

**ARCHITECTURE FOR CHANGE:
AN ACCOUNT OF THE MINING,
MINERALS AND SUSTAINABLE
DEVELOPMENT PROJECT**

Appendix

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APPENDICES

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APPENDIX 1

SUPPLEMENT ON REGIONAL PROCESSES

The MMSD regional experience was rich and varied.¹ And the people who should talk about it are in the first instance the people who managed those processes.

One of the principal criticisms of the earlier draft of this paper was its failure to deal in greater depth with these processes. Since I continue to adhere to the belief that I am not the best one to tell the story, I have solicited contributions to this paper from a number of the people who were involved in the regional processes, and they have been kind enough to respond, with some very thoughtful contributions which form the backbone of this section. I have edited them and am fully responsible for any errors thereby introduced.

These regional activities are one of the aspects of the project in which I take the most pride and satisfaction, and which may well prove to have the most enduring impact. They allowed a much wider and richer participation and input of ideas than could ever have been achieved without them.

The objectives of decentralizing the MMSD process and encouraging the formation of regional efforts are described in the main text. We conceived of these as partnerships in the classic sense: the regional organizations would (i) have their own separate interests which might overlap with but which would never be identical with the central MMSD project; (ii) both sides would invest in creating the regional centre; and (iii) both sides would derive benefits from its creation.

THE GENERAL WAY THESE PARTNERSHIPS WERE STARTED WAS THE FOLLOWING:

- ◊ A general concept of a coherent region was developed in long distance consultation with a variety of local stakeholders. This became an operational hypothesis, subject to review and revision based upon learning;
- ◊ Someone from the MMSD process would visit the region for consultation with key stakeholders;
- ◊ The initial list of people and institutions to be contacted were selected through the »many doorways« concept used by MMSD in a variety of contexts. That is that no discussions would start with any list of people until we had several different »gatekeepers« offering suggestions. At its most basic, this meant that we should have at least one trusted contact in government, one in industry, and one in civil society serving as guides, so that we did not empower any unique »gatekeeper« as our portal of entry into a region, country, or interest group.
- ◊ After an initial and follow-up visit, if it became clear that some set of names of possible partner institutions was emerging, we would consult more deeply on the acceptability of an institution or institutions to serve as the managing entity for the regional process.
- ◊ This group would then be in charge of the development of its multi-stakeholder advisory committee or steering group.
- ◊ The central MMSD project would provide part of the budget and expect that the remainder would be provided by the local project through one or another type of fundraising.

The objective was to create somewhere between two and six such processes. It was not to »cover the world« in the sense that everyone everywhere would wind up being part of a regional process. This was clearly not feasible given the time and resource constraints.

Ultimately we wound up with four functioning partnerships, Southern Africa, South America, North America and Australia.

1.1 THE SOUTHERN AFRICAN REGIONAL PROJECT²

THE FORMATION OF THE SOUTHERN AFRICAN REGIONAL PARTNERSHIP

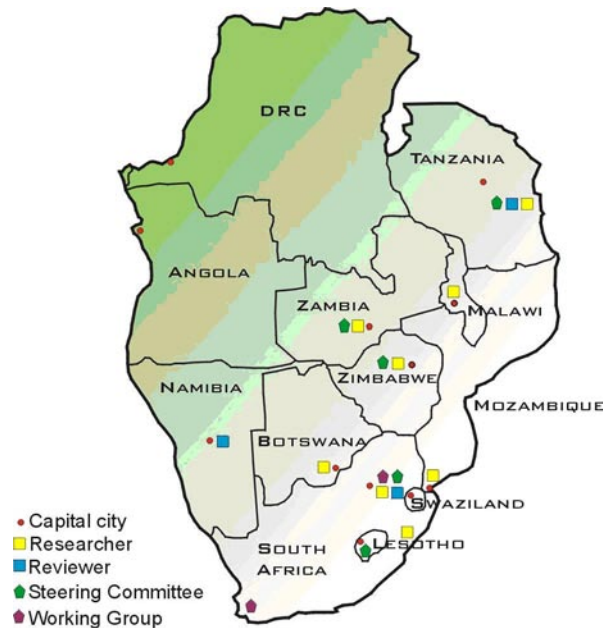
The MMSD project was first introduced to stakeholders in South Africa by Richard Sandbrook and Luke Danielson who travelled to the country in early 2000. This visit was intended to gauge enthusiasm for the initiative. Shortly after this first visit, a stakeholders meeting was held at Heathrow in May 2000. At this meeting, the main ideas driving MMSD were presented and stakeholder feedback was recorded (one North American remarked that »...the only contribution the mining industry can make to SD is to close down ...«). Several southern African institutions were represented, including the University of Cape Town (UCT), the University of the Witwatersrand (Wits) and the Minerals and Energy Policy Centre (MEPC—now defunct). This meeting was followed up by a South African stakeholders meeting at the Chamber of Mines in Johannesburg. At this meeting a change in the geographic scope of the regional project was agreed. MMSD had intended to conduct a national process in South Africa, rather than a Southern African Development Community (SADC)-wide process. The South African and regional stakeholders insisted that this would not be appropriate, resulting in the mainland SADC states³ being identified as the project's target area. Another outcome was the agreement on the composition of the regional partners. Before the meeting, two potential regional partners for the global MMSD project emerged: Wits and the MEPC. The South African mining industry indicated unease with the MEPC which had historically acted as a pro-labour/African National Congress (ANC) advocacy platform. A compromise was struck whereby an interim working group was jointly formed by Wits and the MEPC. The members of this group included Marie Hoadley, Paul Kapelus and Daniel Limpitlaw from Wits and Lance Stilwell, Tiny Mankge and others from the MEPC. The brief of this working group was to scope stakeholder opinion in the region, collate key issues and establish a regional MMSD programme of action through a multi-stakeholder process.

The interim working group ran a programme over a four month period, culminating in a multi-stakeholder meeting, held in Johannesburg, where the key sustainability issues for the region were agreed. The stakeholders prioritised five over-arching issues that had to be scoped if progress towards sustainable development was to be promoted. The five issues were:

- Small-scale mining,
- HIV/aids and mining,
- Mining and society,
- Mining, the environment and sustainable development and
- Managing mineral wealth.

After this meeting, the interim regional steering committee was transformed into the steering committee, consisting of representatives of industry, labour, government and academia from several SADC states. The interim working group was disbanded and individuals were invited to present themselves for the position of project manager of the regional process. The Chamber of Mines nominated Dr. Alex Weaver of the Council for Scientific and Industrial Research (CSIR). Other candidates included Mokeki Moshoeshe—one of Paul Kapelus' co-workers at the African Institute for Corporate Citizenship, the MEPC and Daniel Limpitlaw from Wits. The Steering Committee asked Alex Weaver to become the overall project leader, with Marie Hoadley as the project coordinator and Daniel Limpitlaw as project manager. In this way, strategic leadership from the CSIR could be coupled with the Wits team's experience in the Interim Working Group.

FIGURE 1.
SADC COUNTRIES AND THEIR INVOLVEMENT IN THE MMSD SOUTHERN AFRICA PROJECT



The Working Group attended the first regional partner's meeting, held in Uruguay in late November, 2000. In early December, the group met in Johannesburg and put a work programme together for the next two years.

THE MMSD SOUTHERN AFRICA PROCESS

The MMSD southern Africa project was funded directly from London by the global MMSD project with co-funding from the South African mining industry. Of the total budget of R 5.5 million (US\$ 439,000 in 2001 terms) approximately 40% was sourced from South Africa.

THE REGIONAL PROCESS WAS GUIDED BY THE SADC VISION FOR SUSTAINABLE DEVELOPMENT. THIS VISION REQUIRES:

- ◊ accelerated economic growth with greater equity and self-reliance,
- ◊ improvement of the health, income and living conditions of the poor majority, and
- ◊ equitable and sustainable use of the environment and natural resources for the benefit of present and future generations.

The mining and minerals sector comprises a number of stakeholders. These include: academia, community-based organisations, consumers, government, industry, industry associations, labour, NGOs and small-scale miners. The southern African MMSD process from 2000 to 2002 was strongly stakeholder driven and at the end of the process 42 recommendations were made and published in the regional MMSD report. These recommendations reflected the challenges to progress towards sustainable development by the mining and minerals sector as perceived by stakeholders. These recommendations were based on an extensive stakeholder engagement programme, supported by focussed research projects (the five key issues identified above and a baseline survey of the industry). The recommendations were grouped into the main themes of the regional process: small scale mining, HIV/AIDS, society, the natural system and managing mineral wealth. A final recommendation was made regarding implementation of the MMSD southern Africa recommendations.

THE FIVE CROSS-CUTTING ISSUES, TACKLED BY EACH OF THE RESEARCH PROJECTS, WERE:

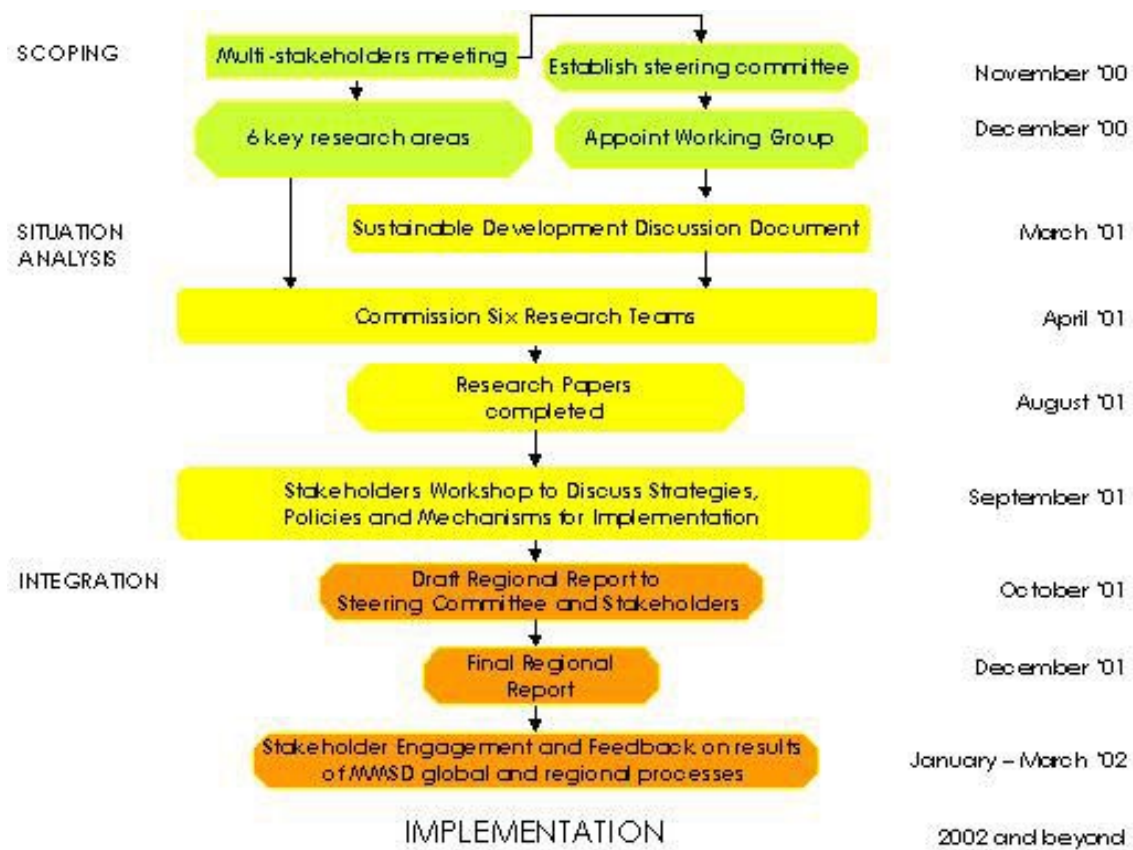
- ◊ poverty alleviation,
- ◊ capacity building and skills training,
- ◊ gender equity,
- ◊ unemployment, and
- ◊ governance.

