating information, including the opportunity for the public to identify the information they need for effective and responsible participation in the decision-making process.

• *Public Participation*

In its most developed form, public participation involves civil society in decision-making around strategy, policy, and practice and in setting the agenda for discussion of these. There is a growing trend at the national level in some countries towards contractual and quasi-contractual arrangements to satisfy public participation and public benefit interests. National governments should continue the process of regulatory reform to facilitate public participation and access to information. They should introduce the systems needed to ensure consistency with emerging international norms in this field. Access to information and public participation cannot be established and maintained unless there is a right to access to the legal means to enforce them.

• *Clarifying Land Regimes*

In some places, land rights issues, including compensation and dealing fairly with informal occupation and use, cannot now be resolved without substantial conflict with communities. Resolving conflict over land must start at the national level with clear rules for access to and use of land. These must be accepted as fair by those most likely to be affected by development proposals involving land negotiations. The best long-run solution is for governments to

establish laws and policies in these areas that offer better opportunities for avoiding and resolving conflicts.

No system of laws can accommodate all situations that are likely to arise in land negotiations. In some places, these issues require extensive private negotiations among companies and local occupants of land or those requiring compensation. Governments could consider revising existing laws to include elements such as extensive consultation with local communities; clearly defined rights for those with established occupancy and use of land or communal land holdings, even where they hold no legal title; compensation for loss of rights; and effective access to systems of justice. Governments should also ensure that when bilateral negotiations do take place around land issues, the rules are understood and followed by all actors.

- *Traditional Indigenous Territories*

Indigenous land claims deserve special consideration in this process. Failure to resolve land claims creates significant tensions and often causes affected communities to be suspicious of any activity that requires use of or access to indigenous territories. Governments and companies could make considerable progress by maintaining respect for the principle of prior informed consent freely given. For companies, this would mean behaving as if consent is required to gain access to indigenous lands even when this is not the case in law; this is a prelude to free and fair negotiation on land access issues. For governments, it does not mean that they would subordinate all sovereign national interests to local concerns, but rather that indigenous communities should be recognized as having clear rights within the territories they occupy. The extent of indigenous territories needs to be clearly defined for the security of traditional peoples, and open dialogue needs to be maintained on this issues. Other actors such as the NGO community can assist with these processes.

- *Frameworks to Maximize and Sustain the Benefits of Minerals Development*

Governments should consider developing long-term strategic plans for the creation and management of mineral wealth that include appropriate methods of capturing the rent from minerals and distributing the revenues; the creation of human, physical, and other forms of capital; and planning for the effects of mine closure at both the local and the national/macro level. In addition, governments could develop measures, such

as commodity loans and fiscal restraint, to prevent undue stress on public financing resulting from minerals price volatility.

A proportion of the benefits, such as revenue received in royalties or taxes, needs to be distributed through local administrative structures to enable them to take advantage of some important development opportunities for communities. It is clearly inappropriate, however, to have a universal formula for the distribution of wealth within countries, as the choice should be determined by governments according to domestic priorities and political systems. What is clear is that the problem must be resolved in acceptable and fair fashions, or it may lead to conflict inimical to all interests that undermines any potential for sustainable development.

International organizations such as the World Bank, the UN Development Programme, and the UN Conference on Trade and Development (UNCTAD) should continue to promote study and discussion of wealth distribution issues in their dialogues with governments, with a view to improving the spread of resources at lower levels of government and in communities, or to build essential human and physical capital for economic development.

- *Frameworks for Artisanal and Small-Scale Mining*

Governments need to develop an appropriate, consistent, and transparent policy and regulatory framework that focuses on both the facilitation and management of artisanal and small-scale mining. For the framework to be effective, governments should ensure that sufficient financial and regulatory incentives exist for small-scale miners to formalize their activities, as described earlier. It is also important that any framework recognizes the linkages between large-scale mining and ASM and that there is coherence in policy, regulation, and legislation for the whole spectrum of mining activities. ASM activities also should be incorporated in relevant regional and local development programmes. These policies should also provide the means for dealing with priority problems, such as hazardous working conditions or the use of mercury.

