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Sustainable Markets

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MMSD+10:

Reflecting on a decade of mining and sustainable development

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Executive summary

It is 10 years since the *Mining, Minerals and Sustainable Development* (MMSD) initiative was completed. MMSD offered an independent review of how the mining and minerals industry performed in relation to broad-ranging sustainable development issues. Its findings were game-changing for the sector. MMSD provided a foundation for shared understanding by stakeholders from mining CEOs to community groups. Mining CEOs of the day committed to act on its agenda as a robust and credible way to maximise the sector's contribution to sustainable development.

So where are we, 10 years on? How far have we travelled towards a sustainable and responsible mineral industry?

In short, the past 10 years have seen a valuable increase in the number of standards and best practice guidance, helping stakeholders to understand what sustainable development means. But despite good intentions at the strategy level and examples of good practice, the complexity of situations at the mine site means implementation across the sector is highly variable. Questions remain as to whether current verification and reporting regimes are sufficient to meet the needs of key stakeholders – from investors to communities. In a large number of cases, there is little idea of how exactly these should be translated into progress on the ground. Meanwhile, new pressures on the sector, such as competition from emerging economies, climate change and a re-emergence of the 'resource nationalism' debate, are putting the challenges and solutions for sustainable development in mining in a new light.

Key findings

Achievements against the sustainable development agenda set out by MMSD

- Understanding of sustainable development in the mining and minerals sector has markedly improved and there is increased sophistication in talking about how mining should maximise its contribution to sustainable development.
- The International Council on Mining and Metals has succeeded in implementing many of MMSD's recommendations for industry and provides the primary basis for collective action in the sector. Complementary measures for government, the small-scale mining sector and communities have not equalled this success.
- A set of global rules for best practice on sustainable development and minerals has emerged, although difficulties in translating these at the ground level (both in terms of reporting and implementation) and ensuring consequences for non-compliance (or compliance) remain.

Ongoing challenges to maximising mining's contribution to sustainable development

- Government capacity building – a key MMSD recommendation – remains limited, restricting the ability to harness mining for positive development.
- Artisanal and small-scale mining is a neglected and underfunded sector in the minerals industry.
- Community development remains a complicated field in both rhetoric and implementation, although there is evidence of progress and more sophisticated approaches to tackling these issues.
- An integrated approach to mining, as articulated by MMSD, is an agenda only just beginning to take shape, but resource efficiency and 'closed loop thinking' could become business imperatives in the face of increasing pressures on resources.

New issues that, combined with the 'ongoing challenges' from the last 10 years, may help shape the agenda for the next 10 years

- The competitive landscape has changed and investors and operators from China, Brazil, India and elsewhere – not necessarily involved in defining the rules 10 years ago – have risen to prominence.
- The mining industry has broadly taken a 'wait and see' attitude to climate change issues, but harsher operating conditions are spurring action and debate.
- UN Secretary-General's Special Rapporteur John Ruggie's work is compelling businesses to engage with human rights issues.
- The dramatic increase in community expectations, including for Free, Prior and Informed Consent (FPIC), must be tackled head on by governments, civil society and companies.
- Increasing pressures of 'Resource Nationalisation', viewed by some as a threat, could provide an opportunity to rethink existing models of development.
- Difficulties of operating in conflict regions and fragile states are high on the international agenda right now.
- The 'green economy' discourse framing the 2012 Earth Summit in Rio may help shape a renewed agenda around an integrated approach to minerals.

Introduction

This review is intended as a 'conversation starter' – providing an initial assessment of the mining and minerals sector's achievements against the MMSD agenda and open to further discussion. This review is based on 36 semi-structured interviews to gather perceptions of stakeholders in mining companies, civil society groups, industry and commodity associations, and independent consultants (a full list of interviewees can be found in the Acknowledgments section). The paper synthesises ideas expressed by many individuals and should not be taken as representative of any single person's opinion. Nor does it extensively review or quantitatively evaluate MMSD. Rather, it looks for key achievements, discusses new and ongoing challenges, and begins to articulate issues that may shape the agenda for the next 10 years. It is hoped that this will stimulate further discussions and debate on these key questions, and calls on you, the reader, to add your voice via blogs and online comments at www.iied.org/mmsd over the coming months and at IIED's Fair Ideas event at Rio+20 (www.fairideas.org).

What was MMSD?

MMSD was both an outcome and a process – a two-year initiative to gather evidence and knowledge, and engage stakeholders around the question of 'how can mining and minerals best contribute to the global transition to sustainable development?'

MMSD was part of, but independent from, the Global Mining Initiative (GMI) – driven by mining companies' recognition that the industry needed agreement on how to start meeting the challenges of sustainable development. The industry wanted an alternative to the adversarial, advocacy-based approach that characterised interactions at the time, and was ready for a move towards a shared agenda involving all the main stakeholders. MMSD was convened by the World Business Council for Sustainable Development (WBCSD) and housed by the International Institute for Environment and Development (IIED) – a research home that could convene a range of stakeholders and provide the independence crucial to building trust. Although funded largely by mining companies, an Assurance Group, made up of independent academics and senior members of some of the big NGOs at the time, was tasked with ensuring the process and findings remained independent.

MMSD aimed to create a shared idea of the appropriate and necessary roles for each of the major actors in mining and sustainable development – government, civil society, and the private sector – asking 'what is a company's role and what is not a company's role?'. During the two-year project, more than 700 people participated in 20 countries and over 130 reports were published. Regional research and engagement processes in Latin America, Australia, Africa and North America, with their own governance structures, leadership, budget and priorities, were a central part of the whole effort.

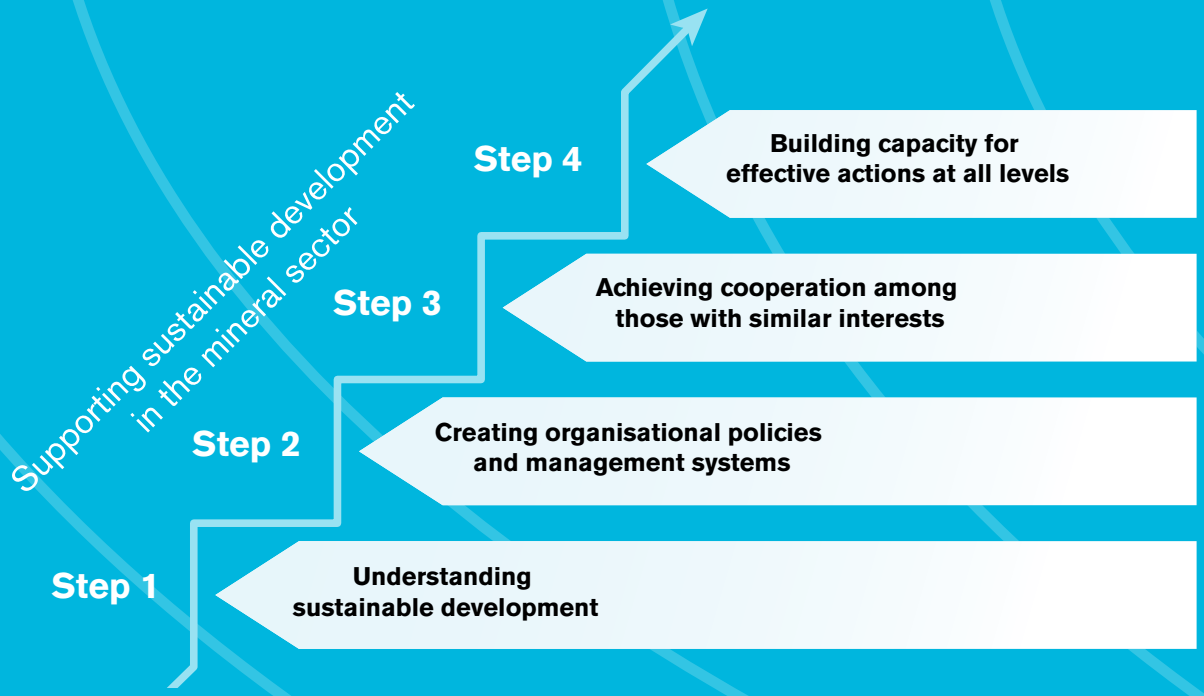
What emerged was a well-developed rationale for why sustainable development is a vital part of a mining company's business, rather than an act of philanthropy. This helped to frame the sector's contribution to the 2002 Johannesburg Sustainable Development Summit and the GMI Toronto conference. The Toronto Conference marked the closing of both the GMI and MMSD, and saw agreement on a mandate for the International Council on Mining and Metals (ICMM) – set up by the GMI to replace the existing International Council on Metals and the Environment as a flagship CEO-led organisation that would take forward the industry's responsibilities on sustainable development. ICMM's role was to be complemented by CASM (the Communities and Small-scale Mining body at the World Bank), the Intergovernmental Forum on Mining, Minerals, Metals and Sustainable Development (unformed at the time) and IUCN (the International Union for Conservation of Nature).

