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# THE MINING SECTOR, AN OPPORTUNITY FOR GROWTH IN AFRICA?

To what extent can the mining sector contribute to Africa's sustainable development? What are the impacts of mineral exploration and extraction projects? How can the mining industry contribute to local economic growth and poverty reduction? How can better governance and fiscal responsibility be achieved? What role can Development Finance Institutions play in Africa's mining sector?

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# Editorial

**By Étienne Viard,** ***Chief Executive Officer of Proparco***

*Often considered as being on the sidelines of globalization, Africa has during the 2000s benefited from continuously increasing investment and become a fully-fledged player as a result of the boom in the mining sector. Growth in demand for mineral resources coming from emerging countries has transformed Africa, which previously received little attention from the investment community, into an El Dorado for small and major mining companies in Europe, North America, and of course, China.*

*But what are the benefits? Have African governments managed, and will they manage, to capture a share of mining revenues and use it to support sustainable economic and social development on the continent? Or, on the contrary, is this appetite for African mineral resources going to end up with the continent being stripped of its assets?*

*Part of the answer lies in the fact that Africa has not been left out of the development of the mining sector. Africa itself is part of this trend. Consistent with its mining sector expertise, South Africa has, for example, given rise to a number of global mining giants such as Anglo American (now based in London) and AngloGold Ashanti.*

*South Africa and Zimbabwe hold the bulk of global platinum reserves, and the Democratic Republic of Congo, for its part, remains a "geological aberration" due to the sheer scale of its mineral deposits. It is important to highlight, however, that in addition to the continent's huge reserves, Africa is also becoming a key industry player with countries like Botswana now leading the world in diamond production.*

*It is not by chance that China and other emerging powers have shown a heightened interest in Africa, because the continent is clearly a significant potential source of raw materials needed to fuel the demand coming from burgeoning industry. From the perspective of African countries, growing interest by emerging powers represents a tremendous commercial opportunity. But the question remains whether it will be possible to both exploit Africa's geological potential and at the same time do so in a sustainable and socially responsible manner.*

*The contribution that the mining industry is making towards development is at times vehemently challenged. It is certainly true that the way in which the sector dominates certain national economies can sometimes hinder the development of other activities. It can also weaken State budgets if tax regimes are politically manipulated or simply bypassed through unethical practices. From this perspective, mining does not have the same developmental impact as that of the petroleum industry. The issue must be taken into account and addressed with support from the international community. This is especially true when considering that mineral exploitation has at times negatively impacted governance, and even worse, fuelled conflict through misallocation of fiscal revenues.*

*Despite this, the mining sector is, and will continue to be, important for Africa. The exploitation of mineral reserves is the number one source of revenues for countries such as Mali and Ghana. In many other countries (Botswana being one of the most notable success stories) millions of people depend on the mining industry for their livelihood. From the perspective of a Development Finance Institution like Proparco, the question is not whether the mining industry will develop, rather how it can develop in a way which will ensure equitable distribution of wealth and contribute to poverty reduction.*

*A lot has already been written about the impact of mining on development. This issue of* Private Sector and Development *is hoping to make another small contribution towards better understanding of the issues. Collective efforts such as this one can provide an impetus for change and help shape industry decisions going forward.*
*I would like to thank all of the authors for sharing their experience and knowledge of the sector, and helping to clarify the means by which mining can make a positive impact on development in Africa.* ●

THE MINING SECTOR, AN OPPORTUNITY FOR GROWTH IN AFRICA?

The «Growth Industries and Infrastructure» Unit reports to the Global Public Goods Department at the French Ministry of Foreign and European Affairs. It participates in the definition and implementation of France's cooperation policy for the development of mineral producing countries.

