

## **Bronze Award Essay**

### **Sustainable Development in the Mining and Minerals Sector: The Case for Partnership at Local, National and Global Levels**

#### **Abstract**

In 2004, the International Council on Mining and Metals (ICMM) commissioned independent research into ways in which it could enhance mining's contribution to poverty reduction. This marked the beginning of a long-term initiative with multi-stakeholder input that is now into its third phase. The objective of ICMM's research was to identify the critical factors that have allowed some countries to benefit from their substantial resource endowments and to avoid the so-called 'resource curse'. From the start of the initiative, the hope was to identify the practical steps that might be taken by the mining industry and others, such as governments, local communities and development agencies to enhance the positive impacts of mineral resource investments.

Phase 1 of the Resource Endowment initiative comprised a comprehensive literature review, a quantitative analysis of the performance of 33 mineral dependent countries across a range of socio-economic indicators (published as the Analytical Framework), and the development of a toolkit to document the impacts (both good and bad) of individual mining projects at a local, regional and national level. Phase 2 of the project saw the toolkit being applied in four country field-based case studies - Peru, Chile, Ghana and Tanzania. The findings from the four country case studies were synthesized into a single report along with a series of recommendations for industry, host governments, donor organizations and NGOs.

In order to confirm the validity of the review and to explore ways and means of implementing the recommendations, the third phase of the initiative has now begun. Pilots are planned in three of the case study countries, to see whether and how in-country partnerships between governments, companies, donor agencies and the voluntary sector can be developed to encourage the uptake of the recommendations emerging from the initiative to date.

## Introduction

In 2004, the International Council on Mining and Metals (ICMM) commissioned independent research<sup>1</sup> into ways in which it could enhance mining's contribution to poverty reduction. This marked the beginning of a long-term initiative with multi-stakeholder input that is now into its third phase. At the outset, the research team was asked to analyze how the mining sector contributed to national development, to identify strategies that are effective in managing mineral revenues for economic growth and poverty reduction, and to investigate how mining investments can contribute to economic and social development at the national, regional and local levels.

The topic is controversial. Some international NGOs<sup>2</sup> raise fundamental questions about the poverty reduction and development benefits of mining investments. The Bank Information Center and Oxfam International, in a September 2006 report, cited the experience at IFC-supported gold mines in Peru, Ghana, Guatemala, and Kyrgyzstan, as well as the World Bank's own research in mining-dependent countries, which illustrated that the costs to local communities affected by mining often exceeded the benefits that they received.

Moreover, although economic growth is a key ingredient to poverty reduction, some academics<sup>3</sup> have formulated the 'resource curse' theory whose propositions include:

- Large earnings from mineral resources can lead to the Dutch disease phenomenon involving exchange rate overvaluation leading to a decline in the competitiveness of other, non-mineral, economic sectors.
- Dependence on such earnings is problematic, if the prices of the minerals in question are volatile in the short-term or subject to sustained decline in the long-term.
- The presence of mineral wealth can encourage governments to adopt misguided industrial policies that offer protectionist barriers to support uncompetitive new activities.
- An economy blessed with abundant but finite natural resources may over-consume. One reason is that incomes in the short term may fail to account properly for the depletion (depreciation) of the nation's capital, thereby resulting in consumption levels that are unsustainable; the correction when it comes is inherently damaging to livelihoods.
- Some countries blessed with natural resources may be more prone to poor governance and in some cases will experience a "predatory" state characterized by corruption, political conflict, and inequalities largely created by state actions.

The objective of ICMM's research was to identify the critical factors that have allowed some countries to benefit from their substantial resource endowments and to avoid the so-called 'resource curse'. From the start of the initiative, the hope was to identify the practical steps that might be taken by the industry and others, such as governments, local communities and development agencies, to enhance the positive impacts of mineral resource investments.