- *Frameworks for Community Development*

Building on existing elements, governments should consider establishing a coordinated legal and institutional framework to incorporate integrated

impact assessments, Community Sustainable Development Plans, and integrated closure planning and to assign responsibilities among agencies – in consultation with relevant stakeholder groups.

Legal requirements for developing closure plans for mines tend to be heavily oriented towards environmental concerns. Governments should ensure that mine-closure planning also includes consideration of economic activities in affected communities, opportunities for displaced workers, social infrastructure, and other appropriate issues. In addition, governments could legally require that mine closure planning clarify the roles, responsibilities, and obligations of the different actors.

There is a need to establish and clarify quality standards for impact assessments for mining projects. Government agencies charged with managing impact assessment processes should develop standards for baseline data and analysis, and for special issues such as acid drainage assessment, closure planning, and water quality. National-level industry associations need to make such standards explicit to their membership and pursue mechanisms to inculcate them thoroughly into project development practices.

- *Legislating for Mining-Induced Displacement and Resettlement*

Experiences with resettlement have often been unfavourable. At present, the mining industry, financiers, and governments often externalize displacement costs onto the weakest party – the displaced. It may also be the case that compensation cannot adequately restore and improve the income and livelihood standards of people subjected to involuntary resettlement. Governments must put in place regulations that ensure free and willing negotiation on any resettlement proposal, including freedom from harassment or coercion at the local level and full participation in the decision-making process. Mechanisms for monitoring and fair arbitration procedures are a natural accompaniment to such regulation.

It is too early to expect harmonization and the emergence of a detailed industry-wide approach on this issue. One option in the future might be to institute involuntary displacement and resettlement insurance to protect the involuntarily displaced – but this too is politically premature at present. In the interim, a displacement and resettlement contingency

clause could be proposed as an on-the-ground solution, which is an agreement that all likely risks of these outcomes be assessed, goals set, costs estimated, organizational arrangements proposed, and financing secured before a mining project goes forward.

- *Anti-Corruption Initiatives*

Corruption siphons off the potential benefits of mineral activities, posing a serious threat to sustainable development. Concerted effort is needed to combat corruption – governments should adopt national legislation to put the anti-corruption convention of the Organisation for Economic Co-operation and Development into effect. There are also many examples of national coalitions among companies, national chambers of commerce, and civil society organizations against corruption. Companies could work with organizations such as Transparency International at the national level to establish industry-wide guidance.

Governments and companies should adopt more widely the practice of open publication of basic information about how much wealth is generated from projects, the amounts of revenue received by government departments, and how that money has been spent. Industry organizations should consider taking the initiative, possibly in partnership with an international organization such as the World Bank, to establish an international and public register of all payments by mining companies to governments at all levels.

- *Audits, Guidelines, and Standards for Environment Management*

Governments and funding agencies should require regular independent audits of all tailings storage facilities and find ways to act on the results. Equally, governments should set up clear guidelines for evaluating different disposal methods for mining waste on a case-by-case basis, with a clear value in the short term of the need to avoid riverine disposal.

Government agencies charged with managing impact assessment processes should develop standards for baseline data and analysis and for special issues such as acid drainage assessment, closure planning, and water quality. A high priority in many countries should be communicating the results of an assessment of the potential for acid drainage more effectively to interested parties, and integrating this concern into decision-making from the permitting stage through closure.

Key Actions at the National Level	
Actions	Responsibilities
<p>Review and Development of Legal and Policy Frameworks</p> <ul style="list-style-type: none"> • Access to information • Public participation • Land rights regimes and compensation systems • Traditional indigenous territories • Maximizing the benefits of mineral development • Artisanal and small-scale mining • Community development • Mining-induced displacement and resettlement <p>Other Actions</p> <ul style="list-style-type: none"> • An international register of payments to combat corruption • Audits, guidelines, and standards for environmental management • Capacity building • Labour-company agreements • National multistakeholder processes 	<ul style="list-style-type: none"> • Governments and relevant stakeholders • Companies, industry associations, NGOs, governments, international organizations • Government , affected communities, companies • Governments, international organizations such as the World Bank, the UN, NGOs, donors • National unions, companies • All relevant actors

• *Capacity Building*

Although the World Bank and the United Nations have been supporting capacity building in this sector, it would be helpful to develop a clearer picture of the kind of capacities needed and those that are already in place at the national level. These international organizations could work with member governments and others to develop an understanding of the levels of capacities required and specific guidelines or benchmarks.