# How can Africa's mineral resources help promote sustainable development?

*Since 2003, demand for mineral resources has been bolstered by growth in emerging countries. In Africa, which enjoys an enormous – but little known – mining potential, it opens a «window of opportunity» that can make its growth sustainable. To achieve this, the exploitation of its mineral resources must comply with the principles of good political, social, economic and environmental governance and the involvement of the international community and donors remains essential for this.*

**By Louis Maréchal,** ***French Ministry of Foreign and European Affairs***

**Louis Maréchal**
French Ministry of Foreign and European Affairs

Louis Maréchal has been working at the French Ministry of Foreign and European Affairs' General Department for Globalization since 2010, where he is in charge of implementing France's cooperation strategy in the field of the development policies of mineral resource producing countries. He graduated in international relations and holds a specialized Master's in the defense industry. He began his career as a consultant with the consulting firm Indicta.

In 2008, the global production of mineral resources stood at USD 463 billion - up 100% on 2005 (Figure 1). The recent financial and economic crisis has only caused a slight slowdown in this trend. Indeed, the Raw Materials Group[1] (RMG) estimates the total value of global production in 2010 at roughly USD 430 billion - this is a new record, and yet it does not include the spectacular rise in mining raw material prices. For example, on 12 November 2010, the prices of tin (USD 27,500 a ton), copper (USD 8,966 a ton) and aluminum (USD 2,500 a ton) reached or exceeded the levels of the end of the summer of 2008 (AWPress, 2010).

The sharp rise in demand for mineral raw materials since the early 21st century can be mainly put down to growth and urbanization in emerging countries - particularly in China, which has become a key player in the global mining market. The country is the world's largest importer of nickel, copper, aluminum, lead, tin, etc. It is also the undisputed leader in the production of 26 mineral substances (Bateman Beijing Axis, 2010; Bureau de Recherche Géologique et Minière – BRGM, 2010).

With prices once again on the rise, global investments for exploration have started to pick up again in 2010 after a sharp fall in 2008-2009 and are back to the record level reached in 2005, USD 8 billion (Figure 2). Major corporates' exploration budgets are now on a par with levels posted prior to the crisis. China also wants to invest USD 4.2 billion in exploration by 2015 in order to reduce its dependence on imports (Reuters, 2010).

## Mining potential under-exploited

Given that the mining sector has extremely favorable development prospects, Africa enjoys a particularly interesting "window of opportunity". It holds 30% of global reserves of raw mineral materials and is already a major producer of a large number of resources. For example, in 2005, Africa produced 77% of platinum, 56% of cobalt, 46% of diamonds and 21% of gold (Performance Consulting, 2007).

Mining activities are mainly conducted by Western companies – with the notable exception of South African companies –, with private or public capital. Since 2002, and more significantly since 2005, companies from emerging countries have become serious competitors for access to African resources.[2] In addition to the major players, a whole host of small independent operators – registered and listed in Australia, Canada or the United Kingdom – are scaling up their exploration campaigns.

And yet in 2009, Africa only accounted for 15% of exploration budgets (excluding uranium) for non-ferrous metals. This share is slightly higher than Australia (13%) and lower than Canada (16%) – Metals Economic Group – MEG, 2010.[3] Collier and Venables (2008) highlight the fact that the average wealth of Africa's mineral resources per km² of land is roughly USD 25,000, against USD 125,000 for developed countries where mineral resources have been exploited for much longer. It is consequently highly likely that the value of Africa's mineral resources is underestimated.

This relative lack of investment can partly be explained by geopolitical tensions, infrastructure deficits, and competition from other continents (particularly Latin America). However, companies have been prompted to scale up their ...

[1] *Since 1990, Raw Materials Group – which provides consulting services to governments, mining industry equipment manufacturers and service companies – has managed the most complete database in the sector.*

[2] *On this subject, see David Humphreys' paper in this issue of* Private Sector and Development.