To ensure a balanced analysis of both successes and failures ensuing from mining, and the importance of ensuring that different viewpoints were adequately captured, the research methodology and the subsequent findings from the field work were critiqued by non-governmental organizations, equator banks, academics, labor organizations, and government representatives in two multi-stakeholder workshops. In the first, participants critiqued the research methodology and the draft toolkit was revised to incorporate their comments. In the second workshop, participants discussed the draft findings from the four country case studies and their comments strengthened the conclusions and recommendations from the initiative.

### **Assessing the performance of mineral-dependent economies**

Phase 1 of the research comprised a comprehensive literature review, a quantitative analysis of the performance of 33 mineral dependent countries across a range of socio-economic indicators (published as the Analytical Framework<sup>4</sup>), and the development of a toolkit to document the impacts (both good and bad) of individual mining projects at a local, regional and national level.

The intent of the literature review was to capture how differences in institutions and governance may influence socio-economic outcomes and how these related to mining activities. This was achieved by focussing on governance, defined as the capacity of a country's formal and informal institutions to design, implement and enforce policies that benefited the wider public and to improve private sector effectiveness.

The 33 mineral dependent countries were defined as those countries where mining constituted 20% or more of exports from 1965-2003. Performance was measured by using a range of socio-economic indicators over a 20-year period in accordance with six variables: two for economic growth and four for poverty alleviation: changes in infant mortality, the UN Human Development Index, and two Millennium Development Goals (the number of people below a minimum level of dietary consumption and the number of rural households with access to improved drinking water). Growth performance was also compared to the preceding decades using data over a 50-year period, to determine how typical or otherwise the recent past has been in terms of growth.

The findings showed that the resource curse is not preordained in mineral rich economies. Almost half<sup>5</sup> of the 33 mining countries outperformed their regional and income comparator countries, whether endowed or not with minerals. In relatively few of the 33 country cases was the economic and poverty story all good or all bad. Six were 'better performers', while nine countries were poor on all counts.

Five of the six better performing countries achieved a reasonable total governance score, with Ghana being the exception with low scores on governance -- although there was a great divergence of scores across those five countries. Several of the worst performing countries (Bolivia, the Philippines) had governance scores that were not too different from countries such as Ghana, even though Ghana was deemed to be a better performer.

It also should be noted that several of the ‘in-between’ countries scored better on governance than did some of the countries classified as better performing (e.g. South Africa, Namibia, Morocco and Suriname). Most of the absolutely worst-performing countries had very poor governance scores (CAR, Sierra Leone, Liberia, Congo DR).

This suggests that while mining *per se* does not systematically lead to poor governance performance, it also indicates that the relationship between good governance and good economic and social performance is far from being clear. Furthermore, the ex-post indicators gave no insight into the underlying causes of the quality of governance.

Therefore, while the performance of the 33 mineral dependent countries showed that some countries had suffered from the resource curse and related ailments, it also showed that in other countries, natural resource extraction had also contributed to long-term sustainable and broadly based socio-economic development.

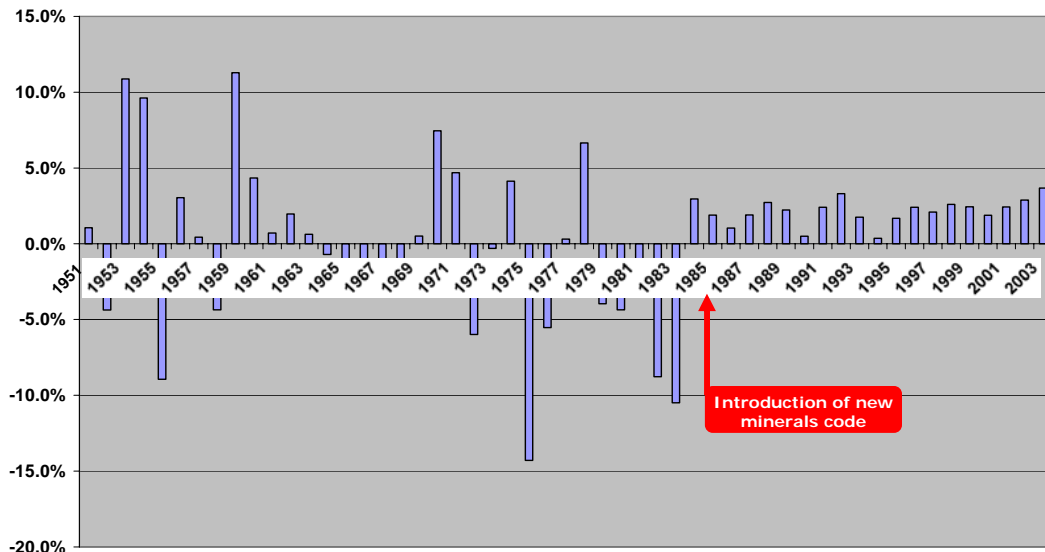
### **Developing a toolkit to document positive and negative impacts**