The recommendations largely focus on the critical concern of stakeholders: progress in the social and economic development of the region. This is envisaged occurring within a framework of equity and good governance.

A SUMMARY OF THE 42 RECOMMENDATIONS OF MMSD SOUTHERN AFRICA

- 12 of recommendations concerned small scale mining (including issues of rural poverty, woman and child issues, and technical and business education),
- 6 recommendations concerning HIV/AIDS,
- 12 recommendations concerned society issues particularly re-settlement, local development and equal opportunities for women,
- 4 recommendations concerned the environment,
- 7 recommendations concerned managing mineral wealth and,
- one final recommendation concerning implementation of the other recommendations.

The work programme for the regional project is shown in Figure 2. below.



OUTCOMES & IMPACT MINING AND SOCIETY

The MMSD southern Africa process demonstrated that the social perspective is of great importance and pressure on mining companies to be socially responsible is mounting. This means, in the South African context, that a local community focus on service delivery is critical. Nationally, social and economic post-apartheid transformation must be facilitated. Recommendations 22 to 25 in the project report deal with local development.

Resettlement was a prominent theme in the social research work undertaken by MMSD southern Africa (see Sonnenberg & Münster, 2001). While resettlement programmes inevitably have the greatest impacts on poor rural communities, common in southern Africa, little synthesis of good resettlement practice had been undertaken in the region. The goal of resettlement within an SD paradigm must be to re-establish individual livelihoods and communities, with as little delay and as little disruption

to both the re-settlers and the receiving community, as possible. The social research report of the regional project contributed towards highlighting this imperative.

MINING AND THE ENVIRONMENT

The southern African MMSD process placed less emphasis on environmental issues than on social issues. Only one of the six commissioned research reports produced concerned the biophysical environment and focused on water as a critical resource in semi-arid southern Africa (Ashton et al., 2001). However, stakeholders recognised the need for additional research to address specific issues such as how atmospheric emissions, biodiversity loss, and groundwater impacts of mining could be mitigated in the region. An important consideration is that attention should be extended to mining and mineral processing impacts on land, air and near-shore marine ecosystems. Arising from this recognised deficiency recommendation 31 was formulated as follows: »to assist the sector to manage the impacts of mining and minerals processing on the natural environment that were not covered by the MMSD research component, detailed research programmes are commissioned in the region to focus on those additional aspects' (Hoadley et al., 2002).

Two further recommendations (39 and 40) recognised the short-comings in present practice concerning mine development and closure planning: firstly the need to integrate sustainable land-use decisions with mine planning; and, secondly, the need to develop national level guidelines for a system of valuation standards which include natural capital as part of the mine development costs (Hoadley et al., 2002).

There is clearly an important role for mining companies and other stakeholders to conserve South Africa's rich biodiversity and ecological heritage.

Cooke and Limpitlaw conducted a review of good practice in South African mine closure in 2003. This review was based on questionnaires sent to a small number of people with extensive knowledge of SD in the South African minerals sector. Responses to the questionnaires sent out provided interesting insight into the early benefits of MMSD southern Africa. Respondents indicated that MMSD had influenced the way in which government and industry viewed closure, but that MMSD was but one of a number of influences, and that its effect was really to bring issues out into the open. Other respondents indicated that there had been no impact and one respondent from the industry stated that nothing about MMSD had come from within the company to him, and if any changes were the result of that process, the operations were not aware of it!

The usefulness of MMSD was generally identified as raising the debate and placing closure issues on the agenda. One respondent cited an emphasis on policy and principle as a weakness of MMSD. Another respondent thought the research work undertaken was useful. In answer to the question »Which aspects of MMSD are being implemented?«, no respondents could identify any specific aspects. Although one respondent indicated that the Chamber of Mines subsequently initiated three projects for drawing up guidelines concerning: resettlement, small-scale mining and abandoned mines.

By 2006, the most visible legacy of the MMSD southern Africa project was the Centre for Sustainability in Mining and Industry—a joint venture between the University of the Witwatersrand and leading mining and metals companies. This Centre is intended to build capacity in disciplines related to SD to improve the contribution to SD made by the broader mining industry in southern Africa.

CONCLUSION

SD initiatives such as MMSD have been responsible for raising the profile of SD in the sector and the level of the debate. Through these initiatives, the concept of mining and SD has been popularised. Attempts to systematize it, some successful and some not, were helpful in clarifying the requirements of SD in the minerals sector. Sector-wide leadership is required to keep SD on the agenda. There are many issues and activities where mining companies could co-operate and collaborate, and so add critical mass to their efforts to improve performance. While there is, inherently, competition between mining companies, collaboration in some critical areas would contribute to the progress of the whole sector. Companies need to decide which these areas are, but recommended starting points would be community development, mine closure and legacy issues, health and safety issues and HIV and AIDS initiatives—issues debated at length during the MMSD southern Africa process. As a consequence of MMSD, companies are beginning to experience SD as a concept that has brought them together, and

as one that does not permit any issue to exist in isolation. Debate about collaboration between companies is increasing, but this debate needs to be facilitated.

Cooke and Limpitlaw (2003) reported that: »The MMSD process has contributed to the start of a process which should not be reversed—that of environmental justice, equitable distribution of the wealth created by minerals exploitation and conservation of the country’s natural resources. The momentum created by this and other initiatives will make the goal of sustainable development achievable if all stakeholders commit themselves to co-operative and concerted efforts to such achievement.«

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Sonnenberg, D. & F. Münster (2001), *Mining and society—involuntary resettlement, MMSD Southern Africa Report on Research Topic 3*, ed P. Kapelus, AICC, August, 85 pp.

1.2 SOUTH AMERICA

South America is in recent years the principal destination of foreign mining investment in the world. A considerable process of consultation identified a core group of five countries (Peru, Chile, Brazil, Bolivia, and Ecuador). The process wound up being managed by two organizations in partnership, each with its own set of skills, strengths, and networks. The Mining Policy Research Initiative of the International Development Research Centre managed the stakeholder participation process, and the Chilean Centro de Investigación y Planificación del Medio Ambiente (CIPMA) managed research. There was a regional multi-stakeholder advisory group.⁴ The MMSD South America website contains a very rich selection of reports and process information.⁵ There were national coordinators in each of the five countries.

There was a consultative process at the regional level, but also national consultative processes in each of the five countries. The activities and the research results are reported in *Mineria, Minerales y Desarrollo Sustentable en America del Sur*.⁶

BASIC CONCEPT

- *Scope and components*: In South America, Chile, Peru, Ecuador, Bolivia and Brazil were selected as the focus of the MMSD process, which had both a research component, intended at analyzing the state of mining regarding sustainable development, and, a participatory component sought to identify the key issues and viewpoints of different stakeholder involved in regional mining issues.
- *Conceptual approach*: Building on the eight key dilemmas identified by MMSD Global, the efforts in South America were based on regional priorities and from a perspective of mineral producing countries. Key issues identified were:
 - Policies, instruments and capabilities for public management
 - Spaces, mechanisms and capabilities of civil society to participate in decision-making regarding mining
 - Access, use and production of relevant information on mining

- Environmental and social performance of mining
- Local development (social, economical, cultural, environmental and institutional)
- Amount and distribution of taxes and royalties
- Rights and management of natural resources (soil, water, biodiversity, minerals, etc):
- Mining in Natural Protected Areas and areas rich in biodiversity:
- Mining in indigenous peoples territories
- Small-scale mining (SSM)
- Quality and quantity of mining employment
- Planning and management of the social and environmental impacts of mine closure
- Environmental and social legacies of past mining
- Scientific and technological development
- Market access
- Effect of international conventions, treaties and standards
- *Outcomes:* One of its main findings was that different stakeholders groups concurred in the need to establish what could be called a new »social contract« for mining in the region. Assuming that mining is essential and strategic for the development of our countries, an agreement on the how and where it can be carried out is needed.

HOW WAS THE REGIONAL EFFORT ORGANISED?

The regional coordination of the MMSD Process in South America was shared by two institutions: the research component was coordinated by the Centro de Investigación y Planificación del Medio Ambiente (CIPMA), whilst the participatory process, by the Mining Policy Research Initiative (MPRI) of the International Development Research Centre (IDRC).

In addition, a national institution was in charge of the research and the participatory processes in each target country. In some cases a partnership between two institutions was formed to ensure research excellence and participatory expertise.

The research process was based on available studies, reports and publications from each country, due to there was not chance to develop original research. The participatory process started with an extensive survey that identified the main issues of concern. Then a number of workshops were held in each target country so that each stakeholder group would have had the opportunity of identifying, discussing and formulating its key issues.

An Advisory Group was also set up for the MMSD—South America process, made up of accredited persons from different nations and sectors of society, chosen for their independence and experience in areas relevant to the project objectives.

Among the main products a regional report and five national reports convey the regional mining situation, the perspectives of the stakeholders involved, and their viewpoints on priority issues for sustainable development. Minutes of the workshops, held in five countries, constitute independent documents and are published on www.idrc.ca/mpri. Suggested agendas for research and capacity building, entirely based on stakeholder input, were also produced. A website and periodic bulletins were used for dissemination purposes.

HOW MANY PEOPLE PARTICIPATED?

A regional workgroup was formed with twenty local researchers from institutions with experience in mining and sustainable development. An Advisory Group made up of thirteen well-known individuals from different sectors played an important orientation role in the discussion. More than 700 participants attended 50 workshops organized in the target countries, as well as interviews, informative meetings, surveys and three regional meetings.