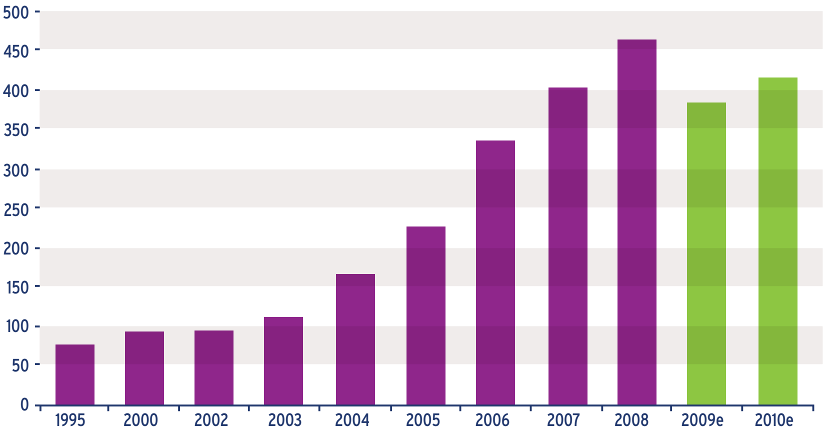
[3] *However, exploration budgets for iron ore exploration have increased enormously in Africa in recent months, particularly in West Africa (Guinea, Sierra Leone, Liberia) and Central Africa (Cameroon, Gabon).*

# How can Africa's mineral resources help promote sustainable development?

**By Louis Maréchal,** *French Ministry of Foreign and European Affairs*

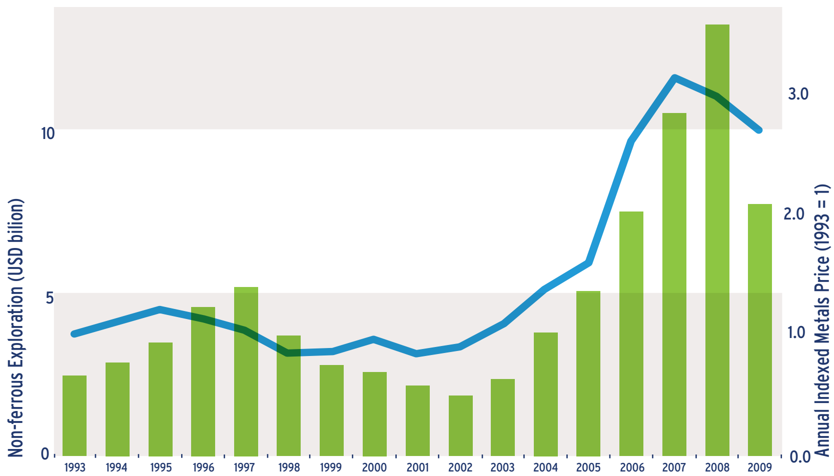
... investments in Africa as a result of the continuous rise in prices and the need to identify new resources in order to meet demand. Despite this, Africa struggles to fully benefit from its mineral resources. Africa's mineral industry continues to be dominated by the extraction and export of raw ore. Although raw materials exports generate high levels of income, they only account for a small proportion of what finished or semi-finished product exports could represent (United Nations Conference on Trade and Development - UNCTAD, 2007). One of the main challenges facing Africa is to develop an industry to process mining raw materials in sustainable economic conditions.

**Figure 1: Global production value of metals, diamonds and uranium (in billions of dollars)**




*Amounts for 2009 and 2010 are based on estimates.*
*Source: RMG, 2010*

**Figure 2: Evolution of global exploration expenditure (non-ferrous metals*)**




**Non-ferrous metals include all metals (aluminum, copper, zinc, nickel, lead, tin, chrome, etc.), except for pure or low-alloy iron.*
*Source: MEG, 2010*

Meeting this challenge requires taking into account the importance of the mining craft industry in Africa – a reality that many are unaware of. According to the French Ministry of Foreign and European Affairs (2008), there are five to six million Africans involved in the extraction of building materials, precious stones, diamonds, base metals and gold. On a global scale, it is estimated that the mining craft industry concerned 15 million people in 2005 (BRGM, 2005). This activity directly contributes to local economies, yet it is badly organized and causes negative impacts (contraband, insecurity, health and environmental risks). It is essential for it to be integrated into the formal economy.

## Avenues for developing Africa's mining sector

The sustainable economic, social and environmental development of Africa's mining sector mainly hinges on the implementation of good governance practices at the national, regional or international level. Moreover, infrastructure must be developed and both investments and local capacities must be increased.