The Resource Endowment Toolkit<sup>6</sup> was developed to provide a systematic and consistent approach to documenting the impacts (both good and bad) of individual mining projects at a local, regional and national level in such countries. Key stages in the Toolkit are: defining the country context; profiling the mining activity to be assessed; documenting the country’s economic and social performance and outcomes; assessing the project/micro impacts of the mining activities; and assessing the broader macro and governance causes of performance. This then was the starting point for further analysis based on country field work.

Phase 2 tested the methodology outlined in the toolkit in a multi-stakeholder workshop, which was refined further by its application in four country field-based case studies - in Peru, Chile, Ghana and Tanzania.<sup>7</sup> The findings from the four country case studies were synthesized into a single report along with a series of recommendations for industry, host governments, donor agencies and NGOs. The emphasis was on the practical steps<sup>8</sup> that all of these organizations could take alone and in partnership.

A key finding in all four cases was that mining had contributed to improved economic policies. While all four countries experienced severe macro economic mismanagement in the past fifty years, the establishment of an economic reform package, usually supported by the World Bank and/or the IMF, helped some countries to avoid the resource curse. All four countries experienced higher and more stable GDP growth: Ghana has had an unbroken period of positive per capita growth for over 20 years (as illustrated in the figure below with the arrow signalling when the minerals code was reformed); Tanzania has had a continuous period of positive per capita growth over 10 years, and Chile for over 20 years.

Figure 1 Ghana per Capita Growth Rates: 1950 – 2003 (1990 PPP\$)



Source: Groningen Growth and Development Centre

In all four cases, the long-term (50-year) comparisons suggest that the resurgence of mining activity in recent years has been accompanied by smaller problems in most aspects of the resource curse thesis, than in the years when mining was stagnant or in decline. For example in Peru and Ghana, Dutch disease problems seem to have been avoided and exchange rate policy movements largely compensated for inflationary changes. The growth of non-mineral tradable GDP was found to be positive in real terms in all four countries, and higher than that of their regional comparators in all but one case (Peru). There was also some instability in revenue flows that has persisted in some countries, but the revenue/GDP proportion has been higher, especially in Peru and Ghana.

From this evidence, it can be postulated that: (a) even during periods of economic malaise in all four countries, a better investment climate for mining contributed to improved macroeconomic policies; and (b) when mining investment enjoyed a revival, after the economic reform programs, mining constituted one important factor in the country's recovery.

A second element of the in-country research was to assess poverty reduction. In two of the four countries, there had been significant gains in reducing poverty at national and local levels. In Chile, poverty had fallen at both the national level and regional levels. Mining is concentrated in Chile's Region II where poverty fell faster and further than in any of Chile's eleven other Regions. This was accomplished without the redistribution of revenues by the government down to the regional or local/community levels. Instead the government had strong policies for broad-based employment generation, supported by long-term investment in human capital, such as training and skills development.