• *Labour-Company Agreements*

Workers and organized labour could be major advocates for many aspects of sustainable development such as community development and health, and they have a special responsibility to implement good practices in safety and training. Governments could promote agreements between labour and industry at the national level to promote sustainable development for the minerals sector.

• *National Multistakeholder Processes*

Governments, in consultation with stakeholders, could be effective convenors of multistakeholder processes at the national level for policy discussions and change.

Global Level

Many mineral companies, markets for mineral

products, and capital markets that finance projects operate at the global level. Moreover, in a broad sense, the challenges faced by the sector are global concerns, including the need for economic development, poverty alleviation, and an end to human rights abuses. This and other factors mean that some action is needed at the regional and global level.

The rationales for global initiatives include.

- *Growing international pressure to observe higher standards* – The spread of economic globalization has created more connections between economies than ever before. Where commodities are traded in global markets, consumers and investors are increasingly concerned about environmental and social performance at the source.
- *Free trade and fairer markets* – The world trading system is seen to be failing to deal with aspects of market access. Tariff and non-tariff barriers impede minerals beneficiation, which may inhibit economic development of mineral-dependent economies. This can only be addressed in ongoing trade negotiations.
- *Skills and technology transfer* – One important way to address the disparities in wealth, capacity, and resources is to facilitate access to new technologies, innovation, and skills training between nations.
- *Need for a level playing field* – Better internalization of

environmental and social costs will provide more rent for national governments and other resource owners, more income for local communities, better environmental performance, greater incentives for materials efficiency, and greater margins for producers. If these measures are required in some places but not in others, production may simply shift to regions where costs are not internalized. This may place a cap on what can be achieved in countries that want better performance.

- *Legacy issues* – The failure to internalize costs in the past means that consumers in wealthier countries have been subsidized, paying lower prices for the minerals they have used. Assistance to the poorest countries to address legacy issues may be a step in the right direction to redress this.

To move towards collective action, initiatives from everyone in the sector are required. Current programmes and priorities show limited coherence and agreement. Stronger international action by government is an important goal and greater understanding among other actors is the first step to achieving it. In the meantime, there can be other serious initiatives; but they will largely be voluntary and non-binding.

Any proposal for global action for sustainable development faces serious hurdles. First, international organizations tend to be dominated by those with the most resources, capacity, and access to institutions of power, and therefore tend to reflect the values of those in industrial economies. Efforts must be made to redress power imbalances to ensure that the values of people and institutions in developing economies are given equal weight. Second, very few global or international institutions have authority to establish binding rules and requirements or to impose sanctions for non-compliance. And few of the limited number with such powers (such as the World Trade Organization) have the mandate for or interest in addressing the challenges of sustainable development in the minerals sector. Third, while government initiatives can create effective international organizations with mandatory powers, governments are not pressured to move in this direction. And finally, there is resistance to creating any new international institutions unless funding sources can be identified.

The remainder of this section suggests initiatives that can be taken at the global level by different groups of

actors working together on general and specific challenges. Some are already under way in some form and need to be supported. Others have yet to be initiated. It should be noted that calling for action at the international level does not preclude these initiatives being undertaken at other levels. The Forum and disputes resolution mechanism, for example, could also be developed (or may already be in place) at the national or regional level.

