

MMSD Project Draft Report

Version 4 March 2002

The Project Draft Report summarises an impressive amount of information. It provides for a thorough description of key sustainable development challenges, and their management responses from industry, state and local governments, finance sectors and the community. A further effort is needed to sharpen the reports findings into a comprehensive and compelling agenda for change.

Executive Summary

The executive summary suffers from the desire to cover all sustainable development aspects of the mining and minerals industries. Many issues are touched upon, but most are raised with not more than a very generic qualitative statement. It is not easy to stay interested, and it is impossible to apprehend where and how the MMSD project has made a difference, or contributed to new insight on any of the issues (if at all?).

The executive summary writes *about* the nine challenges, but it fails to identify leverage points (or even just potential ones) for improvements, and how improvements can be initiated. What has been the purpose of defining the nine challenges, if the project report does not shed light on specific ways out for each of the challenges investigated and debated?

The action forward part is therefore still disappointing. The approach chosen (i.e. focusing on what different stakeholders can do) provides a fragmented picture, does not make a point for multi-stakeholder joint/shared initiatives, and therefore does not convince that the suggestions are indeed the priority ones. A framework for change is needed (based on the lessons distilled from the review/assessment of the challenges), to be able to propose more specific actions for each of the stakeholder groups (see also suggestions under chapter 16)

Other minor suggestions

- Table 1, first dot point in economic sphere: maybe replace ‘maximising human well being’, with “quality of life for all global citizens”
- Page 13, para 2 in section on Minerals and Economic Development. The issue of managing of minerals wealth is addressed between private and public sectors and between different levels of the public sector. There are also different groups within the private sector; i.e. division between workers, managers and shareholders. And why is the local community left out from this discussion on management of mineral wealth?
- Page 15, first line last para. Human rights has been an issue for more than the last 10 years
- Page 22, last para, and onward. The discussion on EMS and EIA needs a reality check. EIA applies to the mine development and expansion stages. EMS is often

only set up in the operational stages of the mine. So how can the EIA benefit from being embedded in an EMS, if the EMS is not existent at the time the EIA is being prepared?

- Page 35 section on Individual Company level actions: The entire section is policy and management systems focused. Would stronger language be justified? E.g: *'company leadership and dedication to achievement and striving beyond industry environmental and social best practice'*, instead of just commitment to sustainability and review of end of life operations? The 2001 WBCSD publication on the Business Case for Sustainable Development, certainly indicates that business recognises it has to go beyond just commitment.

Chapter 1: The Minerals Sector and Sustainable Development

Chapter 1 provides for an interesting discussion of the development of sustainability thinking and practice, and its implications for the mining and minerals sectors. It is however unfortunate that no explicit differentiation is made between the debates on respectively the 'sustainability' of the minerals sector (the question of whether mining and minerals use is compatible with sustainable development principles, and if so, under which conditions) and on the 'contribution of the mining and minerals sector to more sustainable development of communities and society at large' (the question of how the minerals industry can enhance its contribution to wealth generation for all, good governance, meeting materials' needs for a growing global population, and maintaining environmental/ecological integrity).

Most important however is that the chapter does not justify the nine challenges investigated, from the perspective of the sustainable development framework for the minerals sector. It is appreciated that the challenges have emerged from the initial global consultations, but as a minimum one would expect to see in this chapter how each relates to the sustainable development framework (as for instance reflected in the five concrete ideas (on page 1-7), or the sustainable development challenges in the four spheres (as in table 1.1), and how the nine challenges relate to one another. Such analysis would reveal whether or not the nine challenges (and hence the current global concern about sustainability of mining and minerals) covers indeed most, if not all, elements or spheres of the – generic - sustainable development ideas/spheres. This in turn is important to understand the comprehensiveness of the MMSD project in covering the sustainable development agenda for the mining and minerals sectors.