In Ghana, using the Ghanaian Living Standards Surveys for 1991-1999, income poverty had fallen from 52 percent to 40 percent in 1999. In the four mining districts, poverty levels were lower than in the remaining 112 districts in Ghana, outside of Accra. While in Peru, the research found that the economic recovery process had not changed poverty levels significantly. More than half of the Peruvian population continues to live in poverty, with nearly a quarter of Peru's people living in extreme poverty of less than one dollar per day. More than seven million (of Peru's 17 million population), have no access to drinking water; five million have no access to sewerage and around seven million have no access to electricity. In Tanzania, the poverty data was too early to show any results from mining investments, which had begun production in the late 1990s.

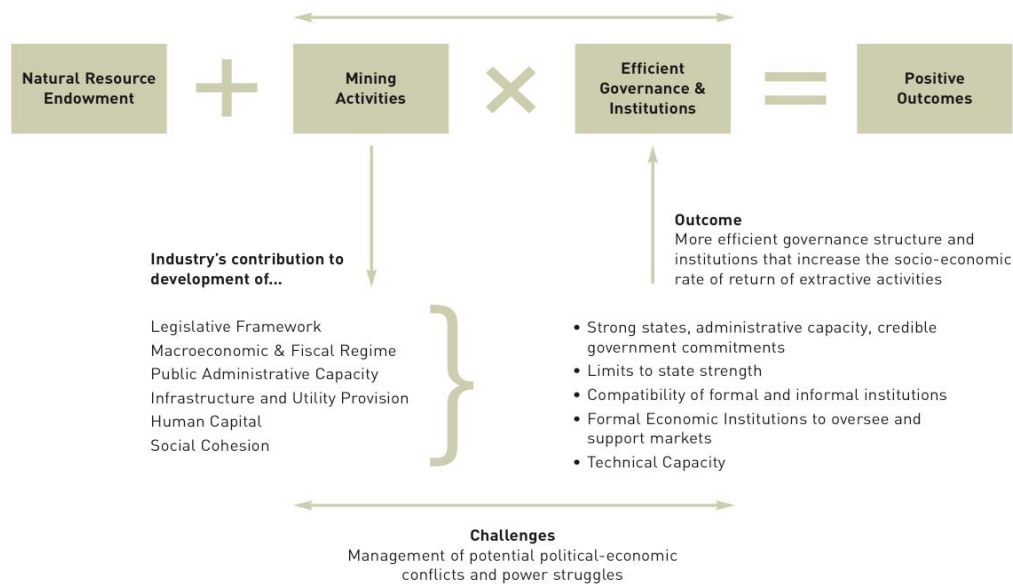
Notwithstanding the indicators of positive impacts, all four case studies found local problems. The companies were often facing issues of community distrust and escalating expectations. This dissatisfaction coinciding with economic boom conditions has been faced by other mining countries. It corroborates the general policy research finding that increasing horizontal inequality induces social tension and conflict -- even as general incomes rise.

The six most common problems found across the four case studies were: (a) the adequacy/fairness of the tax regime for mining in the host country; (b) the revenue allocation system, particularly when it constrained the efficient and effective use of public resources, including those generated by mining taxes and royalties; (c) conflicts over land use and property rights; (d) environmental damage and concerns; (e) conflicts between large-scale and artisanal mining; and (f) the problems associated with mine closure.

### **Lessons from the evidence based research**

While some of these issues might have been remedied, in part, by improved environmental management or community engagement on the part of companies, the case studies indicated that good corporate sustainable development practices were often not enough. Governance weaknesses, particularly at the sub-national level, were at the root of many of these problems. In the typical sequence of events, the national government concerned would institute macro-level governance reforms, thus attracting mining investments and fuelling substantial economic growth. But the government would then fail to follow through with other reforms that might empower local and regional governments and build their technical capacity and legitimacy. The figure below shows how the common features of good governance are impacted by the presence of large-scale mining.

Figure 2 The Composition of Effective Governance



Source: The Analytical Framework - Main Report, The World Bank, UNCTAD and ICM

That different country circumstances lead to different outcomes points to the finding that distinctive paths must be found to achieving positive outcomes. The core of the approach proposed here is to connect policy reform and institutional change.