Time to reflect and refocus...

As we move into the next 10 years there is a sense of the need for a new agenda within a changed context for minerals and sustainable development. Before that new agenda is defined it is important to take stock of what has been achieved over the last 10 years and what have been the obstacles to progress. *Breaking New Ground*, MMSD's final report (2002), articulated a series of sustainable development challenges, with associated recommendations, and four steps for supporting sustainable development in the minerals industry that together provide a good framing for this discussion.

Progress in sustainable development

MMSD's final report, *Breaking New Ground*, articulated four steps to supporting sustainable development in the mining sector. IIED spoke to a range of stakeholders about the achievements and challenges of mining and sustainable development to get an idea of where we might be in this progression. The following is a synthesis of those perspectives.



But, what do you think? What does progress along these four steps look like to you?

Step 1: Understanding sustainable development

Understanding of sustainable development in the mining and minerals sector has markedly improved – arguably the single biggest achievement in the last decade – but the debate has now increased in sophistication.

MMSD helped companies understand that sustainable development is about balancing the needs of society, the environment and economics, in the context of good governance. All the companies spoken to for this research demonstrated an understanding of sustainable development. Johan Viljoen, Senior Vice President Sustainability (Policy & Assurance) at Anglo Gold Ashanti, commented:

"Health and safety, environment, communities and security – 10 years ago these were single silo disciplines, now they cross boundaries."

Good social and environmental practice is now seen to be part of the company's competitive advantage, according to Richard Morgan, Government Relations Advisor at Anglo American, and understanding of sustainable development has increased in sophistication. Dr John Groom, Safety and Sustainable Development Adviser at Anglo American and Anglo American 'Sherpa' for the GMI, and stakeholder in the MMSD process, commented:

"The drivers for GMI were clear recognition that mining companies had problems of access to land, and access to markets, and cost of capital. The fundamental underlying reason was the reputation of the industry. To tackle this we would have to work with others and also improve the way we worked. This is what drove MMSD and started the process of stakeholder engagement. None of the problems have gone away, but the dialogue is much better informed and infinitely more constructive."

Many see the ability to engage in a more sophisticated debate as a success attributable to MMSD, which provided a shared lexicon that a range of stakeholders could use as the basis for engagement. Robert Court, Global Head of External Affairs at Rio Tinto and part of the Secretariat for the GMI, stated that business planning at Rio Tinto is now 'intrinsically informed by a willingness to engage with others' (discussed further under Step 3).

However, most of those interviewed held senior positions and their companies could be considered industry leaders on sustainable development issues.

So what is understanding like across the industry and at the level of the mine site?

Tony Andrews, previously Executive Director of the Prospectors and Developers Association of Canada (PDAC), segments junior mining companies into (1) those at the top that are well established and credible firms with good management; (2) the small segment who want to avoid sustainable development issues; and (3) the 80 per cent who 'develop practices based on common sense in response to particular context', which in some cases results in good work but is generally not benchmarked to international standards and can be highly variable in the quality of both delivery and outcome.

If 'understanding' isn't industry wide and looks more like 'awareness' in huge parts of the sector, can we say that we have taken this first step to supporting sustainable development in the sector?

Case studies and practical guidance have contributed towards an emerging global standard and picture of what responsible mining should look like. A host of practical tools is available through, for example, ICMM's website and the World Bank's Extractive Industries Sourcebook. However, putting these into practice, particularly in large-scale projects, can be difficult. The complexity of the challenge, as articulated by MMSD, has meant that, in practice, certain issues are prioritised and others neglected. Stephen D'Esposito, now Head of RESOLVE and representative of the NGO sector in the GMI Toronto conference, noted that addressing issues in isolation (such as biodiversity offsets and FPIC) has led to a 'missed opportunity' in considering the trade-offs inherent to sustainable development.

There are now a wealth of initiatives articulating what sustainable development means for companies including the International Finance Corporation's (IFC) Performance Standards, the United National Global Compact and OECD Guidelines for Multinational Enterprises; many of which did not exist in 2002 (see Major international initiatives impacting minerals and sustainable development on page 13). However, there doesn't seem to be a clear idea of how many of these initiatives are made to work at the mine site – whether by civil society organisations, communities, artisanal miners or mine employees – and how the information collected through assessment and reporting is translated into valuable knowledge on the ground. Moreover, a conclusion from the GEMM Dialogue in Vancouver in April 2012[1] was that although there are many tools for companies, there are insufficient tools and guidance for communities to help them understand and uphold their rights and responsibilities. The same is said for artisanal miners.

What has been achieved in ensuring communities and artisanal miners have the tools and knowledge to understand what it means to maximise mining's contribution to sustainable development? What can we learn from these successes?

What was most clear from the interview respondents was that the context has changed. The shifting sands of the sustainable development discourse continue to challenge what sustainable development means in terms of its implementation and thus shaping understanding for the next 10 years (discussed further in **Chapter 3: Beginning to define a new agenda**).

Step 2: Creating organisational policies and management systems

Good practice guidance and strategic level buy-in exists for improved organisational policies and management systems – but more needs to be done to ensure good (and measurable) practice at the operational level and across the sector. This includes for small-scale miners, juniors and mid-tier companies.

ICMM is now considered the 'port of call' on industry standards for best practice. Its position statements cover a range of issues from climate change and mining in protected areas to indigenous peoples and mining partnerships for development. These are binding on all its members, which represents a significant proportion of global minerals production (including 52% of copper, 48% of platinum group metals, 42% of iron ore, 41% of nickel, 38% of gold and 25% of zinc),[2] and set a benchmark for performance across the sector.

Many companies have adopted sustainable development polices through membership associations such as ICMM, the Mining Association of Canada (MAC) or the Prospectors and Developers Association of Canada (PDAC). As with 'understanding' in the sector, it is not always clear how well these policies have translated to on-the-ground improvements. Jim Cooney, former Vice President and Sustainability Leader at Placer Domer at the time of MMSD, questions whether there has been a cultural shift within companies big enough to drive sustainable development change in the mining industry. The proliferation of good practice and standards has not necessarily extended to monitoring and evaluation of that guidance necessary to ensure good implementation at the mine site. Caroline Digby, Research Manager on MMSD and now Sustainability Director at the Eden Project, comments:

"Reporting and metrics that can be independently and publicly verified are the only way that the industry can demonstrate that it is really succeeding in the longer run. Is the current reporting regime sufficient? I would say no."

Aidan Davy, Director at ICMM, submitted that while ICMM has been very successful in filling out 'good practice guidance gaps' to help companies address the ICMM's principles, the focus 'will increasingly shift to companies being able to demonstrate implementation progress on material issues'.

How have organisational policies translated into improvements at the mine site? Which management systems have worked? Is the current reporting regime for monitoring implementation of good practice sufficient? What would an effective regime look like?

Only in the last year has the Intergovernmental Forum agreed a framework against which to assess national policies related to mining – as recommended by MMSD. Recent and ongoing changes to national mining policies such as increased equity stakes, raised taxes and greater policy oversight are being viewed, in some cases, as 'resource nationalism' and threats to company operating models. But it may be necessary to distinguish 'political opportunism' in some cases with governments taking a more considered approach to foreign direct investment in others.[3]

Are there examples of governments that have improved their ability to manage mineral developments for positive development? What do their policies and systems look like?

It may now be time to consider new avenues for incentivising change in company practice, such as through institutional and social impact investors (likely to have a particular impact on juniors that are driven more by capital investment demands). Consumer-driven initiatives too, which have so far been too limited to have sufficient scope to drive change through supply chain management systems. These are discussed further in **Chapter 3: Beginning to define a new agenda**.

Step 3: Achieving cooperation among those with similar interests

This step was articulated largely in terms of principles and codes of conduct. There is no doubt the last 10 years have seen a proliferation of initiatives and principles, many of which are multistakeholder and articulate shared goals and interests. MMSD provided a model for engagement, and there have indeed been more collaborative agreements between civil society and companies during this time.

MMSD established a precedent for stakeholder engagement and constructive dialogue, which was ground-breaking for the industry at the time. Nicholas Cotts, Group Executive of Environment and Social Responsibility at Newmont Mining Corporation, commented that mining companies are now beginning to be viewed as 'legitimate development partners'. According to Stephen D'Esposito 'the incentive structure for civil society has shifted and partnerships with companies are seen as a way to make gains in ways that weren't as clear before'. D'Esposito went on to say there have been missed opportunities on issues such as FPIC, tailings disposal and 'no go' areas, which are 'often framed in black-and-white terms with NGO demands followed by industry reaction or responses.' This 'call and response' dynamic typically prevents constructive engagement. Robert Court, too, commented that 'if the world is run as a series of single issue agendas, it will be a mess.' Luke Danielson, MMSD Project Director and now President of Sustainable Development Strategies Group, commented:

"My own biggest disappointment has been the failure to create any kind of ongoing system for dialogue among companies, government, labour and civil society… one of our strongest recommendations was to create something – an annual forum, a set of issue-focused, meetings, or almost any kind of way these actors could keep the discussions going in a structured way. This simply did not happen, and there has been a tremendous value lost as a result. It will be harder to recapture this value now, because so many of the participants have moved on."

