

The Role of the Minerals Sector in the Transition to Sustainable Development

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The transition to a more sustainable social and economic system challenges all industries, governments, communities and individuals. There are deeply varying concepts of 'need' for minerals. The current levels and mix of minerals production may well not be required by a more sustainable economy. But under any plausible definition of need, there will be a substantial requirement for some mineral products far into the future.

Some may be essential to a more sustainable world: more efficient use of electrical energy, for example, probably requires greater use of copper. While recycling rates can be raised, they cannot eliminate the need for mining.

The mining industry is not large. The ten largest mining companies in the world combined have a value less than half of Microsoft. Nor is mining widely profitable. The price of most minerals has trended down over several decades. Access to investment capital is being challenged. It may be having trouble attracting the most qualified young professionals. And the segments of the industry under most stress (small, medium and artisanal mining) are those which provide the majority of mining livelihoods worldwide.

With falling prices and low margins, it is not clear to what extent industry is positioned to take on a broad new agenda of social and environmental costs. Nor is it clear what the current trend toward concentration into a smaller number of larger companies will mean.

The industry's role in national and local sustainable development

Developing countries compete for mineral investment, which they hope will catalyse broad processes of economic development.

Many citizens or governments of developing countries – including some of the poorest nations – have argued that mineral wealth is a national patrimony and that rents

from its extraction should be used to promote economic development. Some in industry argue that economic margins are now so thin that there is little or no 'rent' to be had, and attempts to 'capture' more for national development simply reduce competitiveness. This argument is caught up in the debate over whether government has a role in fostering development, or simply acts to create conditions which attract greater flows of private capital.

Some of these problems may be ameliorated by more effective systems for managing mineral wealth, and building the capacity needed to make those systems work. But ultimately, however much rent is available and however much is captured, government has to take a central role in assuring that it results in economic progress for the citizenry.

Mining generates considerable tensions because it is usually carried out in remote locations with little or no alternative means of community development. This creates hopes that a mining project can insure sustainable development for the region. Few other economic activities are asked to lift this entire burden. Mining is unlikely to solve this problem on its own: it is not always equipped to do so. Government and other actors must take a central role.

Projects can have enormous effects on the lives of nearby communities. Some are positive: employment, purchases of supplies, introduction of clinics and modern medicine,

KEY CHALLENGES:

- Governments have to play a central role in ensuring that revenue from mining results in economic and social benefits for all citizens
- Falling prices are exacerbating existing problems in the mining industry – without external pressure and assistance the transition to sustainability will be very difficult in this sector
- An effective, accepted structure for global governance of the mining industry may be needed to establish broadly agreed norms and negotiate incentives for compliance
- Relations between different stakeholder groups are often poor – but the development of greater trust and understanding is an essential element of any strategy to move the mining sector towards sustainability

electrification, roads, schools. Some are problematic: disruption of traditional cultures, introduction of sexually transmitted diseases, price increases for basic commodities, displacement or elimination of traditional livelihoods, pollution. They often have special significance for ethnic minority communities, including aboriginal and indigenous groups, and for gender relations.

There is a broader awareness in industry of the need for community involvement in planning and decision-making and the need for good community relations. But industry cannot solve these problems alone. There may be wide divergence of views between national government and local communities, and open conflict over how revenue is shared. Such circumstances can and have created a seed bed for human rights abuses.

There is no consensus on what reasonable expectations should be, in terms of (1) mitigation of adverse economic and social impacts, (2) local economic and social development around the minerals project, or (3) assuring that these benefits can be sustained post-mining.

The industry's role in sustainable ecosystems

Mining occupies a relatively small part of the earth's land surface. But the industry does have some significant ecological footprints – some caused by small and artisanal mining activities; others by larger, more technically sophisticated companies.

The industry does not operate in a vacuum, but often in ecosystems under enormous stress from sources unrelated to mining. At one end, these stresses derive from poverty and instability: overgrazing, overharvest of forest products, poaching, poorly conducted artisanal mining, and lack of government capacity to manage or control these activities. At the other end, they come from high levels of consumption in rich countries and the large-scale industrial activities needed to feed that consumption.

Environmental practice at the best mines and smelters has advanced greatly in comparison with past practice, but many existing facilities fall short. And because the industry is probably the world's largest generator by volume of solid waste, many of its disposal decisions are in practical terms irreversible. Past practices have left a legacy of unreclaimed sites and environmental impacts, some recent and others centuries old. Appropriate mine closure planning can help avoid adding to this legacy, but all societies have great difficulty developing and funding mechanisms for identifying, prioritising and remediating these sites.

Conflicts over occupancy, use, management and control of land

Finding minerals requires access to large areas of land, much of which is subject to conflicting uses or claims of ownership. Often these conflicts – over indigenous land claims, species conservation, or occupancy by artisanal miners – are latent because there is no immediate conflict of uses. Mineral exploration or mining can create pressure

to control other activities or share in revenues which can bring these latent conflicts to life. Sustainability requires consensual rather than imposed solutions to these conflicts. Consensus requires procedures and results which are widely perceived as fair and equitable.

Building capacity is part of the solution: lack of clear systems of land titles, lack of accepted delimitation of indigenous land claims, lack of access to acceptable tribunals, and lack of personnel who understand these issues in exploration and mining companies, all contribute to the problem.

Sustainability and mineral markets

Falling mineral prices present a major challenge for the industry. Lower prices mean less funds for companies to meet the challenge of a transition to sustainability, and less economic development in producing countries, while encouraging wasteful consumption. The world trade regime hinders the ability of producers to capture more of the value added.

A continued fall in real prices could have serious adverse consequences for developing countries from South Africa to Bolivia. It would have sharp impacts on the livelihoods of artisanal miners and employees of small to medium scale companies.

Trade in minerals and market access have become key arenas for perceptions of 'green protectionism', fuelled by widespread distrust of motivations behind environmental regulations imposed by consuming countries.

While a few parts of the industry such as aluminium are vertically integrated, most mining companies are commodity producers. This could hinder the development of optimal recycling levels, and may also mean that the mining industry is confined to the part of the minerals cycle where revenues will remain thin.

Structures for progress

Any attempt to reorient the minerals industries must confront the deep gulfs of mistrust among stakeholder groups. At the same time, the large scale industry is spending unprecedented sums on public reporting, without a noticeable increase in levels of trust and confidence. Each stakeholder group has information it wants from others. And each has information it is not willing to share openly. An understanding of the dynamics of the need for, generation of, and communication of information about the industry is an essential component of the needed transformation to sustainability.

The necessary structures of governance for the industry at the global level do not exist. There are no broadly accepted sets of norms for the behaviour of industry and other actors. There is no accepted administrative structure to give life to those norms. And there is no clear set of incentives to encourage compliance. Perhaps the greatest challenge in the transition toward sustainability is the development of the institutional arrangements which can establish these necessary elements and ensure that they are acceptable to all of the principals concerned. ●