WHICH PEOPLE/ORGANISATIONS PARTICIPATED?

NATIONAL COORDINATORS WERE:

- Bolivia: Servicios Ambientales S.A. and Fundación MEDMIN (Juan Carlos Enríquez, Mario Luna)
- Brasil: Centro de Tecnologia Mineral (CETEM) (María Laura Barreto, Bruce Jonson, Francisco Fernández, Gloria Janaina de Castro Sirotheau, María Helena Rocha Lima, Samir Nahass)
- Chile: Centro de Investigación y Planificación del Medio Ambiente (CIPMA) (Hernán Blanco, Gustavo Lagos (Pontificia Universidad Católica de Chile), Valeria Torres, Beatriz Bustos, Claudia Gana).
- Ecuador: Fundación Ambiente y Sociedad and Fundación Futuro Latinoamericano (Fabián Sandoval, Jorge Albán, Miguel Carvajal, Carlos Chamorro, Diego Pazmiño).
- Peru: Grupo de Análisis para el Desarrollo (GRADE) (Manuel Glave, Juana Kuramoto)

THE TEAM IDENTIFIED A SET OF COMMUNITIES OF INTEREST TO ENGAGE WITH IN THE PROCESS, NAMELY:

- National government: mining sector / environmental sector / other sectors
- Local / regional governments / Members of Parliament
- Industry associations
- Multinational corporations operating within the region
- National or domestic companies
- Mining workers' unions
- Organisations of small-scale miners
- Indigenous peoples and organisations
- Local communities affected by mining
- Non-governmental organisations
- International co-operation
- Consultants / academics / press

Efforts were devoted to have at least one workshop per group in each country. Documentation from these workshops, including a list of participants can be accessed at http://www.idrc.ca/mpri/ev-70849-201-1-DO_TOPIC.html.

1.3 NORTH AMERICA

The North American project was handled somewhat differently because it was essentially up and started before the regional concept was fully developed.⁷ The International Institute for Sustainable Development (IISD) in Canada was a participant in the initial Scoping Study that defined MMSD; in the process it consulted with a variety of North American stakeholders; that consultation process evolved into the regional process.⁸ This process had a broad participation in Canada and the US. It tried but was not able to extend itself to Mexico.

It developed a number of very useful publications, including *Towards Change*,⁹ *Learning From the Future*¹⁰ and *Industry in Transition*.¹¹ Its most widely known product is probably the assessment tool, *Seven Questions to Sustainability*.¹²

INTRODUCTION

Perhaps different than other parts of the world, MMSD—North America came a decade after an earlier, two-year multi-interest initiative called the Whitehorse Mining Initiative (WMI) which reported out in November, 1994. WMI brought together five sectors of society: the mining industry, senior governments, labour unions, Aboriginal peoples and the environmental community. Though a Canadian initiative, many of the industry participants in WMI had active projects in the U.S.

For some, particularly those associated with the mining industry and government, follow-up to WMI occurred at an expected rate and fashion. For others, WMI set in place expectations that were not

met: adequate follow-up mechanisms were not created and activity lapsed. For this later group, the previous occurrence of WMI and the fact that subsequent progress in their view was less than adequate, resulted in a sense of cynicism and doubt that MMSD could contribute anything new.

Nevertheless, the fact of WMI meant that many key players knew each other, had already interacted, and, given the opportunity, were anxious to contribute as they could. MMSD—North America built on this foundation.

PROJECT DESIGN AND BUDGET

The following is summarized from MMSD—North America, 2002, Appendix 1. MMSD North America followed a simple work plan.

An initial pre-implementation scan was undertaken to develop an inventory of issues and players (Mining Project Team, 2000). Results were fed to two workshops, one of Canadian participants (Winnipeg, December 18/19, 2000) and one of American (Golden, January 8/9, 2001).

Notes of these meetings are found on the web at www.iisd.org/mmsd/. A total of 42 individuals participated (15 in Winnipeg, 27 in Golden) drawn from a wide range of interests including companies (small, intermediate, large, service), government regulators, mining affected communities, First Nations/Native Americans, non-government organizations, government, organized labour, and universities (teachers, researchers, students). The discussions at the two workshops led to definition a Work Plan consisting of the five tasks listed in Table 1.

For each of these tasks, a multi-interest work group was established as a guiding mechanism.

TABLE 1. MMSD NORTH AMERICA WORK PLAN TASKS AND OBJECTIVES.

TASK 1: STORY/PROFILE	
Objective 1A	to develop a profile of the North American mining Industry (US and Canada) from the perspective of the nature of the companies that comprise the industry.
Objective 1B	to articulate the contribution and implications of mining (to people and their communities, to ecosystems, to economies) through the eyes of various communities of interest and as it has changed over time.
Output	Macdonald, A., 2002. Industry in Transition: A Profile of the North American Mining Sector. Winnipeg: International Institute for Sustainable Development. Available on-line at http://www.iisd.org/publications.asp
TASK 2: TEST/GUIDELINE FOR SUSTAINABILITY	
Objective 2A	to develop a set of practical principles, criteria, and/or indicators that could be used to guide or test the exploration for, design, operation, and performance monitoring of individual, existing or proposed, operations in terms of their compatibility with concepts of sustainability;
Objective 2B	to suggest approaches or strategies for effectively implementing such a test/guideline.
Output	Mining Minerals and Sustainable Development, 2002. Seven Questions to Sustainability—How to Assess the Contribution of Mining and Mineral Activities. International Institute for Sustainable Development: Winnipeg. Available on-line at http://www.iisd.org/publications.asp
TASK 3: AGENDA FOR CHANGE	
Objective 3	to collaboratively develop an »Agenda for Change« comprising specific actions and timelines for the North American mining industry and related communities of interest to meet in moving towards sustainable development.
Output	Summarized in the Final Report. See Task 5 below.

TASK 4: SCENARIOS

Objective 4A	to develop of a set of scenarios that bracket the likely futures to be faced by the North American mining and minerals industry and the related communities of interest;
Objective 4B	to use the scenario-building exercise as a means to identify and discuss: <ul style="list-style-type: none">▫ risks and opportunities;▫ issues, challenges, and areas of both consensus and disagreement on their resolution; and▫ potential prescriptions (aimed potentially at any or all of the communities of interest) for adjusting mining- and minerals- related policy, practices, behaviour and infrastructure.
Output	Mining Minerals and Sustainable Development, 2002. Learning from the Future: Alternative Scenarios for the North American Mining and Minerals Industry. Winnipeg: International Institute for Sustainable Development: Winnipeg. Available on-line at http://www.iisd.org/mmsd/publications.asp

TASK 5: FINAL REPORT

Objective 5	to synthesize and communicate the results of MMSD North America
Output	Mining Minerals and Sustainable Development, 2002. Towards Change—The Work and Results of MMSD—North America. Winnipeg: International Institute for Sustainable Development: Winnipeg. Available on-line at http://www.iisd.org/mmsd/publications.asp

With the work plan of MMSD North America set, fundraising was undertaken to facilitate implementation. Adequate funds to initiate work were in place as of July 31st, 2001. Of the final budget of \$624K, \$452K (72%) was contributed by MMSD Global and \$171K (28%) was raised locally.

Early in the MMSD North America process the »boundaries« of the overall task required clarification. As a result, the project was framed by a commitment to include consideration of: (1) the full mine project life or operation life cycle; the full mine/mineral life cycle; and both direct and indirect implications of mining and mineral activity. Two additional guidelines served to complete the definition of the boundaries of project analysis. First, an emphasis was set on the extractive end of the minerals cycle and second, an emphasis was set on metals and non-metals, thus de-emphasizing structural materials (sand, gravel, construction stone etc.) and energy minerals (coal, oil and tar sands, uranium (recognizing that this is a metal) etc.)

In addition to the tasks listed in Table 1, two additional actions were taken to assist in the communications of MMSD North America and mining/minerals-related activities. First, an MMSD North America web site was designed and mounted by staff of the International Institute for Sustainable Development. (www.iisd.org/mmsd/). As of 2006, the web site is still being maintained.

Second, IISD staff initiated a review of all international, web-based news media outlets on a bi-weekly basis and culled from this review any article related to the environmental and social implications of mining and mineral-related activities. For each article, a brief summary was prepared. The compiled results were then distributed free of charge to all interests in a synthesis called Mining Alert. This service was made possible through parallel work being undertaken by IISD staff focused on climate change. Funding for Mining Alert ended December 2004.

Through each of the MMSD North America work elements, recommendations arose regarding how mining and minerals can best contribute to the global transition to sustainable development. An initial set of these recommendations was vetted at the first North American Mining Dialogue held in Vancouver at the Morris J. Wosk Centre for Dialogue (Simon Fraser University) in November, 2002. The Dialogue served to bring together 105 people from all communities of interest and from all parts of North America. A second iteration of the proposed recommendations was subsequently circulated to participants for comment prior to finalization.

Throughout the planning and implementation of MMSD North America, significant attention was paid to the process of engaging the various interests. In total, some 150 people participated in MMSD—North America drawn from industry (large companies, small companies, and service companies), government, organized labour, public interest groups (environmental, social responsibility), the Aboriginal community, mining-affected communities, and academia.

While participants were explicitly drawn from a range of interests, they were not asked to formally »represent« any constituency, nor were they asked to return to their roots to obtain any endorsement or approval of MMSD North America outputs. Further, while much effort was made to incorporate everyone's perspective and reach consensus on each issue, success in doing so was not always possible. As a result, while MMSD outputs generally reflect the overall agreement of participants, they should not be considered formal »consensus« documents.

ORGANIZATION OF MMSD NORTH AMERICA

MMSD North America was administered by the International Institute of Sustainable Development (IISD), Winnipeg in cooperation with the Mining Life-Cycle Center, Mackay School of Mines, University of Nevada, Reno. Project oversight was provided by a Project Committee consisting of the IISD President, Past President, Vice-President, Treasurer. IISD named the project Director (an Associate, Dr. R. Anthony Hodge) and the Director of the Mining Life-Cycle Center served as the U.S. Co-Director (Dr. Dirk van Zyl).

Work Groups associated with the Tasks listed in Table 1 were peopled on a volunteer and interest basis. Advice on sub-contracts was taken from the Work Groups; contracts were administered through IISD.

LIMITATIONS OF THE WORK OF MMSD—NORTH AMERICA

There are four important limitations in the work of MMSD—North America. First, available resources did not allow the inclusion of Mexico. In today's context of the North American Free Trade Agreement and growing international linkages, undertaking a »North American« review without Mexico is cause for significant concern.

Second, resources also precluded direct examination of the implications of offshore activities of North American-based companies as well as the North American activities of offshore-based companies.