An example of such a forum is The Forests Dialogue, which was created after the *Towards a Sustainable Paper Cycle* initiative to continue to address important global forestry issues in multistakeholder dialogues.[4] *Towards a Sustainable Paper Cycle* was MMSD's predecessor examining the issues facing the paper and pulp sector in sustainable development.[5] Given comments such as those from D'Esposito and Court above:

What appetite is there for such a forum amongst mining stakeholders? Is creating a forum still a top priority? What other avenues exist for multistakeholder dialogue?

ICMM provides a firm foundation for driving change through collective efforts at the industry level. Dr Anthony Hodge, President of ICMM and Facilitator for MMSD North America, describes the organisation's role as partly about designing solutions but primarily about bringing people together to achieve change through collaboration, shared learning and peer pressure.

Some interviewees thought pushing the boundaries too far and too fast would have risked turning ICMM into an exclusive members club. John Groom used the metaphor of an icebreaker leading the way into packed ice: if it moves too fast or gets too far ahead the ice may close behind it and others won't follow. However, as we move further away from the MMSD process in time, ICMM may become more susceptible to the whims and politics of its industry members – particularly as none of the CEOs who engaged with MMSD are in that position today. Agreement and cooperation is the foundation, and ICMM will need to ensure it can both retain collaboration and challenge the agenda.

The commodity associations are also furthering their roles in fostering cooperation for sustainable development. Whereas ICMM adopts a broad approach to sustainable development across the mining and metals industry, commodity associations can adopt metal- or mineral-specific sustainability initiatives — and are beginning to do so. The Lead Association, for example,

has recently adopted a Sustainability Charter and is seeing big advantages in telling the sustainability story of lead – such as how 95 per cent of the lead for car batteries is recycled with no risky exposure for humans.

However, non-industry counterparts appear to have been markedly less successful. CASM has stagnated and the sector has seen little advancement in the past 10 years. IUCN, working with ICMM, agreed 'no gos' for World Heritage Sites but did not get further than that. And the Intergovernmental Forum has only this year agreed a framework for national policies on mining. It has also so far failed to drive government capacity building (see next section). There is no international body for indigenous peoples and mining and there is limited joined-up cooperation for communities (although the work of IFC on CommDev was highlighted by a number of interviewees).

What is the evidence of successful cooperation in artisanal and small-scale mining, communities and governments? And again, how successful has post-MMSD cooperation been in implementing change on the ground?

At the community level, social movements are emerging to challenge mineral investments and are being successful in some cases. A more connected and aware populace appears to be changing the face of cooperation between government, community and company. This is discussed further in **Chapter 3: Beginning to define a new agenda**.

Step 4: Building capacity for effective actions at all levels

Good practice guidance exists, but capacity to implement remains the single greatest challenge to maximising sustainable development across the minerals sector.

More than half of the interview respondents listed lack of government capacity within the top three challenges to more sustainable mining. MMSD recommendations to increase government capacity to manage mineral investments, and a technical support facility to support that, have not materialised. Danielson argues that in an industry that can spend US$300,000 on a set of tyres for a truck, the investments needed in a reasonable programme of capacity building for host countries should be seen as minor, with massive returns. Jonathan Hobs, Senior Policy Advisor, Natural Resources Governance at WWF, asked:

"Where does corporate social responsibility stop and government responsibility start? The threshold will be context specific. In addition to paying taxes, developing infrastructure, assisting with social services, companies often have to do more than their fair share in situations of poor governance. It is in their interests as much as anyone else's that governments are effective in managing their natural resources."

But it is not just governments that need to define their roles and build capacity. Mining companies need capacity quite distinct from business or mining engineering skills to address sustainability issues. Those who have this capacity tend to be the industry leaders. Feedback in this research suggested that capacity amongst the junior and mid-tier mining companies is still lacking – largely due to lack of resources and skills. Yet nearly all the interview respondents highlighted challenges of implementation for the next decade. These challenges are disused further in **Chapter 2: Tackling the challenges** but it is worth highlighting here the difficulties, particularly in community engagement. Social issues are better understood by mining companies than they were 10 years ago but environmental issues, with their technical solutions, remain easier to address. The complexity of operations – whether because of the size of the mine or the social and environmental context – means that despite improvements in organisational policies and systems, substantial improvements in capacity are still needed.

What are your thoughts on how the sector has developed its capacity for effective action? What have been the areas of improvement (and what are the areas where capacity is still lacking)?

Again, this progress needs to be considered in light of the current context and the new agenda for mining that identifies the most appropriate roles for government, companies and civil society in delivering on sustainable development in the sector discussed further in **Chapter 3: Beginning to define the new agenda.**

How far do you think the mineral industry has come in its progress towards sustainable development? What has been important in the last decade to achieving progress? And how should those achievements and the lessons learned shape the agenda for the next decade?

Major international initiatives impacting minerals and sustainable development

Global Reporting Initiative: The Global Reporting Initiative (GRI) is a network-based organisation that produces a comprehensive sustainability reporting framework of principles and performance indicators that organisations can use to measure and report their economic, environmental, and social performance. It (and its Mining and Metals Sector Supplement) is the baseline for reporting on environmental, social and economic performance in the minerals industries. See further http://www.globalreporting.org.

Extractive Industries Transparency Initiative: The Extractive Industries Transparency Initiative (EITI) is a set of principles and procedures aimed at strengthening accountable and transparent governance in resource-rich countries through the verification and full publication of company payments and government revenues from oil, gas and mining. It is a coalition of governments, companies, civil society groups, investors and international organisations. See further http://eiti.org.

Voluntary Principles for Security and Human Rights: The Voluntary Principles for Security and Human Rights provide a broad framework that can help companies operate in ways that provide security to their facilities while respecting human rights and fundamental freedoms. It was unveiled in December 2000 by the US State Department and the Foreign and Commonwealth Office of the United Kingdom, after a year-long process involving government officials, oil and mining companies, and NGOs. The Principles provide guidance to companies operating in zones of conflict or fragile states. See further www.voluntaryprinciples.org/files/voluntary_principles_english.pdf.

IFC Performance Standards: The Performance Standards of the International Finance Corporation are applicable to all projects supported by IFC and MIGA arms of the World Bank Group. They are also applicable broadly to projects supported by most private financial institutions through their adherence to the Equator Principles (see further www.equator-principles.com/). The Performance Standards were being updated and revised in 2011. See further www1.ifc.org/wps/wcm/connect/Topics_Ext_Content/IFC_External_Corporate_Site/IFC+Sustainability/Sustainability+Framework/Sustainability+Framework+-+2012/Performance+Standards+and+Guidance+Notes+2012/

ICMM's Sustainable Development Framework: The ICMM 10 principles of sustainable development form the basis for its Sustainable Development Framework, which is binding on its member companies. Reporting is in line with the GRI, is independently monitored and verified and the results publicly disclosed. See further www.icmm.com/our-work/sustainable-development-framework.

UN's Guiding Principles on Business and Human Rights: These now represent the UN's official position on corporate duties towards human rights. The Guiding Principles are available at http://www.business-humanrights.org/media/documents/ruggie/ruggie-guiding-principles-21-mar-2011.pdf and the Special Representative's website/portal is at http://business-humanrights.org/SpecialRepPortal/Home.

OECD Guidelines for Multinational Enterprises: The OECD Guidelines for Multinational Enterprises include requirements on disclosure, employment and industrial relations, environment, combating bribery, consumer interests, science and technology, competition and taxation. The Guidelines were recently updated to incorporate human rights into corporate duties. See further www.oecd.org/dataoecd/43/29/48004323.pdf.

Akwe-Kon Guidelines: The Akwe-Kon Guidelines prepared by the Secretariat of the Convention on Biological Diversity are designed to set out accepted processes for consultation with indigenous communities where development may impact indigenous lands and resources. See further www.cbd.int/doc/publications/akwe-brochure-en.pdf.

Framework for Responsible Mining: The Framework for Responsible Mining is a joint effort by NGOs, retailers, investors, insurers, and technical experts working in the minerals sector. It outlines environmental, human rights and social issues associated with mining and mined products. See further www.frameworkforresponsiblemining.org/.

The Natural Resource Charter: The Charter is a set of principles for governments and societies on how best to harness the opportunities created by extractive resources for development. See further www.naturalresourcecharter.org/.

Sources: *Sustainable Development Strategies Group* (Danielson) and *Shaping Sustainable Markets* (http://shapingsustainablemarkets.iied.org)

Tackling the challenges

MMSD articulated nine challenges facing the minerals industry. The tables below outline some of the progress to date – identifying both achievements and ongoing challenges based on the research undertaken for this review. It is by no means comprehensive but may help shape understanding of the last 10 years to inform the agenda for the next 10 years. Please have your say in this discussion via www.iied.org/mmsd.