One of the priorities must be to define a balanced legislative and fiscal framework that can both receive mining investments and preserve the interests of governments and local industries. The way revenues are managed – a sensitive issue that is a matter of national sovereignty – must comply with good governance practices. Finally, a policy for a global development plan must be defined and applied. It must integrate the mining sector and serve the industrialization and economic diversification of producing countries. It is essential to combat the illegal exploitation of resources in order to put an end to the financing of local conflicts and civil wars; in addition to the aspect which strictly concerns security, transparency must be strengthened in industrial supply chains that are dependent on resources produced in conflict regions – in the manner put forward by the Kimberley process.[4]

Infrastructure construction (particularly in the transport and power sectors) constitutes another challenge for growth in the industry in Africa. Many mining basins suffer from being isolated. This often puts investors off, as they do not necessarily have sufficient financial resources to single-handedly finance infrastructure construction, when this need does not compromise the very profitability of the project. This is exactly the case, for example, of the Tambao manganese fields ...

[4] *The Kimberley process – a well-designed process for natural resources certification – was originally initiated to fight against the illegal trade of raw diamonds which financed civil wars in Central and Western Africa.*

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... in Burkina Faso. The strengthening of Africa's infrastructure network – one of the objectives of the G20 – must make a significant improvement to the attractiveness of Africa's mining sector and more widely serve the expansion of other economic sectors that are also shackled by deficiencies in transport networks and power distribution grids.

Moreover, it is essential for African States to develop and take on board a geological and economic understanding of their mining potential. This requires greater investment in inventories of their mineral resources and the creation of entities to promote countries' mining potential. This would correct the strong asymmetry of information and capacities, which often penalizes producing governments during negotiations with international investors.

Finally, it is essential for administrations to be sound and have sufficient human resources to ensure that sustainable development strategies for Africa's mining sector are successful. One of the major stumbling blocks to growth in African economies in general, and the mining sector in particular, is the absence or lack of experienced executives in administrations.

## Growing international involvement

The report of the "World Summit on Sustainable Development", organized in Johannesburg in 2002 by the United Nations (UN), in the presence of around a hundred Heads of State and some 40,000 delegates, addresses the mining sector in paragraph 46. This is – at the very least – a sign of international awareness of the fact that this industry can, in certain conditions, constitute a real engine of growth for producing countries (UN, 2002).

In 2008, the French authorities, having observed the turmoil in Africa's mining sector, defined a cooperation strategy that aimed to optimize the contribution made by Africa's mineral resources to the sustainable development of the continent. This strategy is based on improving the management of the information required to develop mineral assets, and improving attractiveness, governance and transparency in the sector. It also aims to support the transition from a rent economy to an economy of shared growth. For example, France very recently accepted to convert Malawi's sovereign debt (EUR 9 million) into a development project aiming to map the country's mineral resources and develop entities to provide training and promote the sector.

The European Commission (EC), for its part, established a "Raw Materials Initiative" in November 2008. Although the main objective is to secure supplies for European industries, the Initiative also comprises a sizeable "development" component supported by the European Union and the African Union, which will lead to specific projects starting in 2011 (EC, 2008).

Other international programs to promote good governance in the mining sector have been implemented since 2002. The Extractive Industries Transparency Initiative, which gathers governments, private companies and civil society on a voluntary basis, seeks to promote a better governance of revenues from natural resource exploitation in producing countries. Moreover, since 2009, the World Bank and African Development Bank have been offering technical and legal assistance to producing countries that do not have the capacity to equitably negotiate prospecting and production contracts.

The challenges and obstacles may be huge – for example, there is a lack of reliable data on the scale of the economic impact of the sector –, but the expected continuation of the mining super-cycle,[5] in addition to the growing involvement of governments and international institutions, can lead one to believe that in the coming years Africa's mining sector could play an increasing role in the economic development of the continent.