Third, while much effort was put to involve as many individuals and organizations as possible thus engaging with a full and balanced spectrum of implicated interests (for example, Americans/Canadians, indigenous/non-indigenous people, men/women, geographic representation, young/old etc.), inevitably we fell short. This challenge is likely never-ending. However, in follow-up it is important to nourish and expand the networks established through MMSD—North America.

Lastly, the de-facto nine-month time frame for implementation that MMSD North America worked within served as a significant constraint even though it added a degree of pressure that led to tremendous productivity within a very short period of time—thanks to the high energy and quality of everyone's contribution.

1.4 SOUTHEAST ASIA/OCEANIA/AUSTRALIA

There is probably no region in which the conflicts around minerals development have been so acute in recent years as this. Indonesia, Philippines, Papua New Guinea and other countries have had the sad experience of violent conflict, deep political division, and bitterness over the results of mining and minerals development. Some of the most environmentally controversial mining—including disposing of mine wastes in rivers and the shallow marine environment—are more widely practised here than elsewhere.

MMSD put a very considerable effort into developing a regional organization here. Some of the key points of this experience were:

- There were major cultural, historical, and economic divisions that made it illogical to conceive a region that included both Oceania and the Asian countries. These included the history of Australian political and economic influence in Oceania, which the Asian countries did not share, or shared to a much lesser degree.

- We did achieve a regional meeting among stakeholders from Indonesia, Philippines, and Malaysia.
- However, at this meeting it seemed that all the Indonesian stakeholders agreed that the issues in Indonesia were pressing and unique, and that there was no real benefit to be gained by a process that included other nations.
- We identified a research institution in the Philippines that has broad acceptance among a very wide range of stakeholders, and achieved considerable engagement with that institution and through it with Philippine stakeholders. However, just as we reached the conclusion that this institution was an appropriate partner and proposed that role, the key individual in that institution left to accept a fellowship abroad; we could not seem to recover the loss of momentum; the institution continued to indicate interest, but was unable to progress as we needed.
- There was no part of the world where there were greater problems achieving engagement between civil society organizations and industry—or where there was a more concerted campaign to convince these organizations not to be involved with MMSD because of its »industry roots« than in Indonesia. This is an artefact of the deep conflicts of recent decades and the damage done to that nation’s civil society by the years of dictatorship.
- An Indonesian NGO activist who was very helpful to the attempts to achieve some communication across these barriers was at a key point in the process murdered, almost certainly by security forces.
- After extensive consultation with a variety of knowledgeable people and institutions, we reached the conclusions that (i) a consultative process in Indonesia was feasible. But that (ii) the time needed to construct such a process with integrity is directly related to the level of conflict, meaning that building such a process in Indonesia would be very slow going; and (iii) trying to hurry or rush such a project in this deeply conflicted environment could do positive harm. This harm might include damage to individuals or institutions who took the risk of engaging and then found that the engagement was dying as the MMSD process ended. It might also include making it harder to achieve solid processes of engagement in the future, when the conditions and resources might be better. And in return we might achieve a very limited engagement very late in the MMSD process. We believed deeply in »do no harm,« and this was the critical factor in our decision not to press a regional process further in Indonesia.
- Once the World Bank’s Extractive Industries Review announced that it would be headed by Dr. Emil Salim, a prominent and widely respected figure in Indonesia (and elsewhere), much of the interest within Indonesia began to focus on Dr. Salim and his work, and it became even harder for MMSD to gain traction.

This left MMSD therefore with the option of trying to put together a regional platform that included Australia and Oceania, which had a certain logic given the dominance of Australian economic influence in the area and the history of Australian mining. We undertook some considerable consultation on this idea.

However, it resulted that this same history of Australian influence was the key obstacle. Institutions in the other countries, notably Papua New Guinea, indicated a reluctance to engage in any process that included Australia, because they were afraid their voices would be lost when in the same room with the better resourced, more experienced, and more assertive Australian institutions. While we were able to overcome the very similar issues in southern Africa, this did not prove possible in Oceania.

This left us with one country in the region that was eager and ready for a discussion of mining: Australia. Given the enormous importance of Australia in world mining, we concluded that this could have considerable value.

While Australia is a single country, it is a large one with a key role in world mineral production both domestically, and as a source of capital and management for mining ventures abroad. In accord with our policies, MMSD entered the Australian environment through a considerable number of distinct and independent portals.

Consultation with a very broad range of leaders of NGOs, government entities, research institutions, companies, aboriginal organizations and others produced a surprising degree of consensus on an institution capable of managing the process, the Australian Minerals and Energy Environment Foundation.

It constructed an advisory process, and conducted quite considerable processes of research and engagement.¹³ These are described in *Facing the Future*.¹⁴

The disturbing part of this process came after: rather than building on these considerable accomplishments, key supporters of AMEEF decided, for reasons that have never been clear, to withdraw their support from the organization, which then went out of existence. The decision lacked the ideal level of transparency and made it clear that some in the Australian mining industry were simply unable to accept any information that did not fit their rather rigid views.

The publications produced by AMEEF during its life are still available to the public on the ICMM website.¹⁵

Other potential regions that were identified, but where we were unable to construct functioning regional operations, illustrate some of the problems.

1.5 EASTERN EUROPE/FORMER SOVIET UNION

Early on it became clear that there were a set of problems that identified a logical region. These in general arose from the transition away from the model of labour intensive state mining enterprises; it left considerable numbers of former miners in communities with few other alternative sources of employment, and pressing environmental, social and economic problems. While the former East Germany has made major strides in dealing with these issues, thanks to an infusion of some 10 billion euros from the German government, most of this region has not had that advantage. The region is also characterized by ongoing debates over the terms of privatizations of former state enterprises and conditions under which future privately owned mining operations will be conducted.

Given that the topic of President Putin's doctoral thesis was the role of minerals in the sustainable development of the Russian economy, we hoped to find fertile ground. What we found was a very complex business and research environment, where, despite having a Russian company—Sibirsky Aluminum—as a sponsor, and some help with introductions from them, we found that work, particularly multi-stakeholder work, required a great deal of time and patience. I am convinced that there was value to be had, but we did not have time to capture it, despite several exploratory efforts and some considerable assistance from the European Bank for Reconstruction and Development (EBRD). The issues proved complex and the process of identifying institutions capable of working effectively across borders in this environment ultimately proved too much for our resources.

We did commission a general survey of issues in Russia from some noted researchers. However, they kept the progress payment, cut communication, and produced nothing.

1.6 WESTERN EUROPE

Western Europe is a particularly important consuming region for metals and minerals and a significant importer of mined products. From the project's conception, it was planned to involve some of the large European fabricators and metal users in the process, particularly to explore the issues around competitiveness and access to markets, life cycle assessments for metals and competing materials, and design and infrastructure for reprocessing and recycling. A number of exploratory visits were made to identify the key players among the various EU directorates, NGOs, industry and large buyers.

However, there were a number of reasons why we did not succeed in getting a fully fledged partnership established in Europe:

- **Limited buy-in.** It became clear fairly quickly to the MMSD team that several key individuals from European industry had a number of reservations about the whole GMI initiative and its relevance for their interests in Europe. This seemed to be coupled with a »not invented here« attitude towards the mostly Anglo-Saxon companies involved in the original leadership group.

- **Developing country focus.** Despite the emphasis on the entire life cycle highlighted in the scoping report, some observers in Brussels felt that the early indications from MMSD were that it would focus on developing country and mining issues rather than on some of the issues at the top of the agenda in Europe and that this emphasis would take the policy debate backwards in Europe. MMSD »smelled too much like mining,« as one put it.
- **Consultation fatigue.** The EU Commission had established a consultative process on metal-related issues that engaged several national ministries and environmental NGOs. There seemed to be little appetite for a parallel engagement process in the region.
- **Staff turnover.** A senior IIED staff member led the MMSD scoping work and the first workshop in Europe and had strong contacts with many of the key European institutions. His departure from IIED in early 2001 to take up a prestigious job in the socially responsible investment community also meant that the MMSD efforts in Europe lost momentum and leadership for several months.

In the end, we did overcome some of the initial problems. We held two consultative meetings in Brussels, hosted by industry associations Eurométaux and Euromines, and we based one of our Junior Research Fellows in Brussels for six months who tracked and documented the various on-going initiatives and legislative developments within the EU.¹⁶ But it is fair to say that few of MMSD's activities succeeded in engaging many of the key stakeholders in Europe and the European perspective was probably under-represented in the final MMSD outputs.

1.7 CHINA/JAPAN/SOUTH KOREA

This region is extremely important to the future of the minerals industries. China is a tremendous emerging consumer; Japan and South Korea are enormously important processors and fabricators of metal products of all types. Operating consultative processes in an environment such as China is possible. But it requires a very considerable amount of time and resources and patience to achieve.

We had exploratory visits in China and Japan and achieved contacts that facilitated exchange of information and understanding. We did have Japanese members of the Sponsors Group, who were quite helpful. But ultimately we judged the physical and cultural distance and language barriers too ambitious for the very limited time available.

This was a judgment reached reluctantly, in light of the loss to both our consultation efforts and the depth of research in this part of the globe. We were the poorer for this limitation of our efforts.

1.8 FRANCOPHONE AFRICA

Mining development has been a source of development opportunities, social conflicts, and environmental concerns in the francophone countries of western Africa for a very long time. We believed that this region was an important area for testing ideas about the potential of mining as a support for sustainable development in low-income countries and concluded that a French-speaking partnership in this region would be desirable.

Some initial exploration was done. But we quickly concluded that we would need an enthusiastic partner organization with some of its own resources and the ability to mobilize quickly to help us. This we were unable to find.

1.9 LESSONS LEARNED FROM THE REGIONAL PARTNERSHIPS

The very brief treatment of the very considerable accomplishments of the regional processes should not be read in any way as a slight to those accomplishments indicated at the outset, it stems from a belief that those whose tremendous efforts made these processes go should be the ones in the first instance who tell that story.

Nor is it correct to think that only the successful partnerships yielded results. The MMSD project was deeply enriched by what we learned in our exploratory work in countries as diverse as China, Kazakhstan, the Russian Federation, and Japan. In all these cases, we developed deeper understanding, networks of contacts, access to data, and information sources.

THERE ARE A FEW WORTHWHILE OBSERVATIONS FROM OUR GLOBAL LEVEL.

First, this diversity of approaches and views immeasurably enriched the overall mix of the project.

Second, it facilitated engagement of a wider set of actors and to a depth that never would have been possible in a London-based project.

Third, it allowed a considerable number of voices to be heard that might have been drowned by the torrent of North American and European voices in a single global project.

Fourth, it allowed much broader participation in the management of the project. While the regional partner organizations had no formal role in project governance, they did wind up with considerable influence and—especially when they were united on an issue—a formidable voice in the project's internal councils.