The viability of the minerals industry

2002	2012
Breaking New Ground	**The challenges 10 years on – views from our research**
To be **viable** the minerals market should evolve to **internalise the costs** and incentivise sustainable development good practice. Both regulatory and market-based instruments should be developed. Companies struggle to link sustainable development investments with financial success and a **clear business case**, particularly given low margins. Minerals companies as a group have a poor record on **safe and healthy working conditions** and more needs to be done. Sustainable development fundamentals must be **embedded in company culture** to have a positive effect on health and safety, access to capital, a social licence to operate, the ability to attract and maintain good managerial talent, and the opportunity for a return on investment – necessitating a shift from a cost culture to a **value culture**.	**Viability** in the mainstream industry is still viewed very much in financial terms, and increasing demand from emerging countries has continued to push up consumption and production figures. Recycling remains low and, according to the Commission on Sustainable Development, commodity prices still fail to reflect the environmental and social costs in the 'minerals life cycle'.[6] **Health and safety** continues to be a priority issue. Movements towards community health and wellbeing are being considered within the remit of community development and social programmes. ICMM's workshops and conferences have proved a fruitful way of sharing experiences and responses. Collaboration with the oil and gas industry on topics that are relevant to both is now providing a cross-sector platform for sharing. Databases of best practice exist but it remains challenging to find exact health and safety figures. It is not possible to say with certainty whether there has been a real and true improvement in health and safety in the mining industry. The objective of eliminating fatalities remains. There is no clear cross-industry recognition of the **business case** for investing in sustainable development, even though some industry leaders see sustainable development as a competitive advantage and are beginning to adhere to the notion of shared value. However, sustainable development is more firmly a part of operational risk management, as factors like increased water and energy scarcity, and the geopolitics of mining in remote areas force mining companies to consider these issues. The discussions about **culture and organisational policies**, introduced in the preceding section, are also relevant to issues of viability.

The control, use and management of land

2002	2012
Breaking New Ground	**The challenges 10 years on – views from our research**
Governments should establish **integrated land use planning frameworks** that balance competing interests whether local and national, social and environmental. Government should recognise and uphold the **rights of indigenous people** and companies should act 'as is to gain consent'. Indigenous people need an **international body** to establish and uphold good practice, and **evidence of good practice** engagement between mining companies and indigenous people. Consensus is needed on **'no-go' zones** for mining and protected areas with examples of good and bad practice and recommendations to help regulators set terms for new mining projects. **Key action:** ● Global level guidance on protected areas and mining (led by IUCN)	**Access to land and resources** continues to be one of the central driving forces for industry's engagement with sustainable development, and 'resource nationalisation', which can bring renegotiations of taxes, mandatory joint ventures and other constraints. **National development plans**, mineral investments and local community expectations remain at odds and improved information sharing and cooperation between sectors and different levels of government is still needed. Yet there are emerging models of successful cooperation. The World Bank's current agenda is focused on 'corridors' in respect of integrated land use planning. Mozambique and Liberia have both used 'growth corridors' centred on infrastructure developments that mean mining investments can be integrated with development of locally appropriate activities such as agriculture, forestry and small-scale mining to help facilitate indirect benefits and employment from mineral developments. This 'linkages' agenda is also a key part of the new Africa Mining Vision.[7] ICMM has produced guidance on **indigenous peoples' rights**, including evidence of good and bad practice. Yet Indigenous peoples' groups continue to identify social and environmental impacts that show that companies' commitments lack credible and independent performance monitoring. There are numerous examples of bad practice, from the Taseko Mine in Canada to the Grasberg Mine in Indonesia. Companies are often shown to be violating indigenous peoples' rights and the situation is frequently made more difficult by government failure to recognise these rights. There is **no international body for indigenous peoples and mining**. The right to **Free, Prior and Informed Consent** (FPIC) has been articulated in international conventions and soft law, but companies have struggled to implement it in the absence of agreement on what that looks like. ICMM developed a position statement binding its members to respect national laws and engage with FPIC processes, but it did not require consent unless this was already enshrined in national laws. Changes to the International Finance Corporation's Performance Standards on FPIC in 2011 may force the industry to reengage with FPIC and encourage practical steps for implementation. An ICMM position statement has committed members **not to explore or mine in World Heritage properties** (see Mining, minerals and the environment, below). This guides but does not bind the rest of the industry (the majority of companies) and does not apply to other conservation or protected areas.

Minerals and economic development

2002	2012
Breaking New Ground	**The challenges 10 years on – views from our research**
For minerals to contribute to poverty alleviation and economic development, **appropriate frameworks** for creating and managing mineral wealth must be in place along with institutional capacity and political will to overcome poor management and distribution of resource rents. Governments must be **transparent on revenue generation and expenditure** with an international register of all payments. Companies must **promote** and not just respect: **human rights**, adherence to the **Voluntary Principles** on Human Rights and Security and other international human rights standards. More research is needed on **human rights indicators** and compliance measures for governments, companies and civil society. Companies must do more to prevent mineral-related conflict. **Key action:** ● Review and development of national legal and policy frameworks ● International register of payments to combat corruption ● National capacity building ● National multistakeholder processes	Many interviewees highlighted **Government capacity** to manage mineral investments as the single greatest challenge facing minerals and sustainable development and one that has seen little progress over the last 10 years. The Intergovernmental Forum on Mining, Minerals, Metals and Sustainable Development, tasked with taking forward the policy side of MMSD's recommendations, finalised the **Mining Policy Framework** in February 2012 – 10 years after that task was set.[8] It allows governments to map their regulatory and institutional framework against best practice, and to identify gaps. Applying it is voluntary. As suggested by MMSD, it includes guidance on access to information, public participation, and land rights, although artisanal and small- scale mining issues clearly remain contentious and it is too early to assess whether it will have any impact. The framework follows initiatives such as the World Bank's *Extractive Industries Review* in 2002-2004, ICMM's *Resource Endowment Initiative* (now *Mining Partnerships for Development*) started in 2004, and the Natural Resources Charter, which all provide multistakeholder guidance on how to manage natural resources for economic development – and represent an ongoing research base fundamental to understanding sustainable development in the sector. The **Extractive Industries Transparency Initiative (EITI)**, started in 2005, has made progress on an **international register of payments** to combat corruption. However, the EITI's agenda is very narrow. Many are challenging it to move beyond tracking payments to governments into tracking government expenditure, disaggregated reporting, and to achieve transparency on contracts and licences. Other challenges are to register informal revenues from artisanal miners, to achieve greater ownership of the data at the local level, to make geological databases open to the public, and to consider the impact of the US Dodd-Frank Act (requiring US companies to declare their payments to government) in moving EITI from soft to hard law. The World Economic Forum's Responsible Minerals Development Initiative has started work looking at Mineral Development Agreements to make these a more transparent and inclusive process. MMSD made only a minimal review of **human rights** issues, as it was considered too ideologically weighty an issue at the time. However, there has been recent progress on this issue. ICMM and others have released an implementation guide on the Voluntary Principles, and some mining companies have suggested the Principles become mandatory for the sector. Recent progress by the UN and the 'Ruggie process' (see New Agenda) may force greater engagement with the human rights agenda. Indeed, Anglo Gold Ashanti are already beginning to talk about the 'rights of community'. ICMM has recently produced documents on *Human Rights in the Mining and Metals Sector* that has too begun the process of leaning with specific guidance on management systems, grievance mechanisms and due diligence. **Multistakeholder processes** have proliferated and are discussed in response to each of the challenges in this section. However rules and guidance are not consistently backed with independent verification or real consequences for non-compliance – a major ongoing challenge.