- *A Complaints and Dispute Resolution Mechanism*
All parties in the sector should have a serious interest in establishing fair, reasonable ways to resolve grievances and disputes. A dispute resolution mechanism should bring parties together, in a neutral forum, to work out a mutually acceptable facilitated settlement. The elements of the mechanism are envisioned as similar to the methods and procedures of an ombudsman, such as the IFC's Advisor/Ombudsman (CAO) or the Mining Ombudsman Project operated by Community Aid Abroad in Australia. Clearly, where possible, complaints would be better handled by an independent organization operating at a regional or national level.
- The process would be available only in cases of foreign direct investment; it would not apply where the parties were all domestic.
- Where the IFC or MIGA are involved in projects, the process would not supersede the work of the CAO.
- The overall rules for the complaints and dispute resolution mechanism would be set at the global level and managed in a transparent fashion. The mechanism would be guided by principles designed to avoid conflicts of interest.
- A prerequisite to invoking the mechanism would be an effort to solve the problem at the local level.
- The dispute resolution professionals who operate the system would not act as judge or jury to decide who was right, but would mediate to try to achieve a solution acceptable to all.
- The focus would be on problem solving and addressing complaints in a way satisfactory to all parties.
- Anyone with a grievance that fell within the established subject matter could request assistance from the service.

The overall programme could be overseen by a balanced multistakeholder Board. The Board would periodically issue public reports of its activities and the

overall process. It would establish rules for the conduct of the process, and amend them as necessary based on stakeholder feedback and experience.

- Complainants would have the option of having their complaints handled privately and in confidence. There would be clear rules of evidence and procedure.
- Parties would agree to cooperate with the process of dispute resolution, provide appropriate information as reasonably requested, and show a commitment to making the process work.

Commercial lenders could support this proposal by requiring a demonstration that an effective dispute resolution mechanism is available as a condition of loans.

- *A Product Stewardship Initiative*

Industry needs to collaborate with regulatory authorities, downstream users, and other groups to develop sound, science-based means of ensuring safe use, re-use, and eventual disposal of its products. A Product Stewardship Initiative could promote greater exchange of information and integration of views with the industry's principal customers and intermediary processors, recyclers, and others. This initiative could build on the work already undertaken by the Non-Ferrous Metals Consultative Forum on Sustainable Development, which has indicated that further development of the stewardship concept needs to be done by selecting some real issues in real settings and working with companies and stakeholders on a pilot basis.

As part of this process, national governments need to continue to identify incentives and disincentives for recycling and innovative design in metals use and to develop policies on them. They need to develop national strategies for recycling and extending product life, with measurable targets, to include collection networks, infrastructure, and investment in recycling technologies.

A Product Stewardship Initiative would lead to improved understanding of:

- energy, water, land use, recycling, and re-use issues;
- life-cycle analysis as a management tool for sustainable development;
- appropriate recycling technology transfers to developing countries; and
- possible product certification schemes.

- *A Sustainable Development Support Facility*

There is wide agreement that the complex and demanding tasks of proper management of the minerals sector may tax available expertise and the capacity of government and other essential actors, particularly where they do not have a great deal of prior experience with the sector's operations. A Sustainable Development Support Facility could be developed to serve as a central clearinghouse for information on who is doing what in the sector and suggest ways to coordinate and target efforts of donors and others. It could serve:

- as an independent source of capacity building or advice to government on issues such as emergency planning or implementation of local emergency preparedness plans;
- as a supplement to government departments charged with technical tasks such as safety inspection of tailings dams;
- to help develop the technical standards necessary for effective impact assessment in the minerals sector;
- to assess potential for acid rock drainage and strategies for dealing with it; and
- to assist local governments, companies, or others in the development of Community Sustainable Development Plans and to strengthen the capacity needed for effective planning for closure.

The Facility could be supported by one or more donor agencies, with a pledge to support it long enough to give it a chance to prove its worth, and could be administered by the World Bank Group as a trust fund. An important and useful role in its management could also be played by the World Conservation Union—IUCN.

Applications for assistance could be made by any government, NGO, UN body, trade union, or other appropriate organization that was committed to cooperative approaches to sustainable development concerns in the minerals sector. General policies would be established and applications reviewed by a balanced panel with representation of various stakeholder interests at the global level, or by several such panels operating at the regional level.

- *Reporting Guidelines*

A harmonized system of reporting guidelines is needed to ensure that key aspects of company practice are publicly reported to a standard that informs internal and external stakeholders about the sustainable

development performance of corporations and major projects. This requires reporting and performance indicators that allow for innovation and for differences at the level of specifics. The system will only be effective if there is trust, transparency, and accountability in terms of those doing the reporting – in the systems devised, the mechanisms used to generate the information, and the process for reporting the data in a usable form to the target audience.