Among the few disappointments was that some of the final work of the regional projects was too late to be fully reflected in the final MMSD report, *Breaking New Ground*. We did in most cases have drafts and worked from these, so we were able to capture much of the benefit despite this undesirable shortcoming.¹⁷

I believe that the greatest benefit to the London team was that it created yet another set of checks and balances on the Work Group and another set of filters through which our work had to pass.

APPENDIX 2

THE MMSD PROJECT

THE SPONSORS GROUP

The Sponsors Group was convened by the World Business Council for Sustainable Development to represent the organizations supporting and financing the project. Its members included 25 of the world's largest mining companies as well as a variety of governments, international institutions, non-governmental organizations, universities, and foundations. The Sponsors Group did not have any influence over the project's conclusions but contributed information and contacts. Members of the group also actively participated in MMSD workshops and meetings. The Sponsors Group adhered to a charter (available on the CD-ROM) and signed a joint statement on the MMSD project and this report (see page viii). Yolanda Kakabadse (President of IUCN—The World Conservation Union) and Sir Robert Wilson (Chairman of Rio Tinto plc) acted as co-chairs of the group.

SPONSORS WERE:

Alcan Inc

Alcoa Inc

Anglo American plc

Anglovaal Mining Ltd

BHP Billiton

Caterpillar Inc

Codelco Chile—Corporación Nacional del Cobre

Colorado School of Mines

Comisión Chilena del Cobre

Conservation International

CRU International Ltd

Department for International Development, Government of the United Kingdom

Environment Australia, Government of Australia

Freeport-McMoRan Copper and Gold Inc

Gold Fields Ltd

HATCH Associates Ltd

International Federation of Chemical, Energy, Mine and General Workers'

Unions (ICEM)

IUCN—The World Conservation Union

KPMG

Lonmin plc

Mackay School of Mines, University of Nevada, Reno

M.I.M. Holdings Ltd

Mitsubishi Materials Corporation / Mitsubishi Corporation

Mitsui Mining and Smelting Co., Ltd

Natural Resources Canada, Government of Canada

Newmont Mining Corporation

Nippon Mining & Metals Co., Ltd

Noranda Inc

Norsk Hydro ASA

Pasminco Ltd

Phelps Dodge Corporation

Placer Dome Inc

PricewaterhouseCoopers

Rio Tinto plc

Sibirsky Aluminium Group (Sibal)

Somincor

Sumitomo Metal Mining

Teck Cominco Ltd

United Nations Environment Programme

WMC Resources Ltd

The World Bank Group

Support from the Rockefeller Foundation is gratefully acknowledged. We also thank the Global Reporting Initiative for its collaboration with MMSD. The assistance of Robert Court and Peter Eggleston of Rio Tinto plc, who acted as special liaisons with the Sponsors Group, was greatly appreciated. This list excludes additional regional sponsorship.

THE ASSURANCE GROUP

The Assurance Group was an independent international panel of 25 individuals from key stakeholder groups representing diverse areas of expertise in the mining and minerals sector. The members offered advice and guidance to the Work Group and met seven times to discuss progress. Initial members were appointed by the Project Coordinator in consultation with the Project Director.

Subsequent members were selected and approved by the Assurance Group through its Nominations Committee, which assessed underrepresented stakeholder clusters, held independent consultations to identify candidates, and selected individuals. The Assurance Group adhered to a charter (available on the CD-ROM) and signed a joint statement on the MMSD project and its outputs (see page vii).

ASSURANCE GROUP MEMBERS WERE:

Duma Nkosi (Chair), Executive Mayor of Ekurhuleni Metro, South Africa (May 2000)*

Glenn Miller (Vice-Chair), Director, Graduate Program in Environmental Sciences and Health at the University of Nevada, United States (May 2000)

Jacqueline Aloisi de Larderel, Director of the Division of Technology, Industry and Economics of UNEP, France (January 2001)

Richard Baldes, independent biological consultant on tribal lands in the United States (September 2001)

Patricia Caswell, Executive Director, Global Sustainability at RMIT University, Australia (May 2000)

Anna Cederstav, Staff Scientist at the International Program of Earthjustice Legal Defense Fund, United States (January 2001)

Mick Dodson, Chair of the Australian Institute of Aboriginal and Torres Strait Islander Studies, Australia (September 2001)

Cholpon Dyikanova, National Manager of the Community Business Forum, Kyrgyzstan (January 2001)

Colin Filer, Head of the Social and Environmental Studies Division, Papua New Guinea National Research Institute and part-time Fellow in the Department of Anthropology and the Resource Management in Asia-Pacific Project at the Research School of Pacific and Asian Studies in the Australian National University (January 2001)

Douglas Fraser, private consultant providing guidance and advice in the strategic application of sustainable business practices. Former Vice President of Sustainable Development of Placer Dome Inc., Canada (May 2000)

Reg Green, Head of Health, Safety and Environmental Affairs at the International Federation of Chemical, Energy, Mine and General Workers' Unions, Belgium (September 2001)

Gerard Holden, Managing Director and Global Head of Mining and Metals, Barclays Capital, United Kingdom (January 2001)

Namakau Kaingu, Chair of the Southern African Development Community's Women in Mining Trust, Zambia (January 2001)

Antonio La Viña, Director of the Biological Resources Program of the World Resources Institute, United States. Former Undersecretary for Legal and Legislative Affairs of the Department of Environment and Natural Resources of the Philippines (May 2000)

Kathryn McPhail, Program Manager in the World Bank, United States (January 2001)

Daniel Meilán, independent consultant and former Sub-secretary of Mining of Argentina (May 2000)

Maria Ligia Noronha, Fellow of the Policy Analysis Division of the Tata Energy Research Institute, India (May 2000)

Manuel Pulgar-Vidal, Executive Director of the Peruvian Society for Environmental Law, Peru (May 2000)

Leon Rajaobelina, Executive Director of the Conservation International's Madagascar Programme, Madagascar (May 2000)

Charles Secrett, Executive Director of Friends of the Earth, United Kingdom (May 2000)

John Stewart, consultant associated with the Chamber of Mines of South Africa (January 2001)

Oswaldo Sunkel, Professor of Economics and Director of the Centre for Public Policy Analysis, University of Chile (May 2000)

Helmut Weidner, Senior Researcher at the Social Science Research Centre in Berlin, Germany (May 2000)

Doug Yearley, Chairman Emeritus of Phelps Dodge Corporation, United States (May 2000)

Senzeni Zokwana, President of the National Union of Mineworkers of South Africa (January 2001)

Jay Hair was Chair of the Assurance Group until September 2001.

Roger Augustine and **Damien Roland** were members of the Assurance Group until September 2001.

*Joining dates are shown in brackets.

THE WORK GROUP

The Work Group was responsible for executing MMSD at the global level and for coordinating regional activities under the leadership of a Project Director. The group's main duties were undertaking research, commissioning and supervising research projects, convening workshops, communicating with stakeholders, writing the report, and disseminating information about the project. The Work Group, a multidisciplinary team from 10 countries, was headquartered at the IIED in London and adhered to a charter (available on the CD-ROM).

The Project Coordinators were:

Richard Sandbrook, Project Coordinator

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APPENDIX 3

MMSD CONSULTATION ACTIVITIES

MMSD GLOBAL WORKSHOPS

MMSD convened a series of workshops on specific themes. These served to gather stakeholders from mining companies and labour, non-governmental organizations, research institutions, academia, community groups, and international organizations from throughout the world. They provided valuable opportunities for sharing perspectives and played a pivotal role in informing the project report. More than 750 participants attended MMSD workshops organized at the global level:

Strategic Planning Workshop, 4–6 May 2001, London, United Kingdom

Preparing for Implementation, 24–25 July 2000, Geneva, Switzerland

The Role of Financial Institutions in Sustainable Development: The Case of Mining, 10–12 January 2001, Washington DC, United States, jointly organized by MMSD, World Bank, and UNEP

Small-scale Mining in South America, 24 January 2001, Santiago, Chile

Planning Meeting for Research on Access to Information in the Mining and Minerals Sector, 14 March 2001, Toronto, Canada

Finance, Mining, and Sustainability, 8–9 April 2001, Washington DC, United States, jointly organized by MMSD, World Bank, and UNEP

Long-run Minerals Availability, 22–23 April 2001, Washington DC, United States

The Role of Public Participation, 25–27 May 2001, Woodstock VT, United States

Mining and Biodiversity I, 11–12 June 2001, London, United Kingdom

Armed Conflict and Natural Resources, 11 July 2001, London, United Kingdom, co-hosted with the International Institute for Strategic Studies

Large Volume Waste, 15–17 July 2001, Vancouver BC, Canada

Voluntary Initiatives for the Mineral Sector, 18 July 2001, Santa Fe, NM, United States

Life Cycle Analysis, 9–10 August 2001, New York, United States

Managing Mineral Wealth, 15–17 August 2001, London, United Kingdom

Meeting of the MMSD/GRI Multi-stakeholder Advisory Panel on Public Reporting in the Mining and Minerals Sector, 23–24 August 2001, Boston, MA, United States

Human Rights Issues in the Mining and Minerals Sector, 6 September 2001, Transparency International, Berlin, Germany

Corruption Issues in the Mining and Minerals Sector, 7 September 2001, Transparency International, Berlin, Germany

Worker and Community Health in the Mining Sector, 10 September 2001, London, United Kingdom, co-hosted by MMSD and the Environmental Epidemiology Unit of the London School of Hygiene & Tropical Medicine's Department of Public Health and Policy

Indigenous Peoples and Relationships with the Mining Sector, 27–28 September 2001, Quito, Ecuador

Corporate Social Responsibility—From Words to Action, 15–16 October 2001, London, United Kingdom, jointly organized by the Royal Institute of International Affairs

Mining and Biodiversity II, 25–26 October 2001, London, United Kingdom

Artisanal and Small-scale Mining, 19–20 November 2001, London, United Kingdom

Second Meeting of the MMSD/GRI Multi-stakeholder Advisory Panel on Public Reporting in the Mining and Minerals Sector, 27 November 2001, Vancouver, BC, Canada

Dialogue on Access to Information in the Mining Sector, 28–30 November 2001, Vancouver, BC, Canada

Financing, Mining, and Sustainability—Exploring Sound Investment Decision Processes, 14–15 January 2002, Paris, France, jointly organized by MMSD, World Bank, and UNEP

Indigenous Peoples and the Mining Sector, 4–6 February 2002, Melbourne, Australia

PRINCIPLES OF ENGAGEMENT

The following Principles of Engagement governed the way MMSD approached engaging stakeholders in its activities:

Those involved in an MMSD activity do so with the assurance that the Project is committed to providing the opportunity for participants to interact, with these expectations:

MMSD provides an opportunity for people both to inform each other within the context of a project which seeks to describe the global mineral cycle, and also to offer advice and guidance to the Project.