It does, however, remain necessary to scale up regional cooperation. For example, mining products exported by landlocked countries require regional infrastructure. In addition, the emergence of regional economic spaces requires implementing common external tariffs, fiscal convergence, the free circulation of goods, capital and persons, as well as common standards that benefit both mining industries and other sectors of activity. Moreover, the cross-border trade of high-value products from the informal (or even criminal) sector requires close cooperation among control services. Finally, the lack of training capacities for all the required skills could be bridged thanks to regional academic cooperation at the different levels of specialization. ●

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[5] *A super-cycle is an extended period of rises in real prices for raw materials on the back of the urbanization and industrialization of a major economy.*

The African Lion investment fund invests in mining companies that exploit fields or work on exploration campaigns in Africa. USD 70 million have been invested since 1999, thanks to its «AFL» and «AFL2» funds, while its USD 79.2 million «AFL3» fund is right in the middle of its investment phase.

# Investment in junior companies: laying the foundations for economic development in Africa

*Investing in junior mining sector players is much more than a simple opportunity: it can catalyze growth in Africa. New fields can, for example, be exploited thanks to junior players; despite fluctuations on the raw materials market, they are skilled at raising venture capital. African Lion has, moreover, adopted an original and demanding approach to the investments it makes in these players, which promotes sustainable development in the sector.*

**By Mike Brook,** ***Chairman of African Lion Funds, Executive Director of Lion Manager Pty Ltd***

**Mike Brook**
African Lion

Mike Brook graduated in 1981 with a BSc in Mining Geology from the University of Wales. He joined MIM Holdings Ltd in 1983 as a mine geologist and progressed to chief geologist. In 1993, he joined stockbroker J. B. Were & Son, where he specialised in junior companies, gold, base metals, and mineral sands research. He joined the African Lion team in 2001 as manager of African funds, and in August 2004, he became an executive director of Lion Manager (Pty) Ltd.

Junior miners provide a high risk/high reward opportunity in the early-stage exploration and development niche. Larger mining companies, while still active in this sector, tend to have an acquisitive strategy and a low appetite for early-stage exploration risk. The majors look to the juniors to provide a pipeline of projects.

Motivated by these exit possibilities and therefore the investment opportunities provided by junior companies, African Lion (AFL) has been actively investing in the mining sector in Africa. It has developed an investment approach based on knowledge of the sector and a focus on investing in the early stages of the cycle – where valuations are more compelling – and exiting towards the top of the project cycle. In addition to the opportunities they offer investors, junior resource companies can provide a catalyst for growth in Africa. With a footprint across the continent, they are often at the vanguard of development initiatives.

Companies from emerging economies are a growing feature of the African mining industry. While this increases competition for Western companies active in the sector, the arrival of emergent investors will revitalize the sector. This could benefit private investors, such as AFL, and contribute to the economic growth of African countries.

## Positioning of the junior resource companies in Africa

Junior resource companies play a vital role in unlocking value in high-risk exploration and mining projects in Africa. By investing in exploration, they support the opening of mines that feed the pipeline of projects contributing to developing the sector. Without this, the number of projects would be limited. Junior companies are frequently managed by technically highly qualified geological personnel schooled in larger mining companies from many countries.

Junior companies raise risk equity funding largely from the mining-focussed North American, European and Australian equity markets. Here and elsewhere, they can also access pools of private capital. Funding for juniors is generally both cyclical and commodity-focussed, with frequent dips in exploration (and therefore on-the-ground activities) related to broader market conditions. It is easier for resource companies (and particularly juniors) to access risk capital at the peak of the mining cycle. This is particularly the case for 'hot' commodities, where market demand for new opportunities is high. Recent examples include the uranium boom from 2003 to 2007. Currently, there is a strong appetite for gold-mining companies, and African-focussed explorers and developers are benefitting from this.

The strategy of junior companies generally follows alternate paths: evolving from explorer to developer to producer, or taking a project to a stage where it (or the company) can be sold to a project developer. Junior companies are capable of being opportunistic in advancing early-stage projects, while larger companies tend to be impeded by high establishment costs and a need to set up technical and administrative networks. Consequently, they might instead seek to selectively back junior companies with equity financing or specific project-level investment. However, where project scale has been demonstrated (or specific synergies identified), a full takeover might also be considered.

The major companies frequently make strategic decisions to focus on specific commodities, ...