A multilateral organization such as the World Bank could convene an experts group to draft a broad set of principles and operational guidelines for reporting. Organizations such as the World Bank and the UN Environment Programme (UNEP) as well as minerals associations and minerals corporations should participate in developing the guidelines. Appropriate and meaningful NGO and community involvement is also key.

In defining guidelines, the sector should work with organizations such as the Global Reporting Initiative and the International Standards Organization to achieve comparability between sectors and to ensure the transfer of existing knowledge.

Research into the identification and development of key indicators for public reporting needs to continue. Organizations such as the Minerals and Energy Research Network (MERN) that have taken a lead in this field should continue to develop indicators and to explore how they relate to each other and how they fit into management systems. The eventual aim is to construct a set of ‘must have’ generic yet sector-specific indicators at the project and corporate level, supported by a secondary set of indicators that could be applicable at particular sites.

The UN, the World Bank, and governments have a role to play in creating a feedback loop. Equally, industry organizations such as ICMM and others have a role to play in ensuring that their members understand and adopt the standards specified in the principles, guidelines, and public reporting criteria.

- *Protected Areas and Mining Initiative*

Increased collaboration is required at the international level among key actors including IUCN and other conservation organizations, governments, and NGOs to resolve issues related to protected areas management. The MMSD process highlighted the following possible actions, among others:

- Establish a multistakeholder forum that aims to achieve consensus on ‘no-go’ zones for mining, on a case-by-case basis, with a priority for World Heritage Sites.
- Develop a package of published ‘better-practice’ guidance on mining and protected areas, developed through collaborative research and capacity building partnerships, to be showcased at the next World Parks Congress in 2003 and the next conference of the Parties to the Convention on Biological Diversity in 2004.
- Establish clear criteria that can be used to decide if mining is possible near protected areas, which should then be applied to its control and to the assessment of inherited mines in protected areas (especially those existing before the area was protected).
- Work towards improving the transparency of decision-making around the assignment of protected areas categories, developing more detailed technical guidance regarding the application of the categories system.
- Undertake ‘high resolution’ mapping through key institutions that will identify the scale and extent of threats to and opportunities for protected areas posed by mining and other sectoral activities.

- *Mineral Legacies Initiative*

During the MMSD process, an overwhelming majority of participants agreed on the importance of remediating abandoned mine sites where there is a clear threat to public health and safety or ongoing impact on important water resources. Improving conditions at abandoned sites can yield immense social and environmental benefits for a relatively small investment.

The focus at least initially should be on true ‘orphan’ sites, where no former owner or operator can be identified and all would agree that the problem is a public responsibility. Priority should be given to sites where remedial action will offer a clear payoff in improved public health and safety, more usable water supplies, or other demonstrable benefits, such as protection of biodiversity. Another priority is projects in low-income countries with significant abandoned mine legacy problems and those with particularly pressing social legacies of mining communities.

Governments with many abandoned mines but few resources could be given grants to determine priorities for the cases most urgently needing attention and to

develop project proposals that could then be funded. High priority should be given to sites where the rehabilitation of the environmental legacy will generate needed employment and skill-building and be a source of livelihoods.

Most observers agree to the need to such action, but not on its financing or administration. Yet there are good if not perfect models for the administration – the Global Environment Facility is one; a trust fund established by donors and administered by the World Bank or regional development banks would be another. The World Bank has financed work at abandoned mines or other mineral facilities in the past. At a minimum it could coordinate its future support for such activities with a trust or other entity managing this work. The Bank might well find other ways to support the effort.

Mining companies could raise the profile of this issue by ensuring that it is discussed and debated at the Global Mining Industry meeting in Toronto in May 2002. One possibility would be for a group of companies to take the initiative by pledging an initial contribution to the trust fund on the condition that it be matched by government and other donors in some specified percentage.

At the World Summit on Sustainable Development in August–September 2002, world leaders could use the opportunity of meeting in one of the world's most important mining centres – and one that shares with others a legacy of problems from that activity – to call for a full-scale feasibility study for a Mineral Legacies Initiative. Establishing this fund would require a number of nations to commit together to a programme to make it viable for at least several years. Protection of public goods such as water supply and public health and safety would have to be the primary goals, but the programme could also be useful in building skills and generating employment.