Local communities and mines

2002	2012
Breaking New Ground	**The challenges 10 years on – views from our research**
Mining and local communities must be an area of particular focus. To start, all actors need to have a **commitment to sustainable development**, effective community participation in decision making, proactive and not reactive approaches, and willingness to share responsibility. Companies should **work with civil society** where government capacity is lacking. **Clearer guidance** is needed on community engagement processes, integrated social and environmental impact assessments and effective mine closure plans. **Multistakeholder forums** should be recognised as capable of raising community awareness, building capacity and addressing the power deferential between company and community. **Key action:** ● Integrated impact assessments ● Community Sustainable Development Plans ● Integrated planning for closure ● Labour-management agreement for sustainable development ● Disputes and conflict resolution mechanisms	The past 10 years have helped define what community good practice looks like. Many mining industry associations now provide binding policies and guidance on community development concerns for their members. For example the Mining Association of Canada's 'Towards Sustainable Mining' Initiative and the Prospectors and Developers Association of Canada, which have developed the E3 standard to include more social aspects – now E3 plus. ICMM is considered the 'first port of call' for industry standards on good practice — something which didn't exist before. Industry leaders are less paternalistic and there is evidence of communities being asked what they want. The idea of Community Sustainable Development Plans is taking shape in the form of Impact Benefit Agreements or Community Development Agreements and is spreading fast in national regulations.[9] The agenda to address social concerns is certainly more prevalent and sophisticated than it was10 years ago and mining companies – with the skills, knowledge and resources – have played an increasing role in community development (particularly where government capacity has been lacking). However, **community involvement overall cannot be considered an area of achievement**, and remains one of the biggest challenges for minerals and sustainable development. Company policy does not always lead to best practice on the ground. Anglo American's Socio-Economic Assessment Toolkit (SEAT) is upheld as an example of best practice, yet the Pebble project in Alaska has attracted criticism because of the disconnect between 'rhetoric and reality'.[10] In general, there are accusations of industry's leaders 'outsourcing' their human rights abuses. And the UK Parliamentary Committee on Human Rights found evidence that 'UK multinationals may present a compliant face at home but show quite a different approach when operating elsewhere, and some have a woeful record abroad.'[11] Indeed, the Commission on Sustainable Development reported in 2011, that **Social Impact Assessments** and compensation regimes remain inadequate.[12] This research pointed to the fact that permitting and regulations don't address social issues sufficiently. Many miners still prefer the technical practicality of environmental solutions. ICMM has developed **guidance on grievance mechanisms** for its members – an MMSD recommendation – and BHP Billiton, Anglo-American, Xstrata, Newmont, Cerrejon and OceanaGold have been developing grievance mechanism tools and approaches for their project sites. The work of UN Special Rapporteur John Ruggie on business and human rights has highlighted the importance of grievance mechanisms, including those that are company-led. Many of these efforts are, however, still at the stage of piloting approaches and frameworks.[13]

Local communities and mines – continued

Capacity building for both communities and companies is still needed and although achievements have been made, this issue remains a challenge. ICMM is currently updating its *Community Development Toolkit*, bringing in a strategic approach to community investment that the IFC has been trialling with Newmont (on valuing different community investments), which has more of a human rights focus and is a tool for grievance mechanisms – all reflecting advances in the community development agenda.

There is no doubt that communities better understand their rights and are placing more demands on governments and companies to ensure fair benefits from mineral activities. The idea of maintaining a 'social licence to operate' throughout the life cycle of the mine — in which the community accepts and trusts that the mine is operating in its interest — may be gaining traction.[14]

An important point of qualification: this research was by no means extensive enough to make a broad and fair assessment of the interactions between companies and communities at the level of the mine. To do this properly, baseline data would be needed and an assessment would have to take place over the full 20—30-year life cycle of the mine. Again, the standard-setting organisations should be part of responding to this challenge of data collection and evaluation.

Mining, minerals and the environment

2002	2012
Breaking New Ground	**The challenges 10 years on – views from our research**
Minerals activities have a significant environmental impact. Managing these impacts more effectively requires dealing with unresolved issues of handling immense quantities of waste, developing ways of internalising the costs of acid drainage, improving both impact assessment and environmental management systems, and effective planning for mine closure. There is a need to integrate social and economic aspects into mine closure planning, address ongoing impacts of legacy mine sites, and engage with biodiversity under the Convention on Biological Diversity. **Key areas of action:** ● Global level guidance on protected areas and mining (led by IUCN) ● Guidance on large volume waste ● Dialogue on mineral legacies leading to an industry wide mineral legacies initiative ● Best practice on biodiversity and tools for integrated land use	Guidance and principles have appeared in response to MMSD's call. There have been technical advances on **water** and **waste metals toxicity**, with accompanying regulations. And there have been fewer environmental disasters than before MMSD. For industry, water is the 'issue of the day' – listed by all industry interviewees amongst the top three sustainable development issues for the next 10 years – and numerous innovations are being developed in response to this concern. IUCN and ICMM have produced guidance, and good practice case studies on **protected areas and biodiversity** and ICMM member companies have agreed not to explore or mine in World Heritage properties (but see earlier discussion on the limitations of this guidance). There has been some progress on mining and biodiversity offsets under the international, multistakeholder *Business and Biodiversity Offsets Programme*, which produced a standard on biodiversity offsets in 2012. ICMM has produced a toolkit to help plan for **mine closure**, and examples of good practice exist. PT BHP Kendilo Coal Indonesia received environmental awards from the government for rehabilitation post-mine in partnership with local NGOs, and Anglo American has turned mine sites into wind farms and jatropha production for green energy production. However, mine closures are regarded as an ongoing challenge leading to significant adverse environmental and health and safety impacts. There has been little advancement on the environmental issues surrounding **legacy sites** where legal responsibility is unclear. ICMM chose not to lead on this although it joined IUCN and the Post Mining Alliance in hosting a multistakeholder 'Roundtable on the Restoration of Legacy Sites' in 2008, which reiterated the need for a global dialogue. The Post Mining Alliance and the North American Abandoned Mines Initiative are regarded as having carried out promising work. This remains a priority issue, with good practice emerging. But solutions proposed now can only be evaluated in 20-30 years' time. Although MMSD proposed a task force to consider the implications of **climate change** policies on mining, it did not consider the issue itself. Some companies have recently decided to engage with the climate change debate. There is recognition that political pressure, or the likelihood of carbon pricing, may increase. So, too, will pressure on companies to address issues of water, energy and waste within a life cycle analysis of mineral production and consumption. ICMM introduced a climate change programme in 2011 following agreement by its member companies to strategically engage with the issue of climate change. Since, they have agreed a set of principles, commitments and focus area for work at the level of national policy development.[15] This could be considered an area where the pursuance of a host of single issue agendas has led to a disparate and uncoordinated response that is reactive rather than proactive and fails to consider the trade-offs inherent to sustainable development when balanced with social and economic issues.

An integrated approach to using minerals

2002	2012
Breaking New Ground	**The challenges 10 years on – views from our research**
Connecting the production and use of mineral-related materials is critical to ensuring that the minerals sector contributes optimally to sustainable development. Companies at different stages in the minerals chain can benefit from collaborating to explore further **recycling, re-use, and re-manufacture** of products and developing integrated programmes of **product stewardship** and **supply chain assurance**. The **price of minerals** should reflect the environmental and social costs of their production. **Key areas of action:** ● A product stewardship initiative ● Effective regulation across the mineral value chain ● Further research to support this challenge	Although MMSD focused primarily on minerals production, it proposed collaboration across the supply chain as a necessary step to strong product stewardship. However, the 'disconnect' remains with a lack of vertical integration in the minerals supply chain a key challenge to overcome. Overall, the challenge of an **integrated approach** has seen only incremental, though not insignificant, advancements, in product stewardship and supply chain assurance. Miners and mineral processors (the focus of MMSD) have traditionally not monitored responsible practices 'downstream' and this agenda has struggled to take hold. Few mining companies undertake life cycle assessments and there are few successful product stewardship initiatives that act across the entire value chain. Even ICMM has encountered challenges in painting an holistic picture of the minerals life cycle. ICMM's work under **'materials stewardship'** has sought to achieve greater capacity for life cycle thinking (linking upstream producers with downstream users to generate and share data) but focused largely on specific challenges in the supply chain such as metals toxicity. This is in part responding to external policy drivers of new chemicals management regulations (notably the EU REACH regulation). Broader progress has been restricted by the lack of capacity (within and outside member companies) for addressing these issues and the need for greater integration through the value chain. There is trend in, and momentum behind, addressing issues of conflict minerals (although the Dodd Frank Act has moved the goalposts). Initiatives of note include the Kimberley Process on diamonds, the work of the Responsible Jewellery Council,[16] the emerging standard on conflict free gold by the World Gold Council, and the International Tin Research Institute's standards for traceability.[17] Recently emerged requirements on chain of custody from mine to consumer will be tested in coming years. The Fairtraded and Fairmined standard for artisanal gold has successfully brought ethical product from the mine to the consumer. And there is a sense of a growing interest in materials provenance and linking this to the 'sustainability footprint' of products. The metal commodity associations have a potentially leading role to play in the **stewardship** agenda in the next 10 years. Most have moved beyond their traditional market development remit and have begun to adopt policies on sustainability that apply to members across their supply chain (see further the work of the International Aluminium Institute,[18] International Copper Association[19] and International Lead Association[20]). They are uniquely placed for engaging downstream consumers with this agenda. In summary, the systems needed to drive sustainable development initiatives upstream and downstream in the supply chain are not yet in place. However, new IFC Performance Standards (incorporating supply chain responsibilities), the OECD due diligence guidance on mineral supply chains and the US Dodd Frank traceability requirements may spur the industry to meet this challenge (and it may be worthwhile revisiting MMSD's recommendations in light of these developments).