Starting with the legal and regulatory framework, all four countries have reformed their minerals code to provide a stable regime for foreign investment, with secure property rights. This was a key factor in triggering very large inflows of foreign direct investment (FDI) in all four countries: in Chile \$15.5 billion were invested between 1991 and 2003, and a further \$7 billion in 2004 alone. In Peru, \$8 billion were invested over a similar period, 1992 - 2004. In Ghana, the commercial mining sector suffered a major decline from the early 1940s until the mid-1980s, when the minerals code was enacted, together with an economic reform package. This resulted in more than \$5 billion being invested by foreign companies between 1986 and 2001. Tanzania has experienced the development of one new mine each year since 2000, for a total of \$1.3 billion of FDI between 2000 and 2003 – easily the largest source of FDI in Tanzania.

There is a hierarchy of effects stemming from mining's economic contribution – the greatest benefits accruing at national levels through FDI as noted above, and also from exports and taxes. With the economic recovery, all four countries have been able to put in place formal economic institutions and aggregate fiscal regimes that put in place the essential requirements of a stable economy. This includes broadly sound macroeconomic policies, reasonably low inflation, stable exchange rates, and aggregate fiscal sustainability. Technical capacity has been improved in central banks, ministries of finance and often in mining ministries. While technical capacity has improved at the national level, this has often not been achieved to the same extent at the sub-national

level. Most noticeably this applies to fiscal management, general public administration and local level political decision-making processes.

It can be noted that the impact of mining depends a great deal on how government revenues are used. In turn this puts emphasis on developing public administrative capacity. All countries have experienced strong central-level governance reforms, including effective, efficient and transparent public expenditure management. However these reforms have yet to sufficiently filter down to local and regional levels.

In Ghana, for instance, relatively little of the tax generated by mining appears to find its way back to mining communities. There is also evidence that the mining companies' social investments could be targeted more effectively at poverty alleviation. But even with the introduction of such changes, a significant gap would have remained, with local institutions having limited capacity, as well as resources, to deliver basic services.

In Peru, a very similar process has occurred in that companies have sought to appease local community complaints with additional social investments. However, with local government often failing to operate as a trusted mediating authority between the two sides, such corporate tactics have often proven to be no more than 'quick fixes', with tensions re-emerging before long. As in Ghana, central-level governance reforms, including effective, efficient and transparent public expenditure management, were also shown not to have filtered down to the local and regional levels. Furthermore, what may be holding up the development of small-scale, non-mining enterprises in Peru is another governance issue, namely, the need to extend recognition of formal property rights to entrepreneurs in the informal sector rather than just too large firms.

In summary, in Ghana and Peru the lack of technical capacity at the sub-national level is creating a challenge in terms of ensuring that the funds are used for development purposes. This, in turn, heightens community anxiety about the impact of mining operations on the local peoples' livelihoods and employment opportunities.

In Chile, the government has adopted a different approach. It has focussed on tackling poverty reduction through increased employment opportunities and not on redistributive measures. This has been done by innovative governmental policies at the regional level in providing incentives to companies. For example, Chile's Region II has established an "executive committee of the Mining Cluster." This consists of one national government representative, two local government representatives, and the CEOs of two major mining companies. They meet regularly to discuss partnership plans and procurement opportunities.

A final point is that governance weaknesses are at the basis of many of the most heated local criticisms against (or issues faced by) the companies – regarding indigenous land rights, and involve, for example, alleged environmental damage, and conflicts with artisanal miners. As before, this is not to downplay the importance of maintaining high standards of corporate responsibility on all these issues, nor the need for improvement in firms' behavior in some respects. The point is rather that without well-functioning local

institutions, which are trusted by local people, there has often been no body to mediate such disagreements effectively and fairly. This governance vacuum has created space both for expectations on companies which may be unfair, and for corporate actions which may lack legitimacy.