We hope to identify and understand the diversity of perspectives, values and interests that can help build the foundation for positive change. Views have to be freely expressed and the risks of such expression reduced. This is a forum in which individuals or groups can investigate ideas.

There is a need for a place where views can be exchanged frankly and openly. MMSD has no authority to impose solutions on anyone.

The Project should strive to identify where it can best help to guide the flow of discussion. The objective should be to help develop areas of common ground, understand where differences exist, and the underlying reasons for them.

Wherever possible, we should widen the networks of connections and identify ways of addressing challenges, within and beyond the life of the Project.

Participating in, or contributing to workshops or other events, commenting on documents produced, suggesting participants for meetings, and other interactions with the Project are not and will not be portrayed as an endorsement of MMSD. It is important that the basis for participation be widely understood. Notes or minutes prepared by MMSD will report important comments and points of view but will not attribute them to specific participants unless this is requested by the person making the statement. Exchange of ideas is freer when unknown consequences can be minimised.

The notes from workshops should be reviewed by a representative group of attendees, agreed at the meeting, prior to finalisation. Notes will typically be of a summary nature and will include a list of participants. There should be an opportunity to discuss the contents of the notes and ensure that everyone is comfortable with them prior to their wider circulation.

There should be an opportunity to discuss these Principles of Engagement at the outset of any activity to ensure that participants are comfortable with it and that it is appropriate for the purpose. It is in no way a constraint on the participants to develop further or additional understandings as are appropriate in the circumstances.

MMSD DRAFT REPORT COMMENT PROCESS

The commenting process for the MMSD Draft Report took place between 4 March and 17 April 2002. In total, MMSD received comments from 102 individuals and organizations, with over 510 pages of text. All but five sets of comments were submitted in English. The five non-English submissions were in Spanish. All comments received are included in the CD-ROM.

PROFESSION OF COMMENT PROVIDERS:

Academics	17
Consultants (corporate and independent)	20
Governments	14
Industry Associations	13
International Organisations	4
Labour	1
Mining companies	8
NGOs	19
Private Sector (other industries, banks, etc)	6

ORIGINS OF COMMENT PROVIDERS (IN TERMS OF ORGANIZATIONAL AFFILIATION):

Asia	6
Australia	11
Europe	37
North America	35
South America	7
Southern Africa	6

Together with MMSD regional partners in Australia, North America, South America and southern Africa, four regional forums were held in March and April 2002 to obtain comments from regional stakeholders. Over 250 stakeholders took part in these forums.

REGION FORUMS NUMBER OF PARTICIPANTS

Australia	150
North America	19
South America	58
Southern Africa	29

APPENDIX 4

INFORMATION ON ASSURANCE GROUP

INITIAL ASSURANCE GROUP MEMBERS

NAME	NATIONALITY	AFFILIATION ¹⁸
Roger Augustine	Canada	Chief of Eel Ground First Nation
Patricia Caswell	Australia	Executive Director; Global Sustainability at RMIT University; former CEO of PLAN International Australia
Douglas Fraser	Canada	Former Vice President of Sustainable Development for Placer Dome Inc
Jay Hair	USA	Former President of the National Wildlife Federation and former President of IUCN
Antonio La Vina	Philippines/resident in USA	Director of the Biological Resources Program of the World Resources Institute (WRI). Former Undersecretary for Legal and Legislative Affairs of the Department of Environment and Natural Resources of the Philippines
Daniel Meilan	Argentina	Past Sub-secretary of Mining of Argentina
Glen Miller	USA	Director, Graduate Program in Environmental Sciences and Health at the University of Nevada and member of the Board of Directors of Mineral Policy Center (now Earthworks)
Duma Nkosi	South Africa	Chairperson of the Parliamentary Portfolio Committee on Minerals and Energy
Maria Ligia Noronha	India	Fellow, Tata Energy Research Institute (TERI) and head of TERI's Western Regional Centre
Manuel Pulgar-Vidal	Peru	Executive Director of the Peruvian Society for Environmental Law (SPDA)
Leon Rajaobelina	Madagascar	Executive Director of the Conservation International's Madagascar Programme
Charles Secrett	United Kingdom	Executive Director of Friends of the Earth UK (FoE)
Oswaldo Sunkel	Chile	Director of the Center for Public Policy Analysis, University of Chile
Helmut Weidner	Germany	Senior researcher at the Social Science Research Center
Doug Yearley	USA	Chairman Emeritus of Phelps Dodge Corporation

Damien Roland of the International Federation of Chemical, Energy, Mine and General Workers' Unions attended this meeting as an observer, and eventually joined the Assurance Group.

ADDITIONAL MEMBERS OF THE ASSURANCE GROUP¹⁹

NAME	NATIONALITY	AFFILIATION ²⁰
Jacqueline Aloisi de Larderel	France	Director of the Division of Technology, Industry and Economics of the United Nations Environment Programme (UNEP).
Richard Baldes	USA	Project Leader for the US Fish and Wildlife Service on the Wind River Indian Reservation
Anna Cederestav	USA	Staff Scientist with the Asociación Interamericana para la Defensa del Ambiente (AIDA)
Mick Dodson	Australia	Chair of the Australian Institute of Aboriginal and Torres Strait Islander Studies
Cholpon Dyikanova	Kyrgyzstan	Community and Business Forum; Former Chair of the NGO »Women of Kyrgyzstan for a Nuclear-free World and Ecological Security«
Colin Filer	Australia	Former Head of the Social and Environmental Studies Division, Papua New Guinea National Research Institute
Reg Green	UK	Head of Health, Safety and Environmental affairs at the International Federation of Chemical, Energy, Mine and General Workers' Unions (ICEM)
Gerard Holden	UK	Managing Director and Global Head of Mining and Metals, Barclays Capital
Namakau Kaingu	Zambia	Southern African Development Community (SADC) Women in Mining Trust [artisanal miner]
Kathryn McPhail	UK	Program Manager, World Bank
John Stewart	South Africa	Chamber of Mines of South Africa
Senzeni Zokwana	South Africa	President of the National Union of Mineworkers of South Africa

The Assurance Group developed its own meeting schedule. Ultimately, it turned out that the Group met on this schedule.

ASSURANCE GROUP MEETINGS²¹

May 22-23, 2000	London, England
August 28-29, 2000	Golden, Colorado USA
Jan. 21-23 2001	Santiago, Chile
May 7-8, 2001	Johannesburg, South Africa
September 13-14, 2001	U.K.—meeting curtailed by events of September 11 and subsequent freeze on air traffic ²²
December 3-5, 2001	London, England
February 18-19, 2002	London
May 12, 2002	Toronto

APPENDIX 5

ISSUES IDENTIFIED IN SCOPING REPORT

ECONOMY

- 1 **Market Dynamics:** How does the global market for minerals constrain or enable the transition to sustainable development, notably in terms of the commodity price cycle, economies of scale and the globalisation of trade and investment?
- 2 **Corporate Responsibility:** How can sustainable development become embedded in the culture of mining companies, and how far should corporate policies for sustainable development extend to joint venture operations, subcontractors and the supply chain?
- 3 **Financial Drivers:** How far will financial pressures, risk management and transnational liability become drivers of sustainable development?
- 4 **Scale and Ownership:** How far does scale and ownership affect the performance of different mining actors, in particular the artisanal sector and the various ›junior‹ players?
- 5 **Access to Markets:** How can the terms under which minerals have access to markets—both in terms of consumer choice and regulatory action—better reflect the goals of sustainable development?
- 6 **Technological Innovation:** How can research and technological innovation be accelerated to deliver solutions to today's problems without generating new risks—and how can these cleaner technologies best be diffused globally?

SOCIETY

- 7 **Human Rights:** What is the contribution that minerals' development can make to the promotion of human rights in the workplace and in the local community, in particular the specific rights and traditions of indigenous peoples?
- 8 **Community Empowerment:** What are the critical factors that enable communities to play an effective role in mining developments that affect them (eg decision-making, benefit sharing) so that livelihoods become sustainable, particularly after closure?
- 9 **Health and Safety:** How can a more transparent and honest process of risk assessment and reduction for workers, communities and consumers be achieved, alongside the positive promotion of well-being?

ENVIRONMENT

- 10 **Material Flows:** What is the global impact in terms of material flows generated by mining and minerals and where does best practice exist in terms of closing the minerals' cycle to encourage recycling and reduce dissipative use and waste and reducing energy intensity?
- 11 **Benchmarks:** How can global benchmarks for environmental management be set (eg for riverine and marine disposal of tailings, effluent control, acid mine drainage, biodiversity, mine-site rehabilitation) to ensure consistency?
- 12 **End-Use:** What processes are available for resolving controversial end-uses of minerals (eg coal, lead, uranium) and for improving efficiency in consumption?
- 13 **Finite Nature of Minerals:** How serious is the finite supply of minerals as an environmental issue, both at the level of the individual mine and globally?
- 14 **Competing Land-Uses:** Under what circumstances should cultural or environmental factors override access to minerals (›no go‹ areas)?

GOVERNANCE

- 15 **Historical Legacy:** What approaches have been successful in dealing with the inherited liabilities of mining (including abandoned sites) and avoiding these in the future?
- 16 **Rent Capture and Distribution:** Are there working models of best practice for efficient and equitable capture and distribution of mineral rents between host countries, local communities and investors?
- 17 **Regulation:** How can regulation be better designed and enforced to ensure sustainable development, particularly to control ›free riders‹ and remove ›perverse subsidies‹?
- 18 **Secondary Impacts:** How can integrated regional planning best be carried out to assess and manage the secondary social, economic and environmental impacts of new mining operations?
- 19 **Transparency:** How can all actors be made more accountable for their decisions, for example, in order to reduce opportunities for corruption?
- 20 **Stakeholder Participation:** How can relevant stakeholder participation in decision-making be improved locally, nationally and globally and lead to effective partnerships?
- 21 **Time Horizons:** How can the longer-term perspective of sustainable development best be integrated into decision-making on mining and minerals?

APPENDIX 6

FOUR DOCUMENTS RELEASED FOR COMMENT IN DECEMBER 2000

- 1 *Work in Progress Report (December 2000)*. This describes our current thinking about the **structure** of the Draft Report, and how the various sections will come together to form a coherent whole.
- 2 *Opportunities to Participate in Developing MMSD's Draft Report (December 2000)*. This will focus on the **process** by which the Project's multi-stakeholder Assurance Group will guide the development of the Report, and the means by which any individual can participate in research, critiquing conclusions, making suggestions, or otherwise influencing the ultimate product.
- 3 *Proposed Outline for MMSD Report (December 2000)*. This is an updated, revised and streamlined list of the **fundamental and substantive issues** on which the Project's analysis will be based. It is the latest in a series of such documents dating back to June 2000, each of which has been exposed to comment and revision as we move toward a more focused vision of the Draft Report.
- 4 *Request for Expressions of Interest (December 2000)*. This will be a list of a number of areas, described generally, where we are searching for individuals or institutions willing and ready to work on specific topics in our report. Each piece of such research will be informed by the diverse views and perspectives of different groups.