Access to information

2002	2012
Breaking New Ground	**The challenges 10 years on – views from our research**
Access to information is key to building greater trust and cooperation. The quality of information and its use, production, flow, accessibility, and credibility affect the interaction of all actors in the sector. Effective public participation in decision-making requires information to be publicly available in an accessible form. **Authoritative and independent sources of information** across the mineral development to serve as a levelling tool. Systems of accountability and verification are needed for monitoring performance of companies, governments and civil society.	A large number of **reporting initiatives** have emerged in the last decade. ICMM and others engaged with the Global Reporting Initiative to develop a mining and metals supplement to allow for tailored reporting on sustainable development in the mining industry. ICMM members are required to report against both the GRI requirements and the ICMM Sustainable Development Principles with an independent assurance process. This reporting is now publicly disclosed in ICMM's annual reports. The EITI has created a **public register of mining payments and government receipts** and achieved high political buy in and a model for multistakeholder governance. EITI has put transparency on the agenda in a much bigger way than it was in 2002. Many civil society groups are now calling for transparency in contracts, payments and fiscal regimes, and geological surveys. These would allow for more open and competitive bidding and negotiation of mining contracts (including the terms for contributions to sustainable development). This discussion is particularly relevant in the debate on resource nationalism and rising social pressures to ensure mining's contribution to development. Although guidance and principles for good practice exist, **few have adequate accountability and verification systems** for assessing the industry's performance and progress. Moreover, some civil society organisations are questioning the relevance of these metrics to communities, local mine employees and local government, particularly given that even international experts are struggling to map the proliferation of reporting standards. Progress on FPIC, discussed above, may help ensure informed engagement of communities in decision on mineral investments.

Artisanal and small-scale mining

2002

Breaking New Ground

An estimated **10 million people** are involved (directly or indirectly) in artisanal and small-scale mining (ASM). Characterised by low incomes, unsafe working conditions, serious environmental impacts, exposure to hazardous materials such as mercury vapours, and conflict with larger companies and governments.

There is a lack of awareness and information on good practice and improved methods and lack of incentives to adopt good practice. MMSD discussed banning many forms of ASM.

Key actions:

- Governments to develop an appropriate and consistent policy framework
- Donors and international agencies to work together through CASM, for example, to disseminate examples of best practice, facilitate communication and implement pilot projects
- Programmes to eliminate the need for child labour
- Cooperation between ASM and LSM

2012

The challenges 10 years on – views from our research

Sustainability in artisanal and small-scale mining (ASM) has hardly advanced over the past 10 years, whereas the numbers of such miners has grown dramatically. In 2002, there were an estimated 10 million artisanal miners worldwide (and 100 million related livelihoods). In 2012, conservative estimates are **20 million** artisanal miners worldwide, although a realistic figure may be closer to 30 million.

Some respondents to this research felt that MMSD's primary focus on large-scale mining gave inadequate consideration to ASM issues. MMSD did challenge views on ASM – often considered as illegal activities to be eradicated – but it did not go so far as to define ASM as a legitimate player within the minerals sector.

MMSD tasked **governments** with taking responsibility for ASM issues. Some governments have adopted more inclusive policies on ASM (such as Uganda, Sierra Leone, Mongolia and Ghana) and show an increasing recognition of ASM as a legitimate route out of poverty.

Numerous networks and initiatives emerged in Latin America in the MMSD period with more holistic responses to ASM issues. The work of Oro Verde and the Alliance for Responsible Mining (ARM) on **ethical supply chains** over the last 10 years led to the creation of the Fairtrade and Fairmined Gold Standard and highlighted the ability of this sector to lead innovation and change – bringing ethically-mined products to the consumer for the first time.[21] Although application is currently limited there are plans to extend its scope to Africa and Mongolia in the near future.

Over the past 10 years, however, much work in the international NGO community has focused on issues such as **mercury use, formalisation, child labour** and **conflict minerals** – addressing the *problems* of ASM rather driving developments like improved market access, credit and technical assistance. (By contrast, the same period has seen considerable progress in the small-scale agriculture sector.)

Overwhelmingly ASM remains a major and increasing challenge for the mining industry and for poverty reduction, economic growth and sustainable development. It is an underfunded development issue that may be further isolated as new market and regulatory standards enter the industry. This is not helped by continuing resistance to recognising ASM as a legitimate economic activity that uses natural resources and contributes to livelihoods.

MMSD tasked **CASM**, the Communities and Small-Scale Mining initiative, with taking forward its recommendations for ASM. CASM helped change the rhetoric about ASM and its work has been complemented by that of the Diamond Development Initiative International and the Alliance for Responsible Mining, amongst others. But CASM's work has stagnated in recent years and a strategy review has reconsidered its role from a network towards one as an in-country implementer. However, funding to make this initiative work continues to be limited.

Sector governance – roles, responsibilities and instruments for change

2002	2012
Breaking New Ground	**The challenges 10 years on – views from our research**
Sustainable development requires new integrated systems of governance. Countries with significant mineral development could consider a **comprehensive review of their legal frameworks** and their impacts on sustainable development. There is a need to strengthen the **capacity of national and local government** to design and enforce regulations and ensure the most vulnerable participate in defining new governance frameworks. **Voluntary codes and guidelines**, stakeholder processes, and other systems for promoting better practice where government cannot be an effective regulator are gaining favour as an expedient. Lenders and other financial institutions can play a pivotal role in driving better practice. **Key areas of action:** ● Complaints and dispute resolution mechanism ● Sustainable development support facility ● Reporting guidelines ● Forum on Mining, Minerals and Sustainable Development	Industry has risen to governance challenges and there is significant achievement here, although with scope for increased synergies between initiatives. It is the challenges of implementation and capacity to implement that remain. The growth in multistakeholder initiatives shows how understanding of sustainable development is growing, and how those with similar interests can cooperate – a key aim outlined in MMSD. A plethora of voluntary codes and guidance have emerged over the last 10 years (see discussion on ***Achieving cooperation*** above and box listing initiatives) but not all have public reporting and independent verification of results. Moreover, a host of single issue initiatives risk undermining a holistic approach to sustainable development. The past 10 years may have been about standard setting. The challenge for the next 10 years will be implementing those standards in line with rising expectations. No other key stakeholder groups have equalled **ICMM's** success with good practice guidance and case studies. It is important to recognise ICMM's progress, while recognising the challenge to them to retain their relevance in an implementation-focused agenda and pointing to the ongoing challenges identified in MMSD for other stakeholder groups. For example, the I**ntergovernmental Forum** on Mining, Minerals, Metals and Sustainable Development's Mining Policy Framework has only just emerged. And government capacity to implement good practice is still lacking. MMSD recommended a Sustainable Development Support Facility to assist governments and provide capacity building – and although the architecture exists, this has not been implemented. **Civil society** needs the resources and skills to build effective relationships with the wealth-producing entities that will be the bedrock for development. **Investors** need to define their role in tying sustainable performance to capital provision, particularly for junior mining companies where capital incentives can be greatest. The **artisanal mining sector** needs to establish its role as an industry participant to achieve the market support it needs. And **communities** need to be able to define their expectations and demands for mining's role in their livelihoods and local environment. All these challenges continue and must define governance of the sector in the coming years.

Beginning to define a new agenda

Most people who were interviewed for this research agreed that there is still much relevance in the MMSD agenda; its wide-ranging scope means it covered issues that take time to move from conceptualisation into practical action.

However, all recognised that the context has changed and, as indicated in the section above, this has changed how the challenges are defined.

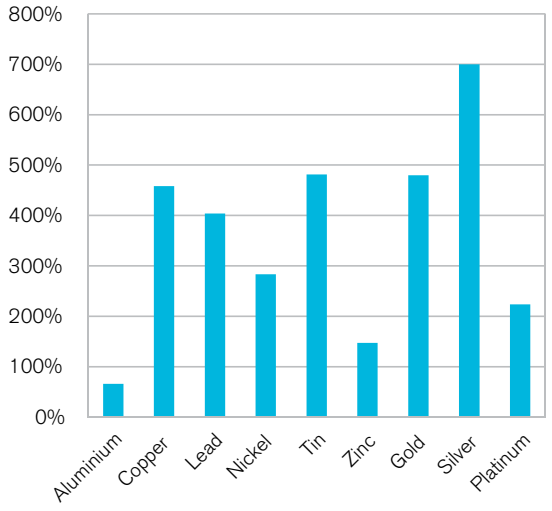
In the past 10 years, both the mining industry and the sustainable development agenda have advanced

Commodity prices have boomed; the price of gold alone increased from US$270 per ounce in 2002 to highs of $1700 in 2012. Soaring consumption has driven increased production (in some metals and minerals), resource efficiency, new investments from China and Russia, and some of the largest mergers and acquisitions in decades.[22] In 2012 alone mining companies are expected to invest $134 billion in developing their assets.[23] Mining companies are operating in more and more remote areas. The surge in low cost technology and social media means that people there are more aware and have clearer expectations of what they want from mining. Some argue that social resistance to mining has helped drive accountability of both governments and companies – leading to new initiatives such as the Extractive Industries Transparency Initiative (EITI) and No a la Mina (created by residents of Esquel in Argentina). Certainly, the Grasberg mine in Indonesia has attracted worldwide media coverage and online video clips have had thousands of views.