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... countries or even continents, often avoiding the less 'fashionable' frontier or problem countries (*e.g.* Zimbabwe, Sudan, Eritrea), where they are usually not prepared to commit. This has led them in some instances to abandon exploration programs, sometimes resulting in the removal of exploration teams from projects with good exploration results or potential. Such projects could be acquired or possibly picked up by juniors at no cost. Notwithstanding this, in terms of global exploration spend, Africa has continued to attract approximately 15% of world exploration spend from 2005 to 2009 (Metals Economics Group – MEG, 2009).[1]

The lower profile of junior companies often curbs unrealistic expectations in structuring project deals, as tends to occur with larger mining companies. This can result in shorter deal conclusion times. Junior companies are also able to offset risk by carefully selecting local partners and providing them with appropriate incentives.

## The AFL approach to investment

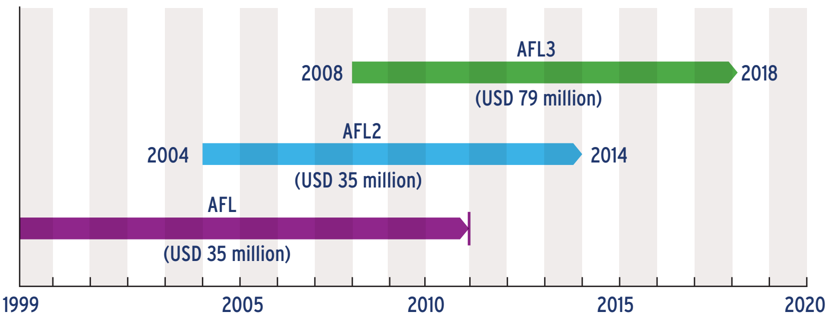
AFL has been a private equity investor in Africa since 1999, when the first fund was established. Figure 1 shows the timeline for all three AFL funds. The most recent AFL3 was established in 2008 with a committed capital of USD 79 million. The funds have a 5-10 year investment horizon backed by a support group of shareholders comprising Australian listed investment company Lion Selection; Commonwealth Development Corporation; European Investment Bank; Proparco; a specialist fund Botswana Insurance Fund Management; and commercial banks Rand Merchant Bank and Investec (both from South Africa) complete the shareholder mix. This group of investors has remained largely unchanged since 1999, supporting the creation of the three funds. The currently active fund, AFL3, has invested in Morocco, Democratic Republic of Congo (DRC), Uganda, Tanzania, Liberia, Ivory Coast, Ghana and Tunisia.

Complementing the manager's experience, the fund shareholder base has a very strong African focus and enormous experience across the continent. AFL's management team understands the need to benefit maximally from these relationships in order to review and assess investments and to add specific-country knowledge when appropriate. Shareholders have also taken the opportunity to co-invest *via* debt and equity in selected fund investments. All founding shareholders have the opportunity, and are encouraged by the manager to be represented on the fund investment committee, thereby adding value to the investment process. This 'value add' comes from a broad range of country-specific, technical and commercial experience across a range of commodities and countries. Shareholders also refer opportunities to the manager.

AFL has successfully invested in early-stage companies (grassroots exploration); however, given the paucity of technical information at this stage, very few are investment grade. A practical consideration is the number of companies that can actively be managed. As early stage investments are generally smaller, the challenge is to find a balance between small and large investments while maintaining a portfolio of 10-12 companies. Many of the investments made by the AFL funds have thus been at an advanced exploration stage or at an early stage of project advancement (Figure 2). At this stage, exploration has already defined a potential project. Through incremental investment and the introduction of appropriate board and/or management skills, the manager aims to add value and help the company progress to ...