- *Financial Surety*

Governments recognize that some industries (such as power plants, chemical facilities, and mines) have the potential to leave behind large social costs. To make sure they do not inherit these costs, some insist that companies provide a bond or financial guarantee to ensure that they will comply with closure plans. The company guarantees in this way that the specific obligations for mine closure will be carried out; it also

ensures internalization of costs and promotes economic efficiency. Without such surety, the legacy of abandoned sites and their attendant problems are certain to grow.

Developing countries have often not adopted financial surety for a number of reasons. Many have just finished revising their laws and regulations to create incentives for investment; guarantees and new requirements may be seen as a disincentive. Small and medium-sized companies with limited capacity to comply with bonding or financial surety obligations may collectively be a significant source of jobs. Finally, developing an effective plan requires flexibility, which implies discretionary authority. Discretionary authority implies delays and may lead to corruption. Despite these obstacles, some way must be found to capture the benefits of financial surety. Progress on this issue is important. The World Bank recognizes this as a priority concern.

The best way forward seems to be for the World Bank and the world's mines ministers together to convene a dialogue, starting with a high-level conference, to find ways of reconciling the clear benefits to be achieved by appropriate guarantee systems, national policies for minerals investment, and the growing desire of many commercial and non-commercial lenders to ensure that the projects they finance do not wind up adding to the world's inventory of sites abandoned without proper precaution.

- *A Global Labour-Management Agreement*

There could be a global-level agreement between labour federations representing workers in the minerals sector, such as the International Federation of Chemical, Energy, Mine and General Workers' Unions (ICEM), and international organizations representing companies for broad cooperation in support of sustainable development. Organized labour could take the lead to suggest elements of the agreement. These may include traditional areas of interest such as the training, health, and safety of workers, but could also include broader community concerns. The agreement could be linked to counterpart agreements at the national and local levels.

- *Forum on Mining, Minerals, and Sustainable Development*

To drive the sustainable development debate forward, it is important to establish effective and ongoing dialogues. Much of the dialogue to date has been

partial. Many actors in the sector have felt the need to move towards an ongoing results-oriented dialogue that adds value. During the course of MMSD, many serious issues were raised. While few people deny the validity of these issues, they may phrase them differently, or see different solutions ahead, or distrust others' intentions in raising them. It is impossible to deal with all the issues facing the sector at once. Effective leadership could focus the agenda on a manageable number of issues and attempt to achieve convergence on a ranking of priorities without agreeing on solutions. Discussion of this kind requires a neutral space or spaces where ideas can be aired openly without excessive concern. The MMSD regional processes that have begun this task would hope to continue in differing forms, at either the national or the regional levels.

This argues for a process or processes that can stay in effective communication with all principal stakeholders and that is not controlled by any of them individually but 'belongs' to all of them as a group. In the forest products industry, a similar need led to the creation of a Forest Stewardship Council. In the dam building sector, it led to the World Commission on Dams. The Responsible Care initiative in the chemicals industry has a multistakeholder stewardship council. In the minerals sector, this model has been pursued, with variations, for things such as the recent cyanide code, the White Horse Mining Initiative, and the MMSD Project itself. Processes of this type can create

results that could not be created in any other way. Whatever anyone's view of the cyanide code, for instance, it is clearly a better and stronger product for having come through such a process.

With these models in mind, a Forum on Mining, Minerals, and Sustainable Development could be established. This would not have to be a permanent bureaucracy. It could, for example, resemble the Toronto Conference in May 2002, but in a more advanced version at some determined intervals in the future. The Forum could perhaps achieve these goals:

- Establishing priorities, not just for industry or for government, but for a wide range of actors in the sector, so that each could focus on a manageable number of tasks in the near term.
- Setting guidelines for processes directed at individual issues, to give all concerned a greater confidence in their legitimacy and reduce the transaction costs in setting them up.
- Endorsing processes if they met those guidelines, adding to their legitimacy and increasing peoples' confidence in participating in them.
- Endorsing the results of those processes, giving them broader acceptance and ensuring that their principles are more quickly incorporated into company policy, industry Protocols, best practice guidelines, lending policies of banks, and laws and regulations.