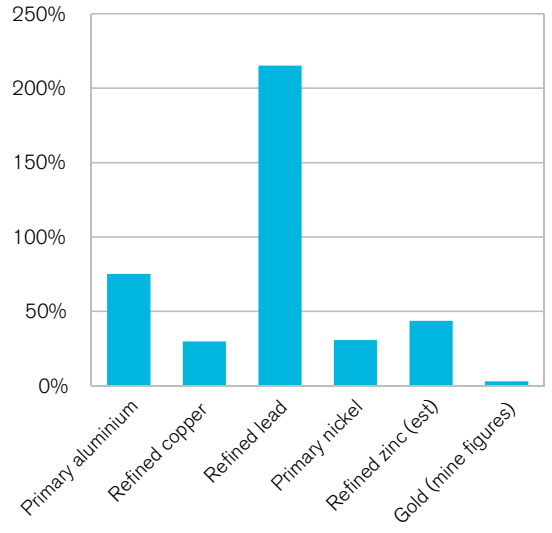
As for the sustainable development agenda, society's understanding and articulation of what business is expected to contribute has advanced massively. The Millennium Development Goals began to frame business's role in partnering for sustainable development. This is no longer about corporate philanthropy or even narrow iterations of corporate social responsibility; companies are expected to create and share value and responsibility across a complex set of economic, social and environmental issues.

The 'mining and sustainable development' agenda has become more sophisticated since MMSD. Although sustainable development concerns have remained broadly the same – 'reducing environmental impacts' and 'improving community relations' have consistently been the top two issues for mining industry stakeholders over the past 10 years within the ICMM three-yearly survey – the model response that has emerged over the last 10 years may be under review. Questions on the appropriate model of developing mining investments, and the role that national governments and communities should play in ensuring they receive a fair share of the benefits from their natural resources, are bringing new issues to the table and reframing the challenges as articulated in MMSD.

Percentage increase in London Metal Exchange price per unit from 2001 to 2011



Percentage increase in global production from 2000 to 2010



Source: Barclays Capital, Metal Magnifier 2012

Voices we heard: what do you think?

"It's now 'how do we mine' not 'why are we mining?""

"We must stop talking about tax and start discussing obligations and risks"

"It should be about overall contribution, not just impact — let's talk about net positives"

"FPIC should be the no go for social issues"

"ASM is an opportunity, not a problem. Let's look at the structural reasons why it's not working"

"Industry needs to become the development partner countries are looking for"

"No-gos need to go beyond World Heritage Sites"

"We need to be talking about shared value and mutual interests"

New issues shaping the agenda in 2012

Resource nationalisation is not a new concept but is hot on the agenda now, covering a spectrum of government action from renegotiations of taxes, to mandatory joint ventures to nationalisation of resources. Since 2011, many governments sought to increase the benefits they receive from mining – the industry bounced back relatively quickly from the 2008 economic crisis. Measures have included: acquiring an increased equity stake in projects (in Mozambique, Zambia and Zimbabwe, for example); increasing taxes and royalties (Chile, Tanzania, Guinea and Australia); undertaking policy reviews (Namibia and South Africa); and introducing greater oversight and attention to linkages programmes.[24] Although some in the industry see this as a threat, others see it as an opportunity to revise existing models of development. New mining codes being considered or introduced recently, for example in Mali, Guinea and Burundi, can be viewed as positive developments providing for a strong foundation for continued resource development. This may result in a new 'social contract' for mining by which governments recognise that there may have been an overreliance on mining companies to deliver at the local level in the past and there is a need for a new discussion on 'who delivers' benefits from mining and how. Such a conversation can take place within a more sophisticated sustainable development agenda that creates true value for all stakeholders through social and environmental investments.

What is the debate? Can it be framed in a way that facilitates a multistakeholder discussion on positive engagement and mining for the future?

The growth of emerging markets, in particular China and India, is making the minerals sector more competitive for both producers and consumers, potentially squeezing the viability of sustainability initiatives. Companies from emerging market countries are often accused of having 'low to no' environmental and social credentials. However, there are signs of good practice. WWF China reports 'rare examples' of how Sinopec has engaged with EIA responsibilities in the Gabon, as well as how Chinese firms welcomed the idea of EITI (despite not knowing much about the Initiative).[25] Others, however, see more potential engagement with Chinese companies. Rio Tinto, whose largest shareholder is Chinalco, has a partnership in Guinea covering both mining and comprehensive infrastructure arrangements with Chinalco, the Government of Guinea and the IFC. Rio Tinto sees this engagement with China as an opportunity to partner with its biggest supplier and consumer. Such partnerships are increasingly necessary in ensuring minerals contribute to society.

How do we engage these 'new' players and what is the basis for engagement?

The human rights agenda has gained momentum thanks to UN Secretary-General's Special Rapporteur John Ruggie's process articulating the Respect, Protect and Remedy framework. ICMM companies have been very much engaged with this process – in contrast to the time of MMSD, when mining companies were generally unwilling to engage with human rights, which they saw as politically cumbersome and overly ideological, without a pragmatic entry point. Mining companies appear more willing to embrace this agenda today, with some suggesting the Voluntary Principles on Human Rights and Security should become mandatory. But the Ruggie framework articulates key responsibilities for governments and companies but does not consider the role of civil society organisations. These actors will be important collaborators in helping the industry understand how to integrate human rights issues into existing activities.

How do we facilitate new learning on human rights and do so in a way that harmonises with existing frameworks and principles for sustainable development?

Free, prior and informed consent (FPIC) as the primary tool for securing and protecting indigenous people's rights has markedly increased in importance over the past 10 years. FPIC opens a conversation on 'no-go' for mining investments based on social issues, in the same way that environmental issues have long been considered. The pervasiveness of the revised IFC Performance Standards, which include changes to implementing FPIC, may encourage companies to adopt a new stance on these issues. However, there is little guidance for companies on how best to implement FPIC in the context of national sovereignty, inadequate community-level support and the mineral production life cycle. Emerging guidance and case studies should bring clarity over the next 10 years.

Responding to demands for FPIC should be framed within a broader discussion on responding to **increased community expectations**, awareness of their rights and fair distribution of benefits from mining investments.

What does best practice implementation of FPIC look like?

How should mining industry stakeholders respond to increased community expectations? How does this, together with changing government roles in managing mining investments, suggest a new social contract and model for partnerships in mining?

Climate change is a politically uncertain issue but increasingly a market driver. At the time of MMSD, there was nothing compelling the industry to engage with climate change. Even now the cross-sectoral and ubiquitous nature of the climate change debate inhibits the conversation with companies. The mining industry prefers to deal with more specific challenges. But carbon pricing is an emerging market incentive for that engagement. Indeed, a BSR report identified several reasons why mining companies should support climate change adaptation, including rising risks to critical inputs such as water and energy, increasing competition for other resources due to climate change, and risks to employee health and safety (particularly in underground mines where temperature increases are particularly dangerous).[26] Technical responses from companies to environmental issues (innovations in water and energy use, for example) may provide the building blocks for a more complete response. A KPMG survey in 2011 found mining companies are still adopting a 'wait and see' approach to climate change,[27] but there are signs of progress: ICMM now has a climate change programme producing good practice and position statements on climate change, and BHP Billiton and Rio Tinto , for example, have climate change groups.

Responding to climate change issues should too be framed within a broader discussion around **resource access** – with difficulties in accessing energy (driving up operating costs) and water (linked to climate change and having a knock on effect of driving up energy use in delivering water to operations) affecting the dynamics of daily operations in today's industry.

How do we make climate change a genuine consideration in organisational policies in the mining sector?

The green economy is the buzzword in 2012 and the defining concept for the Rio +20 Earth Summit in June 2012. A green economy policy framework could help governments to make better decisions on resource rents, reinvestment, green incentives and transparency. Yet discussions on the green economy have so far neglected mining. Mining companies, and many stakeholders, are uncertain about the concept's relevance, and the basis for engagement. That may be because mining companies tend to focus on production issues, not the downstream 'consumption' chain. Yet pressures of rising energy costs, carbon dioxide emissions and water scarcity, along with a renewed focus on supply chains (see discussion on an integrated approach to minerals) and the life cycle of products and waste, may drive change. Metals such as copper and platinum have a market incentive to engage with this debate, given their roles in the physical green economy (in electricity and catalytic convertors for example); their commodity associations are uniquely placed to drive forward a consumption agenda as they draw members from the length of the supply chain.

What does 'green economy' mean for mining? What are the material implications of a low carbon economy? What of the recycling and reuse agenda that MMSD outlined in 2002?