Finally, the trust of the final paragraph of this chapter is extremely disappointing. The first sentence of this paragraph lacks context, and is therefore an empty statement. The final sentence only calls on the industry laggards to catch up with existing industry best practice. What about the current industry leaders – have they already achieved sustainability? Shouldn't the MMSD project aspire to encourage current industry leaders to go beyond their current business as usual, and as a minimum rejuvenate and intensify a persistent and ongoing search for additional incremental and step improvements in their environmental and social performance.

Chapter 6: Viability of the Minerals Industry

An interesting chapter in particular in its coverage of labour, occupational health and safety and financing issues.

The discussion on the role of technology is extremely short (in particular as it does not appear as a major part of the analysis elsewhere in the report). The discussion does not reflect the need for Research and Technology Development to come up with innovative, break through technologies that would enable factor improvements in the ratio of value delivered (productive output) per net unit of environmental impact (factor X technologies, with X generally expected to be at least in the range of 10). There is compelling evidence that such technologies are urgently needed (for society to be able to use mineral based materials to meet the materials' needs of a doubling global population aspiring a reasonable quality of life, without jeopardising the natural capital base) and that such technologies are unlikely to emerge from typical, incrementally focused R&D.

Chapter 10: Mining, Minerals and the Environment

Interesting chapter with broad coverage of the management responses to the various environmental aspects of mining and minerals processing. Information on the nature and size of the issues is scarce. The importance of the issues (environmental, social and economic) could possibly be illustrated with a few boxes, figures or tables, e.g. a box with a summary description of structure and level of an example advanced bond system, a listing of some recent dam failures, with size of communities affected, mitigation/liability costs?. Such quantitative illustrations can underpin the points made and assist in reducing the text-heaviness.

It would be good to complement the discussion on energy use and greenhouse gas emissions (page 10.28-10.30) to alert to the significant non-CO₂ greenhouse gas emissions related to the mining and minerals sectors, e.g. coal seam methane, fluxes for alumina smelting and production of some important mining chemicals (e.g. cyanide).

Chapter 11: A Life Cycle Approach to Using Minerals

On the whole an interesting chapter that provides for a good snap shot of various life-cycle approaches. A few details however appear to be incomplete or incorrect:

- Page 10.11 3^d para on dealing with eco-toxicity of metals in LCA. A further constraint is the fact that eco-toxicity and availability is highly dependent on the metal specification. Most often the life cycle inventory would just provide a total emission (and not differentiate between eg metallic and organically bound metal with different toxicities)
- Page 11.10-11.11. The statement “ when applied to production processes, LCA should not be used to unduly favour modern manufacturing plants in some countries, without taking into account other economic and social considerations”,

is not justified. LCA is an environmental tool, and can point out to the environmentally most preferred alternative (provided due process is followed as specified in ISO 14040 series). Next such environmental evaluation should be combined with economic and social evaluations as part of the decision making processes, and not as part of the LCA. Similarly 3rd paragraph on page 11.11 needs revision, as LCA is an environmental tool and it can therefore not be expected that LCA can be guided by the full spectrum of sustainability indicators.

- Table 11.1. Factor 10 explanation. Factor 10 is based on keeping total resource consumption at approximately current levels, while accommodating for wealth creation for a doubling global population (instead of halving total resource consumption).
- Page 11.13, 1st paragraph, line 1-2. Factor 4 and 10 are aimed at keeping total resource flows at current levels while accommodating for wealth increases and global population growth. There is not yet the assumption that current resource flows already exceed the carrying capacity.
- Page 11.13, 1st paragraph. Line 6-8. Although it is true that the total environmental impact from handling mining waste is influenced by the way these wastes are managed, the mass of waste is at least a good indicator for a significant part of the environmental burden (energy requirement for the excavation, transport and disposal of the mining wastes)
- Table 11.2. Recovery row could have 'reuse' as a complementary practice to recycling.
- Page 11.14 Second dot point. It would be useful to reflect on the recognition (in e.g. ecological footprint analysis, natural capitalism, etc) that the long run availability of minerals will be less dependent on the known resources/deposits, but increasingly on the ability to dispose of the minerals into the ecosphere. I.e. the assimilative capacity for absorbing dissipative use and losses of minerals is starting to set the limits for the long term availability.
- Table 11.3. WBCSD distinguishes 7 instead of 6 eco-efficiency principles. Product durability and service intensity increase are two different principles in more recent eco-efficiency publications of the WBCSD
- Page 11.17, 2nd paragraph, line 7-8. Deposit on cans only exists in South Australia
- Page 11.20 last paragraph. Use consistently life cycle ASSESSMENT instead of life cycle Analysis