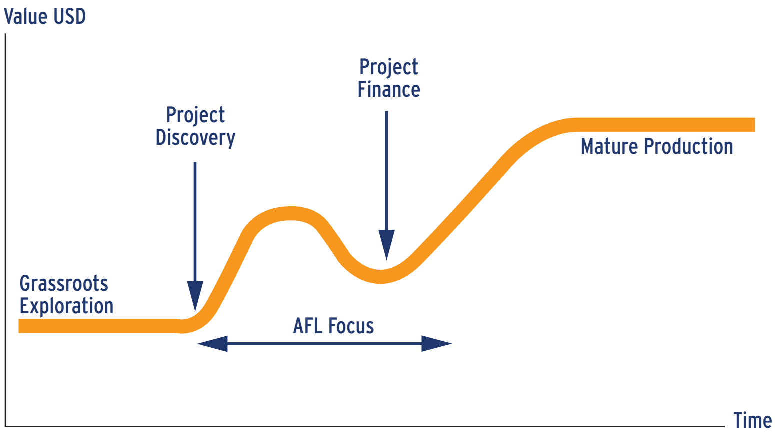
[1] *Only one African country, South Africa (3%), appears in the top 10 destinations for exploration.*

### Figure 1: AFL funds




*Source: Author*

### Figure 2: Project cycle




*Source: Author*

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... the next level. This next level might be project development, partnering or sale.

AFL can invest in listed or private companies. In most cases of private company investment, the manager has supported an initial public offering strategy and helped to introduce banking and broking relationships in the various listing jurisdictions. With some exceptions, the fund will look to realise its investments close to, or at commercial mine production, with a target of 5-10 times return on the initial investment.

The AFL team has both technical (geological and mining engineering) and corporate (banking and broking) skill and experience. The team has evolved an investment process that requires a high level of people, technical and valuation due diligence, combined with a comprehensive risk analysis. Of these, the key element is the quality of the teams being backed, with the objective of minimising reputational risk to fund shareholders and the manager. The manager also assesses economic, geological, operating and market risk. As part of the country review, the manager generally visits the project and meetings are held with key stakeholders. A country due diligence is run in parallel with the company review, to understand the regulatory environment, security, political and event risks, and to meet with government and other key groups (*e.g.* accountants, lawyers, the stock exchange). This is particularly important at a time of increasing pressure for legislative changes in the mining industry globally.

The manager and all shareholders in the AFL fund are committed to ensuring best practices by investee companies in the areas of health, safety, environment and social development. These all warrant that they will comply with AFL's Environmental and Social Management System (ESMS), incorporating World Bank/IFC performance standards. The manager aims to move companies beyond compliance towards best practice in all areas of social and environmental management, and where appropriate, introduces skills and relationships to help companies grow. Investee companies must comply with all the laws and regulations of their country of residence and any country where they operate. They must also provide annual reports to the fund on these issues. The fund has a nominated ESMS office that ensures adherence to fund policy. Additionally, investee companies provide information on significant shareholders as part of their anti-money-laundering diligence.

The AFL investment model also strongly encourages companies to identify good quality local partners at the earliest possible stage. Empowerment of local partners is aimed at providing long-term development support and aligning the interests of all parties involved in project development. One example of employment benefits is Gallery Gold Ltd[2] in Botswana, a USD 5.6 million equity investment (corresponding to 45% of shares) by the first two funds in 2000. At the time of the AFL initial investment, there were 10 employees, and at exit in 2007, approximately 350 workers were employed during the early production stage of the gold mine. The company built roads, school and hospital infrastructure, and continues to operate in 2010.

## Emerging players and the way forward in mining

The junior mining sector in Africa provides an enormous investment opportunity for private investors and can provide co-investment opportunities for fund shareholders. Chinese groups with national/provincial government backing have been increasingly active in the sector.[3] While they initially focussed on larger companies, projects and offtake agreements, they are increasingly investing in smaller resource companies and projects. Investment in countries such as Zimbabwe, where many Western mining companies are unable or reluctant to invest, has proved fertile ground for these groups. Additionally, South American and Indian companies are spreading their reach into the African continent. This is beginning to change junior company dynamics and represents a competitive threat to Western-based juniors across Africa.

AFL anticipates that there will be a significant flow of funds into exploration from China, India and South America, with increased risk appetite. The next generation of junior explorers may very well be Chinese and Indian vehicles, funded by institutional and venture capital from within these countries. ●

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[2] *Gallery Gold Ltd was an Australian junior that is entirely focussed on gold exploration in Botswana.*

[3] *On this subject, see David Humphreys' paper in this issue of* Private Sector and Development.