These issues must be added to the ongoing and, in cases, reframed challenges articulated by MMSD to help shape the agenda for minerals and sustainable development for the next 10 years:

- The mineral sector needs to consider its **viability** in the context of a post-recession push towards 'resource nationalism', sustainable development debates re-invigorating issues of recycling and mineral life cycles, and increasing competition from 'new players' in China, India and Brazil.
- There is momentum around integrated **land-use** planning with the World Bank's agenda on 'resource corridors' and emergence of these in Mozambique and Liberia as examples.
- The agenda on **minerals and economic development** is being shaped by the changing geopolitics of mining. Mining is taking place in more fragile ecosystems and more complex social situations, such as conflict regions. These changes require new models of partnership that bring different skills to the table and ensure mining makes a true contribution to society.
- The discussion for **community-level development** is moving towards a discussion of 'who delivers' and the appropriate division of roles and responsibilities in partnerships between communities, companies and

governments. The more sophisticated debate underway will be shaped by the emerging human rights discourse and greater community expectations. The 'social contract' is no longer just about jobs and taxes and needs to be considered within the wider debates on 'resource nationalism'.

- **Environmental** concerns around water, energy and, possibly, climate change have heightened and innovative solutions are being developed. However, monitoring of work on mine closures is needed to ensure progress and action on legacy sites is necessary.
- The conflict minerals agenda and pressures on resources may drive the **integrated approach to minerals** agenda forward. This momentum should be harnessed for greater supply chain collaboration upstream (including to artisanal miners) and downstream (particularly in high metal and mineral consumption industries such as construction, automotive and electrical components).
- **Authoritative and independent information** on the progress against key sustainable development goals is still needed. Those setting the guidance – from ICMM, CASM and the Intergovernmental Forum to the IFC and UN bodies – need to ensure they provide independent and authoritative monitoring of progress and that this translates into meaningful information at the level of the mine and community.
- The emerging discourse on resource rights and supply chains is forcing the industry to consider **artisanal and small-scale mining** seriously as a legitimate industry player. Progress on sustainable development across the mineral sector will have to include progress for artisanal and small-scale miners, and stakeholders across the minerals and sustainability communities must do more to ensure this is given due attention.
- Guidelines and principles **governing the sector** need to be harmonised. Government capacity needs to improve. The 'rest of the industry' (namely mid-tier, junior mining companies and artisanal miners) needs to be equipped with the resources and knowledge to respond to sustainable development concerns. Financial markets are key to driving accountability in the sector and need to be engaged in this agenda.

How do you think these issues are framing the agenda for minerals and sustainable development for the next 10 years? What other issues need to be considered?

...beyond the rhetoric

Many interviewees pointed to implementation of good practice and capacity building as the priorities for the next 10 years. MMSD successfully established a sustainable development agenda yet much progress still needs to be made not only against that agenda but also against the more sophisticated understanding now emerging. While the mining CEOs at the time of MMSD could afford to be visionaries, the CEOs of today have to focus on action that reaches beyond industry leaders. Metrics for monitoring performance and measuring progress against baseline data should be collected now for evaluation across the 20—30 year life cycle of a mine.

All stakeholders will have to give thought to the emerging agenda of locally defined sustainable development and how to use mining activities to really transform societies. Cristina Echavarria, board member of the Alliance for Responsible Mining and regional coordinator for MMSD South America, asked the question 'mining to what end?' that resonated with many participants in the Vancouver GEMM Conference in April 2012. This raises the question of whether it is time to turn the MMSD discussion on its head and challenge the agenda from the ground up – it is no longer about mining companies seeing what they can do for communities, but about communities and wider society deciding what they want to see from mining.

*When MMSD was written there was the sense that this was **the** moment. MMSD responded with an agenda built around a vision and compelling principles. But the challenge remains as great today as it was then, partly because the players and voices in the field of mining and sustainable development have shifted the debate. We now need an agenda focused on operationalising good practice guidance that is built around society's demands and the realistic aspirations of a much more capable industry sector.*

Contribute your thoughts to where the industry is going and what the agenda should be for the next 10 years at www.iied.org/mmsd

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End notes

1 The *GEMM 20/20: Global Exploration, Mining, and Minerals in 2020: Responsibility and Sustainability Challenges and Opportunities* dialogue was organised by the Responsible Minerals Sector Initiative at the Beedie School of Business in Vancouver on the 17th and 18th April 2012. More information can be found at http://beedie.sfu.ca/rmsi/.

2 These figures are included in ICMM's Annual Review 2011 – *Our Journey* – and is available at www.icmm.com.

3 See further Karl P. Sauvant., *'The times they are a-changin' – again – in the relationships between governments and multinational enterprises: From control, to liberalization to rebalancing,' Columbia FDI Perspectives, No. 69, May 21, 2012.*

4 See further http://environment.yale.edu/tfd/.

5 See further http://pubs.iied.org/X136IIED.html.

6 Commission on Sustainable Development Report of the Secretary-General, *Review of implementation of Agenda 21 and the Johannesburg Plan of Implementation: Mining* 16 February 2010. Available at http://daccess-dds-ny.un.org/doc/UNDOC/GEN/N10/242/38/PDF/N1024238.pdf?OpenElement.

7 The Africa Mining Vision is a 'pathway' developed by African governments themselves to improve mining's contribution to development. See further www.africaminingvision.org/.

8 See The Mining Policy Framework at www.globaldialogue.info/framework.htm.

9 See further the Sustainable Development Strategies Group's CDA Library at www.sdsg.org/archives/cda-library/.

10 See further the Bristol Bay report at http://ourbristolbay.com/anglo-american-environmental-and-social-track-record.html and Anglo America's response at www.investis.com/aa/media/publications/2008pub/aa_real_08/AngloAmericanTheReality.pdf

11 See further http://londonminingnetwork.org/2010/01/uk-parliamentary-human-rights-committee-issues-report-on-uk-businesses/

12 CSD Report, *Review of implementation of Agenda 21 and the Johannesburg Plan of Implementation* (note above).

13 See further Harvard Kennedy School's report on *Piloting Principles for Effective Company-Stakeholder Grievance Mechanisms: A Report of Lessons Learned* available at www.hks.harvard.edu/m-rcbg/CSRI/publications/report_46_GM_pilots.pdf

14 See further the work of Susan Joyce and Ian Thompson, for example, www.oncommonground.ca/publications/PDAC_2008_Social_Licence.pdf

15 See further ICMM, *Principles for climate change policy design* available at www.icmm.com/document/1843

16 See further www.responsiblejewellery.com/chain-of-custody-certification/

17 See further www.itri.co.uk/index.php?option=com_zoo&view=frontpage&Itemed=60

18 See further www.world-aluminium.org/Sustainability

19 See further copperalliance.org/core-initiatives/sustainable-energy/

20 See further www.ila-lead.org/responsibilty

21 See further ARM's paper *Rock Solid Chances for ASM* written by Felix Hruschka and Cristina Echavarría and available at http://communitymining.org/attachments/059_RSC_FINAL_web_low.pdf. More details on the Fairtrade and Fairmined standard can be found at www.communitymining.org/index.php/en/fairtrade-and-fairmined-standard.

22 Most notably, the 2012 merger of Glencore and Xstrata, Rio Tinto's 2007 acquisition of Alcan, Freeport-McMoRan's purchase of Phelps Dodge in 2006.

23 Barclays Capital's *Metal Magnifier*, 17 January 2012.

24 See further Tanneke Heersche *'Making Mines Work Harder – Resource Nationalism Trends In Africa'* available at www.whoswholegal.com/news/features/article/29397/making-mines-work-harder-8211-resource-nationalism-trends-africa

25 See further WWF's report on *China's Role in Global Trade* available at http://awsassets.wwfcn.panda.org/downloads/wwf_china_trade_report_en.pdf

26 See further BSR's report *Adapting to Climate Change: A Guide for the Mining Industry* available at www.bsr.org/reports/BSR_Climate_Adaptation_Issue_Brief_Mining.pdf

27 See further KPMG's report *Responses to the Climate Change Debate: KPMG Mining Industry Survey* available at www.kpmg.com/Global/en/IssuesAndInsights/ArticlesPublications/Documents/Climate-Change-Mining-Survey-2010-final.pdf

Sustainable Markets

DISCUSSION PAPER : JUNE 2012

It is 10 years since the Mining, Minerals and Sustainable Development (MMSD) initiative was completed. Its findings were game-changing for the sector, and mining CEOs of the day committed to act on its agenda as a robust and credible way to maximise the sector's contribution to sustainable development. So where are we, 10 years on? How far have we travelled towards a sustainable and responsible mineral industry? This paper is intended as a 'conversation starter' – providing an initial assessment of the mining and minerals sector's achievements against the MMSD agenda and opening up further discussion. Contribute your thoughts to where the industry is going and what the agenda should be for the next 10 years at www.iied.org/mmsd

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This discussion paper was produced by IIED's Sustainable Markets Group. The Sustainable Markets Group drives IIED's efforts to ensure that markets contribute to positive social, environmental and economic outcomes. The group brings together IIED's work on market governance, business models, market failure, consumption, investment and the economics of climate change.

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