Chapter 14: Roles, Responsibilities and Instruments for Change

The section on voluntary initiatives ('improving industry performance', page 14.18 onward), might benefit from a critical reflection.

- The text box on the Australian Code (page 14.19) does not fully reflect the findings from the MMSD commissioned research into the Code's effectiveness. The research could not prove that the code had driven signatories to more sustainable development initiatives than non code signatories. Likewise, evaluation of Responsible Care in the USA has shown that performance improvements for Responsible Care participants fall short of performance improvements for non-participants⁽¹⁾. Some caution might therefore be needed for apprehending the impact of voluntary codes. Moreover, the box does reflect on the 1999 revision of the code, which included alignment of the code with the aims of sustainable development.
- The text on verification schemes (page 14.19) suggests that companies can self-certify against ISO 14001, which is pertinently incorrect. It might be useful to add that evaluation research of ISO 14001 has pointed to the importance of transparency and stakeholder involvement in the issue identification and goal setting processes, and third party verification of goal achievements, for ISO 14001 to be proactive and drive sustainable development⁽²⁾
- The section on corporate reporting (page 14.21) does not reflect on the fact that there is growing industry recognition that public environment and sustainability reports are not particularly effective for external communication on performance (e.g. WBCSD project on Sustainable Development Reporting). Much effort is spent on reporting, but stakeholders find these hard to access and question the level of greenwashing. Many companies however find reporting valuable as an internal tool; the report provides a comprehensive assessment of the company's operations, and challenges managers, engineers and others within the company to address the sustainability issues. It would also be good to add that the GRI has now been formally established, and that a review of the 2000 GRI reporting guidelines is underway.

Chapter 16: Agenda for Change

The action agenda lists a number of praiseworthy initiatives, but does not really bring those together in an integrated, multi-stakeholder plan. It is hard to see the interrelations between initiatives from stakeholders, and understand what the priorities are.

It is suggested to start the chapter with a number of 'goal' statements for the action agenda, i.e. what has to be achieved to deal more effectively with the sustainable development challenges in the mining and minerals sectors. These goals (what's), can

¹ King, A. and M. Lenox (2000), *Industry Self Regulation Without Sanctions: the chemical industry's responsible care program*, in *Academy of Management Journal*, Vol. 43, No 4, pg. 698-716.

² Switzer, J. and J Ehrenfeld (2001), *ISO 14001 and environmental performance*, in Hillary, R. (ed) *ISO 14001; case studies and practical experiences*, Greenleaf Publishing, Sheffield, UK.

justify the proposed actions (how's) for each of the stakeholders (who's). Four implicit goals emerged from my reading of this draft chapter, namely:

1. Developing (environmental and social) best practice and making it general practice
2. Planning for closure and building of post closure communities
3. Being accountable and responsive to stakeholders
4. Dealing with legacies

If these are indeed the hidden goals, make those explicit, and link the recommended stakeholder' actions to those goals.

Accessibility and User-friendliness of the Report

An overall comment for the report concerns its total lengths, writing style and presentation, which makes it a challenge to access the information, and thus pose a serious barrier for constructive engagement within and outside the minerals sector. Ways to improve the user-friendliness of the report might include:

- Underpinning of the qualitative descriptions with key quantitative details
- Shortening of the text
- Using attractive figures, tables and supportive lay out to draw the reader's attention to key conclusions, lessons learned, areas of agreement and of disagreement
- Conclusion of each of the issue chapters with summary statements against each of the issues identified in the issue descriptions (in chapter 1).

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