### **Recommendations for enhancing the socio-economic impacts of mineral resource investments**

A key finding of the Phase 2 research was that parallel and coherent actions are needed by all concerned groups and organizations: governments, particularly at the sub-national level, local communities, mining companies, development assistance agencies and the voluntary sector. Pending the establishment of effective local capacity, the study recommended that partnerships between all concerned stakeholders are needed to enhance the positive impacts from mining and to tackle the negative impacts that have been identified.

Partnerships can help in at least three ways. In terms of practical steps to enhance mining's contribution to poverty reduction, national governments need to take the lead to ensure that there are shared responsibilities for outcomes, by integrating the mining sector into national poverty reduction strategies. This, in turn, will require government departments (for example, treasury and mining) to collaborate more closely, and will require chambers of mines and companies to participate in national development dialogues and to link their social investment budgets to one or more of the millennium development goals. In addition, social funds and donor agencies should connect funds better to the special needs of communities affected by mining.

Another issue, emphasized by workshop participants during Phase 1 of the initiative, is the need to focus on transparency and on tackling corruption. The Extractive Industries Transparency Initiative (EITI) is a multi-stakeholder initiative which has a shared goal of promoting transparency of royalties and taxes paid by companies and received by governments. It sets out the distinct accountabilities of not just companies and governments, but also urgently expects civil society to monitor and hold governments accountable. NGOs and foundations are working in countries such as Peru and are reviewing public expenditures to see whether and how the investments are benefiting the poor. If the EITI's scope is extended to promoting transparency of revenues and to the sub-national level, this could go a long way to resolving such problems of the local communities in both the Ghana and Peru case studies. The IFC is taking a leadership role in Peru and is working with the government through the National Canon Program to improve municipalities' capacity to invest and civil society's capacity to monitor the use of resources.

Another practical step that governments and donors can take addresses an issue identified by a member of ICMM's Advisory Group<sup>9</sup> reflecting on the experience of the Chad-Cameroon pipeline, which showed that state and community capacity building often takes longer than expected, while infrastructure construction is often completed ahead of schedule. Thus not only does capacity building need to start early, innovative approaches

need to be found to fund such activities, as national (and thus local) governments receive few taxes or royalties at the very beginning of the construction period (and at the end). So there is an opportunity for governments to monetize the assets and bring the cash flows forward by, for example, using the long-term loans and guarantees offered by the World Bank to transform future project revenue flows into current capital funding for social and infrastructure investments in local communities, while reserving sufficient funds to deal with subsequent mine closure.

Furthermore, for partnerships to be effective, one must deepen governance reforms, especially public administration reforms. There is a need for more reliable and sustained arrangements for properly sequenced decentralization of fiscal authority to local and regional authorities. Evidence suggests that greater decentralization, accompanied by necessary improvements in local government capacity, would enhance the impacts of mining projects.

The setting up of regional or local development agencies may help co-ordinate efforts towards economic diversification and poverty reduction. Again governments will need to take the lead in supporting these bodies, perhaps aided by international donor organizations. In Peru, Grupo Propuesta Ciudadana, an NGO, is working with 15 regional governments to support the development of regional development plans and participatory budgeting processes. Companies can plan their infrastructure development (roads, ports, water supplies, power plants) to integrate into these regional or local development plans. If expanded public use of this infrastructure is built into the design stage, the incremental capital cost could be minimal. By allowing privately funded infrastructure to be sized so as to meet the full needs of the regional economy over time, the economic and social spill-over effects can extend far beyond the mining sector, as was demonstrated in Chile.

A third recommendation is to intensify efforts for poverty reduction and dispute resolution mechanisms at the local levels. Partnerships can support the development of mining clusters and thereby contribute to economic diversification in a region. In Chile, the 'mining clusters' have encouraged the growth of small enterprises more generally. The Escondida mine supported this policy with an innovative program to help local suppliers with quality control that has enabled them to supply to others in the region and to obtain ISO 9000 and 14000 certification. The case studies showed that local procurement in Chile reached almost 80 percent of local goods and services while in Ghana, where the Obuasi mine has been operating for more than 100 years, local procurement only reached 46 percent. Such an approach is one of the reasons why Chile has been so successful in capturing the economic benefits from mining.