APPENDIX 7

RESEARCH MODELS EMPLOYED

1. BASELINE ASSESSMENT

The baseline assessments will synthesise existing knowledge from a comprehensive literature review and, where necessary, contract new research to establish baseline sustainable development profiles for the mining and minerals sector.

2. COMMISSIONED RESEARCH

Research will be commissioned from leading academics, research institutes, consultants and industry experts to cover specific areas of the global research agenda.

3. REGIONAL PARTNERS

Certain topics will be of greater importance to specific regions and our regional partners will undertake this analysis.

4. FOCUSED RESEARCH WORKSHOPS

We plan to convene expert research workshops/task forces on particular topics, which may be contentious and require detailed analysis from a range of different perspectives.

5. MULTI-STAKEHOLDER DIALOGUES

We intend to host global dialogues on a limited number of priority issues, which will be of interest to a broad range of different stakeholders.²³

APPENDIX 8

PUBLICATIONS OF THE MMSD PROJECT

PUBLICATIONS OF THE MMSD PROJECT	
MMSD Centre	Publications
	<i>Breaking New Ground</i> ²⁴
	Some 100 various background studies ²⁵
	PriceWaterhouseCoopers, <i>Mining & Minerals Sustainability Survey 2001</i> (2001). ²⁶
	Zillman, Lucas and Pring (eds.) <i>Human Rights in Natural Resource Development</i> (Oxford University Press 2002).
	Tilton, <i>On Borrowed Time? Assessing the Threat of Mineral Depletion</i> (Resources for the Future 2003).
MMSD Global Office: IIED	Koziell and Omosa, <i>Room to Manoeuvre: Mining, Biodiversity and Protected Areas</i> (2003). ²⁷
	van Zyl et al., <i>Mining for the Future</i> (2002). ²⁸ See also <i>Large Volume Waste & Sustainable Development - Mining for the Future</i> . ²⁹
	IIED, <i>Finding Common Ground: Indigenous Peoples and Their Association with the Mining Sector</i> (2002). ³⁰
	R. and L. Ayres and Ingrid Rade, <i>Life Cycle Approaches to the Use of Copper and Zinc</i> , (Kluwer 2002)
	Hetschel, Hruschka and Priester, <i>Artisanal and Small-Scale Mining: Challenges and Opportunities</i> ³¹ (2002).
	Walker and Howard, <i>Finding the Way Forward: How Could Voluntary Action Move Mining Toward Sustainable Development?</i> (2003) ³²
MMSD South America	<i>Mineria, Minerales y Desarrollo Sustentable en America del Sur</i> ³³
MMSD Southern Africa	<i>Mining, Minerals and Sustainable Development in Southern Africa</i> ³⁴
MMSD Australia	<i>Facing the Future</i> ³⁵
	<i>Towards Change</i> ³⁶
MMSD North America	<i>Seven Questions to Sustainability</i> ³⁷
	<i>Learning From the Future</i> ³⁸
	<i>Industry in Transition</i> ³⁹

APPENDIX 9

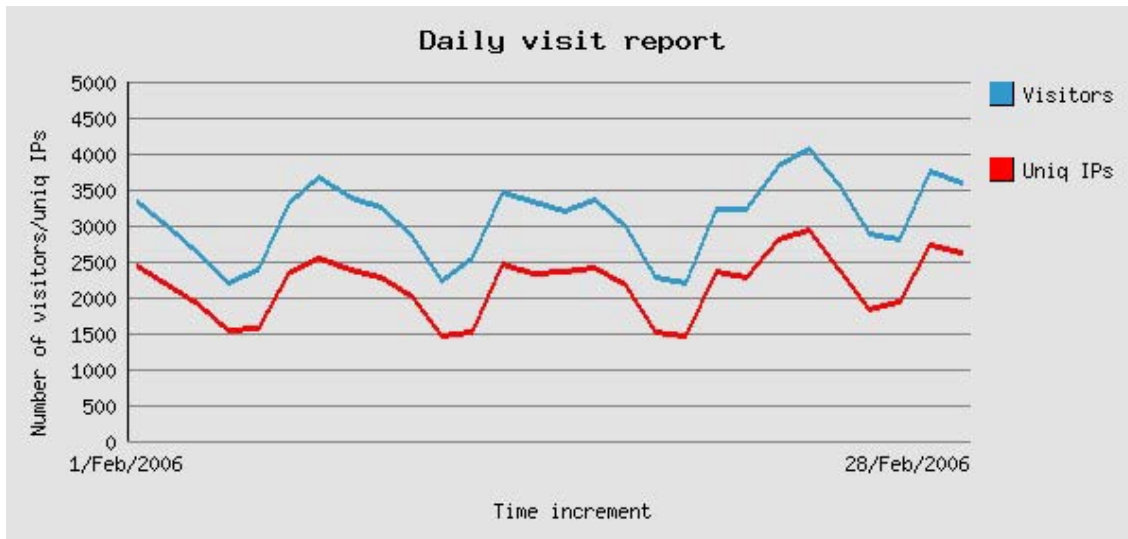
DEVELOPMENT OF THE MMSD REPORT

DEVELOPMENT OF THE MMSD REPORT		
Scoping Report	October 26 1999	List of 21 issues developed in scoping consultation
CONCEPTUAL FRAMEWORK AND TOPICS FOR ANALYSIS: <i>A Consultation Document</i>	July 2000	More elaborated and detailed list of issues based on further consultation and discussion, including the May 2000 Strategic Planning workshop
<i>Work in Progress Report</i>	December 2000	This described our current thinking about the structure of the Draft Report.
<i>Opportunities to Participate in Developing MMSD's Draft Report</i>	December 2000	This focused on the process for preparing the report, and the means by which stakeholders could participate.
<i>Proposed Outline for MMSD Report</i>	December 2000	This was an updated, revised and streamlined list of the substantive issues on which the Project's analysis would be based.
»Eight Challenges«	February 2001	
Intended date for Release of Draft Report	December 14, 2001	
Draft Report Published for Comment	March 4, 2002	
Comment period closes	April 14, 2002	
Comments published		
Final Report	May 2002	

APPENDIX 10

WEB STATISTICS

The statistics show visits per day February, 2006. This shows some considerable level of continuing interest in MMSD materials over three years after the project ended.⁴⁰



APPENDIX 11

MMSD BULLETINS

MMSD BULLETINS⁴¹

Bulletin 1	April 6, 2000	Project Summary; »What is MMSD?« »What Will MMSD Do?«
Bulletin 2	June 12, 2000	Regional Processes, formation of Assurance Group, Strategic Planning Workshops, Research Fellow program
Bulletin 3	July 2000	Solicits comments on Work Plan and Budget and on CONCEPTUAL FRAMEWORK AND TOPICS FOR ANALYSIS
Bulletin 4	August 2000	North American Edition: Announces Informational Meetings and Assurance Group meeting in North America
Bulletin 5	October 2000	Formation of Regional Processes
Bulletin 6	November 23, 2000	Regional Partners Meeting, Charter Working Group, Nominating Committee, Southern Africa multi-stakeholder meeting
Bulletin 7	November 27, 2000	Call for Additional Nominations to Assurance Group
Bulletin 8	December 8, 2000	Moving Toward the Report, Regional Activities Intensify, Building Trust, Planning for January Assurance Group meeting,
Bulletin 9	December 18, 2001	First Report, <i>Planning for Outcomes</i> ; procedure for Submitting Research Proposals; Scoping meetings; announcement of Global Dialogue on Finance and the Mining and Minerals Sector.
Bulletin 10	February 2, 2001	Santiago Assurance Group meeting, eight new AG members, revised charters; Meeting on Finance, Mining and Sustainable Development
Bulletin 11	February 3, 2001	Special Issue on Final Report Process and Substances
Bulletin 12	April 4, 2001	Finance and the Mining and Minerals Sector; Small Scale Mining; Access to Information and Public Participation
Bulletin 13	May 4, 2001	Regional Partner Reports; Results of Corporate Survey; Biodiversity
Bulletin 14	June 18, 2001	Post Project Options; Johannesburg Assurance Group Meeting; Topical Workshops

Bulletin 15	July 30, 2001	Workshop activities in biodiversity; corporate survey available; armed conflict in the minerals sector; health and safety; former Soviet Union
Bulletin 16	September 9, 2001	MMSD After 18 months; preliminary meeting with indigenous peoples; Jay Hair resigns; Small scale mining; Publications
Bulletin 17	October 24, 2001	Regional meetings in Southern Africa and South America, Indigenous Peoples meeting in Quito, Ecuador
Bulletin 18	November 27, 2001	Draft Report to be Released December 14, 2001; ASM Workshop, Access to Information; Corporate Citizenship
Bulletin 19	December 14, 2001	Change in Schedule; Draft report now for March 2002; GRI work; Finance Dialogue, Second Meeting on Concerns of Indigenous Peoples
Bulletin 20	Feb, 12, 2002	Project Prepares for Consultation; draft report to be released.
Bulletin 21	April 11, 2002	Draft Report Released and comment period under way

APPENDIX 12

CHART OF INDUSTRY LEADERS AND CHANGE OVER TIME

ORGANISATION	CEO/DIRECTOR 1999	CEO/DIRECTOR 2005
Anglo American	J Ogilvie Thompson ⁴²	Tony Trahar
BHP	Paul Anderson	
Billiton	Brian Gilbertson	Chip Goodyear
WMC	Hugh Morgan	
Rio Tinto	Sir Robert Wilson	Leigh Clifford
Placer Dome	John Wilson	Peter Tomsett
Phelps Dodge	Doug Yearley	Steven Whisler
Noranda	David Kerr	David Kerr
Alcan	Jacques Bougie	Travis Engen ⁴³
Alcoa	Paul O'Neill	Alain Belda
Newmont	Ronald Cambre	Wayne Murdy
Codelco	Juan Villarzú	Juan Villarzú ⁴⁴
World Bank	James Bond ⁴⁵	Rashad Kaldany
ICMM	Jay Hair ⁴⁶	Paul Mitchell
IIED	Nigel Cross	Camilla Toulmin