Setting up such an endeavour requires a significant

Key Actions at the Global Level	
Actions	Responsibilities
<ul style="list-style-type: none"> • Complaints and dispute resolution mechanism • Product Stewardship Initiative • Sustainable Development Support Facility • Reporting guidelines • Protected areas and mining • Dialogue on mineral legacies • Dialogue on financial surety • Global labour-management agreement • Forum on Mining, Minerals, and Sustainable Development 	<ul style="list-style-type: none"> • Companies, representatives of affected stakeholder groups, commercial lenders • Non-Ferrous Metals Consultative Forum on Sustainable Development, industry associations, NGOs, governments, labour • Governments, international organizations, NGOs such as IUCN, stakeholders • ICMM—industry associations, NGOs and stakeholders, Global Reporting Initiative, companies, international organizations • Conservation NGOs such as IUCN, governments, companies, associations such as ICMM, communities • Mining industry, world leaders • World Bank, mine ministers • International labour unions such as ICEM and international industry associations such as ICMM • All actors

amount of time, energy, and money. The World Commission on Dams, for example, spent an entire year establishing the rules under which the Commission would operate and selecting its members before it began its work programme. But if it can be achieved once, it should not be allowed to die, which would involve repeating the investment the next time high-level dialogue were needed. Investment is made not only by the management of the process and its sponsors but by everyone – all stakeholders have to invest in examining the process, setting the rules under which it will go forward, and developing confidence that it will not work to their disadvantage.

The MMSD Project has identified a number of issues ripe for progress in a Forum – management of tailings and other large-volume wastes, action against corruption, integrated planning for closure, community health and mining, and biodiversity and protected areas, to name just a few. But progress on any of them will require engagement of a variety of stakeholders. Effective engagement that produces results will require attention to process, which requires investment. There is no effective alternative. A way to proceed, and one that could yield better long-term results, would be to make the investment once, instead of every time an issue came up.

Whatever the reaction to this suggestion, it is clear that it is easier to seek solutions with some kind of a structure. If the mineral sector returns to dialogues among some but not all key actors, happening more or less by accident, and fading as fast as they began, the sector will be going backwards. The goal for sustainable development in the mining and minerals sector should instead be increasingly inclusive and intentional dialogues that are deliberately planned and that engage ever-broader circles, leading to ongoing engagement for the long term.

There is an informal proposal for such a forum from the UN family. Others suggest that the Forum could develop out of existing mechanisms such as the International Study Group's Non-Ferrous Metals Consultative Forum on Sustainable Development.

Whatever the future of the Forum proposal, at a minimum there should be a recognition that establishing communication and discussion among interested parties on a national, regional, or global basis requires a committed effort and a significant

investment of time and money. Processes are expensive at least in part because of the investment needed to establish these links. Finding a home in an institution capable of maintaining the databases that projects – including MMSD – have established and of circulating periodic bulletins, perhaps containing a registry of current research activities, is an important investment in the future of dialogue. MERN, the UNCTAD/UNEP Mineral Resources Forum, or a new Union for Minerals and Sustainable Development are all possible homes for such a body.

A Final Thought...

The MMSD Project did not try to resolve the many economic, environmental, social, and governance issues facing the mining and minerals sector – no single effort could. But the project did try to turn a spotlight on the range of challenges raised by society's need for and production of minerals. Judging by the input and reactions during the two years of the Project, that goal was achieved. The many people who made contributions to the process – through papers, workshop participation, comments on successive drafts, emails with news from all corners of the world – confirmed that the minerals sector involves much more than digging ore out of the ground.

Although *Breaking New Ground* is the final report of the MMSD Project, it is not, of course, the final word on this complex subject. But we hope that for the minerals sector it is a helpful step along a road towards sustainable development that includes all those affected: policymakers, business leaders, public interest campaigners, people working in mines, local communities, and – very important – consumers. All these people must join the discussion and take action if the world is to find a better way to meet society's needs.