Locally based non-governmental organizations can work with local communities and indigenous peoples' organizations to help build consensus on how to share the benefits equitably. They could also help to ensure that the voice of the marginalized is better represented. Workshop participants highlighted the importance of ensuring that the benefits of mining are communicated to local communities: methodologies could be developed for determining the views of local communities and civil society

organizations. Participants also confirmed the importance of putting in place dispute resolution mechanisms early in project development. Companies can take the lead by establishing a process to set grievance procedures within a wider decision-making framework involving local communities and other actors.

In conclusion, ICMM has, through a global process of engagement, tested a methodology with international NGOs, labor organizations, governments, donor agencies and companies. This validation process has resulted in a Resource Endowment Toolkit to allow comparability across countries for public policy analysis, and to provide a user friendly template for companies and others to document the costs and benefits of mining's socio-economic contribution at local, regional and national levels.

In order to confirm the validity of the review and to explore ways and means of implementing the recommendations, the third phase of the project has now begun. Pilots are planned in three of the case study countries, to see whether and how in-country partnerships between governments, companies and the voluntary sector can be developed to encourage the carrying out of the recommendations emerging from the initiative to date.

### ***About the Author***

Kathryn McPhail is the Senior Program Director at the International Council on Mining & Metals (ICMM). She joined ICMM in 2002, following over 20 years of development work with the World Bank Group in Washington D.C. and following four years with the British High Commission in Nairobi, Kenya.

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## End Notes

<sup>1</sup> The research was conducted by independent consultants overseen by an independent advisory group. Research partners were the United Nations Conference on Trade and Development (UNCTAD) and the World Bank Group, both of which added to the development expertise of the research team. Industry involvement in the project mostly took place through an ICMM working group which comprised around 20 representatives from member companies and associations. An International Advisory Group comprised: Georg Kell, Executive Head, United Nations Global Compact Office; Pedro Pablo Kuczynski, Minister of Economy and Finance, Peru, (until mid 2005); Mamadou Lamine Loum, Independent consultant and former Prime Minister of Senegal; Warwick J McKibbin, Member, Board of the Reserve Bank of Australia, Hon. Felix Mutati, Deputy Minister of Finance and National Planning, Republic of Zambia; Jane Nelson, Director, Corporate Social Responsibility Initiative, Kennedy School of Government, Harvard University. Eighteen reports and publications are available on [www.icmm.com](http://www.icmm.com)

<sup>2</sup> Oxfam US: Poverty Reduction or Poverty Exacerbation? Research Paper April 2003; Poverty Reduction in Africa: On Whose Development Agenda? Lessons from Cotton and Gold Production in Mali and Burkina Faso, Research Paper, January 2007; Mining in the Philippines – Concerns and Conflicts, the Society of St Columban, in liaison with PIPLinks, CEESP, and Irish Centre for Human Rights, January 2007.

<sup>3</sup> "Natural Resource Abundance and Economic Growth" J Sachs and A Warner, NBER Working Paper No. W5398, Dec 1995.

<sup>4</sup> The Analytical Framework – Main report (August 2006) available at [www.icmm.com](http://www.icmm.com)

<sup>5</sup> Chile, Botswana, Malaysia, Tunisia, Ghana, Mexico, Colombia, Guinea, Jamaica, Mali, Morocco, Mozambique, Namibia and Senegal

<sup>6</sup> [www.icmm.com](http://www.icmm.com)

<sup>7</sup> Antamina (Compania Minera Antamina) in Peru, Escondida (BHP Billiton) in Chile, Obuasi (AngloGold Ashanti) in Ghana, and North Mara (Barrick Gold) in Tanzania.

<sup>8</sup> Ways Forward Spotlight 03, [www.icmm.com](http://www.icmm.com)

<sup>9</sup> see footnote 1