APPENDIX 13

PAPER REVIEW WORKSHOP CONVENED BY GPPI IN DECEMBER 2005

MINING, MINERALS AND SUSTAINABLE DEVELOPMENT MMSD PAPER REVIEW WORKSHOP

Global Public Policy Institute
13 December 2005, 4:00—7:00pm

Date: Tuesday, December 13, 2005

Location: Global Public Policy Institute Berlin Office, Conference Room
Palais am Festungsgraben
Am Festungsgraben 1
D-10117 Berlin

PARTICIPANTS:

- 1 Akong, Ndika UNDP Energy and Environment Group
- 2 Beffert, David Global Public Policy Institute (GPPI)
- 3 Benner, Thorsten Global Public Policy Institute (GPPI)
- 4 Danielson, Luke Independent Consultant (formerly MMSD Project)
- 5 Digby, Caroline Eden Project (formerly MMSD Project)
- 6 Green, Reg International Federation of Chemical, Energy, Mine and General Workers' Unions (ICEM)
- 7 Hassel, Anke Hertie School of Governance (HSoG)
- 8 McPhail, Kathryn International Council on Metals and Mining (ICMM)
- 9 Okrob, Michael Global Public Policy Institute (GPPI)
- 10 Reinicke, Wolfgang Global Public Policy Institute (GPPI)
- 11 Steets, Julia Global Public Policy Institute (GPPI)
- 12 Toulmin, Camilla International Institute for Environment and Development
- 13 Wienges, Sebastian University of Potsdam
- 14 Witte, Jan Martin Global Public Policy Institute (GPPI)

TIMETABLE:

- | | |
|--------|--|
| 4:00pm | Welcome by Jan Martin Witte
Introduction of Luke Danielson and Caroline Digby |
| 4:10pm | Presentation by Luke Danielson and Caroline Digby |
| 4:30pm | Discussion of the draft paper |

For the purpose of an effective and comprehensive discussion, we are dividing the analysis and critique of the paper into three distinct stages. A member of GPPI will provide a brief kick-off commentary to launch the discussion for each stage.

Pre-MMSD History

Initial comments by: Jan Martin Witte, GPPi

Discussion points may include, among others:

- Does the draft paper identify all key drivers that led to the emergence of the MMSD Project? Are drivers given appropriate weight?
- Does the draft paper provide an appropriate account of the priorities of different stakeholder groups in the early phase?

5.00pm

Coffee

5.15pm

MMSD Project Development and Implementation

Initial comments by: Julia Steets, GPPi

Discussion points may include, among others:

- Does the draft paper provide a convincing account of the defining characteristics of stakeholder engagement that shaped the MMSD Project?
- Does the draft paper provide a convincing account of the key conflicts and cleavages that shaped the development of the MMSD Project?
- Does the draft paper highlight all the crucial implementation barriers for the MMSD process?

6.00pm

MMSD Closure and post-MMSD Phase

Initial comments by: Thorsten Benner, GPPi

Discussion points may include, among others:

- Does the draft paper provide a comprehensive and convincing account of all the key challenges that the MMSD Project faced?
- Does the paper provide a correct and comprehensive assessment of the MMSD legacy?

While reading the paper, we would ask you to consider governance-related aspects, such as (1) direction and coherence of the MMSD Project; (2) participation and openness in the process, (3) accountability and transparency, as well as (4) performance and efficacy.

6:50pm

Closure

7:00pm

Departure for dinner

7:15pm

Dinner at Lindenlife, Haus des Deutschen Bundestages
Unter den Linden 44-60, 10117 Berlin
Informal continuation of discussion.

We would like to acknowledge the generous financial support that is provided for the MMSD History Project by the International Council on Metals and Mining and the International Institute for Environment and Development.

APPENDIX 14

LIST OF PAPER REVIEW INTERVIEWS CONDUCTED BY GPPI

NAME	AFFILIATION	DATE OF INTERVIEW
Manuel Pulgar-Vidal	Peruvian Society for Environmental Law	4th May 2006
Daniel Limpitlaw	University of Witwatersrand	April 26th 2006
Cristina Echaverria	Asociación por la Minería Responsable	3rd May 2006
Steve D'Esposito	Earthworks	2nd May 2006
David Chambers	Center for Science and Public Participation	May 2 2006
Peter Smith	Department for International Development, UK	24th April 2006
Kathryn McPhail	International Council on Mining and Metals	April 26th 2006
John Tilton	Colorado School of Mines	4th May 2006
Reg Green	International Federation of Chemical, Energy, Mine and General Workers' Unions	18th April 2006
Charles Secrett	London Development Agency	3rd May 2006
Wanda Hoskin	Natural Resources Canada	24th April 2006

- ¹ See Breaking New Ground Chapter 15.
- ² The section on Southern Africa was written by Daniel Limpitlaw of the School of Mining Engineering, University of the Witwatersrand, Johannesburg. The rest of the sections were written by Luke Danielson.
- ³ The island states of Mauritius and the Seychelles have small mining sectors. Angola and the Democratic Republic of Congo were also excluded due to ongoing civil war.
- ⁴ See http://www.iied.org/mmsd/reg_centres/rc_latin.html
- ⁵ See <http://www.mmsd-la.org/>
- ⁶ Centro de Investigacion y Planificacion del Medio Ambiente (CIPMA) and the Mining Policy Research Initiative (MPRI) of the International Development Research Centre (IDRC), *Mineria, Minerales y Desarrollo Sustentable en America del Sur* (2002).
- ⁷ See http://www.iied.org/mmsd/reg_centres/rc_n_am.html.
- ⁸ See <http://www.iisd.org/mmsd/>.
- ⁹ International Institute for Sustainable Development (IISD), *Towards Change: The Work and Results of MMSD—North America* (2002).
- ¹⁰ International Institute for Sustainable Development (IISD), *Learning from the Future, Alternative Scenarios for the North American Mining and Minerals Industry*. (2002).
- ¹¹ International Institute for Sustainable Development (IISD), *Industry in Transition: A Profile of the North American Mining Sector*, (2002).
- ¹² International Institute for Sustainable Development (IISD), *Seven Questions to Sustainability: How to Assess the Contribution of Mining and Minerals Activities*. (2002).
- ¹³ http://www.iied.org/mmsd/reg_centres/rc_aust.html.
- ¹⁴ Australian Minerals and Energy Environment Foundation, *Facing the Future*, (2002).
- ¹⁵ http://www.icmm.com/library_publicat.php?rcd=64
- ¹⁶ http://www.iied.org/mmsd/mmsd_pdfs/european_meeting_report.pdf.
http://www.iied.org/mmsd/mmsd_pdfs/euromines_eurometaux.pdf.
- ¹⁷ See Chapter 15 of *Breaking New Ground*, http://www.iied.org/mmsd/mmsd_pdfs/finalreport_15.pdf.
- ¹⁸ All members belonged to the Assurance Group as individuals. Organisational links are given for identification only. More detailed biographical information on each is available at <http://www.iied.org/mmsd/assurgroup.html>
- ¹⁹ These members were selected through the process described in the text. They number more than ten because a few of the original Assurance Group members left the Group for reasons ranging from the untimely death of Damien Roland, to pressing other commitments for Roger Augustine, to Jay Hair, who left in order to become the first Secretary General of the newly formed ICMM.
- ²⁰ All members belonged to the Assurance Group as individuals. Organisational links are given for identification only. More detailed biographical information on each is available at <http://www.iied.org/mmsd/assurgroup.html>
- ²¹ Minutes at <http://www.iied.org/mmsd/assurgroup.html>
- ²² The problems caused by this interruption of our already very tight schedule are discussed below.
- ²³ *Conceptual Topics and Framework for Analysis: A Consultation Document* (July 2000) at 4.
- ²⁴ (Earthscan Publishers Ltd. 2002) Hardcopies of *Breaking New Ground* may be ordered from IIED's bookshop *Earthprint* (<http://www.earthprint.com/show.htm>). You may also place an order by writing to orders@earthprint.com. Alternatively, *Breaking New Ground* may be purchased from *Earthscan Publishers* (<http://www.earthscan.co.uk/asp/bookdetails.asp?key=3758>) or by writing to earthinfo@earthscan.co.uk.
- ²⁵ Over 100 background studies appear on the compact disk in the back cover of *Breaking New Ground*. Most of them are also available on the web. See <http://www.iied.org/mmsd/wp/index.html>.

- ²⁶ See <http://www.iied.org/mmsd/wp/index.html>.
- ²⁷ See <http://www.iied.org/mmsd/library/follow-up.html>.
- ²⁸ See <http://www.iied.org/mmsd/library/follow-up.html>.
- ²⁹ See http://www.unr.edu/mines/mlc/presentations_pub/LVW.asp.
- ³⁰ See <http://www.iied.org/mmsd/library/follow-up.html>.
- ³¹ See <http://www.iied.org/mmsd/library/follow-up.html>.
- ³² See <http://www.iied.org/mmsd/library/follow-up.html>.
- ³³ Centro de Investigacion y Planificacion del Medio Ambiente (CIPMA) and the Mining Policy Research Initiative (MPRI) of the International Development Research Centre (IDRC), *Mineria, Minerales y Desarrollo Sustentable en America del Sur* (2002).
- ³⁴ University of the Witwatersrand, *Mining, Minerals and Sustainable Development in Southern Africa* (2002).
- ³⁵ Australian Minerals and Energy Environment Foundation, *Facing the Future*, (2002).
- ³⁶ International Institute for Sustainable Development (IISD), *Towards Change: The Work and Results of MMSD—North America* (2002).
- ³⁷ International Institute for Sustainable Development (IISD), *Seven Questions to Sustainability: How to Assess the Contribution of Mining and Minerals Activities*. (2002).
- ³⁸ International Institute for Sustainable Development (IISD), *Learning from the Future, Alternative Scenarios for the North American Mining and Minerals Industry*. (2002).
- ³⁹ International Institute for Sustainable Development (IISD), *Industry in Transition: A Profile of the North American Mining Sector*, (2002).
- ⁴⁰ There are detailed web statistics for the last several months and information on how to interpret the statistics at www.iied.org/mmsd/mmsdlogs/
- ⁴¹ See <http://www.iied.org/mmsd/Bulletin/index.html>.
- ⁴² Retired 18 July 2000
- ⁴³ Stepped down in March 2006.
- ⁴⁴ Mr. Villarzu apparently will be resigning shortly.
- ⁴⁵ Head of Mining Department.
- ⁴⁶ Jay Hair started at ICMM in November 2001. Prior to that, the predecessor organisation, ICME, was run by Gary Nash. Gary Nash is now the Assistant Deputy Minister, Minerals and Metals Sector, Natural Resources Canada, In this position he is in a key role with the **Intergovernmental Forum on Mining, Minerals, Metals and Sustainable Development, since Canada is the Secretariat for that Forum for the initial five year period.**