THE MINING SECTOR, AN OPPORTUNITY FOR GROWTH IN AFRICA?

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# The rise of emerging players in global mining: drivers and future challenges

*Mining companies in emerging countries benefited from market liberalization and the surge in raw materials prices between 2003 and 2008. This allowed them to strengthen their balance sheets, invest in exploration and exploitation, secure their supply chains and go international. The recent slump in prices highlights the challenges they must face: ensure they have access to financing, expertise and techniques, strike the right balance between their shareholders' different expectations and pursue their international development strategies.*

**By David Humphreys, *Centre for Energy, Petroleum and Mineral Law and Policy, University of Dundee (Scotland)***

**David Humphreys**
University of Dundee

David Humphreys is a London-based independent consultant. He was chief economist of Russian mining company Norilsk Nickel between 2004 and 2008. Prior to this, he was with Rio Tinto for 18 years. Before this, he worked for the UK government for nine years, as an advisor on minerals policy. He has a bachelor's degree and a PhD from the University of Wales. David Humphreys is an honorary lecturer at the Centre for Energy, Petroleum and Mineral Law and Policy of the University of Dundee, Scotland.

The role of emerging market and developing-country economies (henceforth emerging economies) in the global demand for minerals grew significantly during the 2003-2008 mineral price boom. Similarly, their contribution to the global supply of minerals since 2000 is striking. They have accounted for most of the growth in global production of iron ore and nickel and all of the growth in global production of aluminum, copper, and steel (Figure 1).

Among these are the world's largest producers of the following: iron ore (Brazil), aluminum (China), copper (Chile), silver (Peru), gold (China), platinum (South Africa), and diamonds (Botswana).

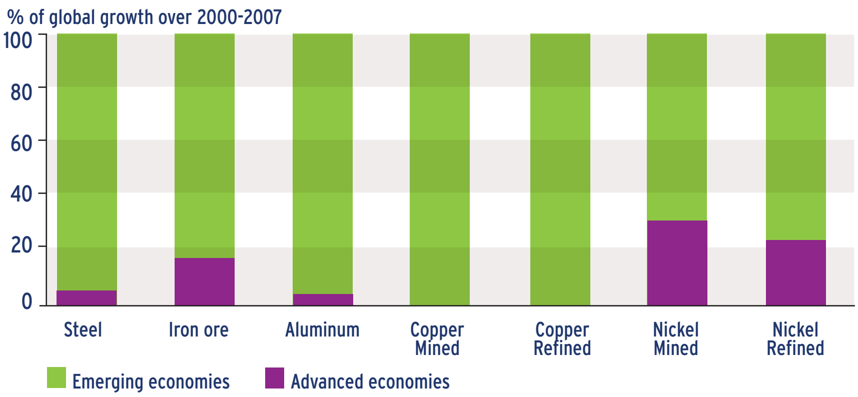
A similar tendency is evident in global exploration spending, arguably a pointer to future production trends (Figure 2). According to Metals Economics Group (MEG, 2010), at the beginning of the last decade emerging economies accounted for approximately 40% of global exploration spending. By the middle of this decade, that proportion had risen to 60%. This concentration of growth in production and exploration should not come as too much of a surprise. After all, these economies account for approximately three-quarters of the world's land surface and, according to United States Geological Survey (USGS, 2010), a similar proportion of global mineral resources (Figure 3). Nevertheless, for much of history, the development of the resources of these economies has been hampered by inadequate geological knowledge, poor infrastructure, inconsistent and ineffective government policies, and a lack of capital.[1]

More recently, the situation began to change. Liberal reforms in the 1980s and 1990s opened up large tracts of land in mineral-rich parts of the world to foreign investors, while the liberalisation of capital markets increased access for all investors to risk capital.[2] Equally important, many companies ...

[1] *On this subject, see Louis Maréchal's paper in this issue of* Private Sector and Development.

[2] *On this subject, see Gary McMahon's paper in this issue of* Private Sector and Development.

**Figure 1: Global growth of mine and metal production by economy type between 2000 and 2007**

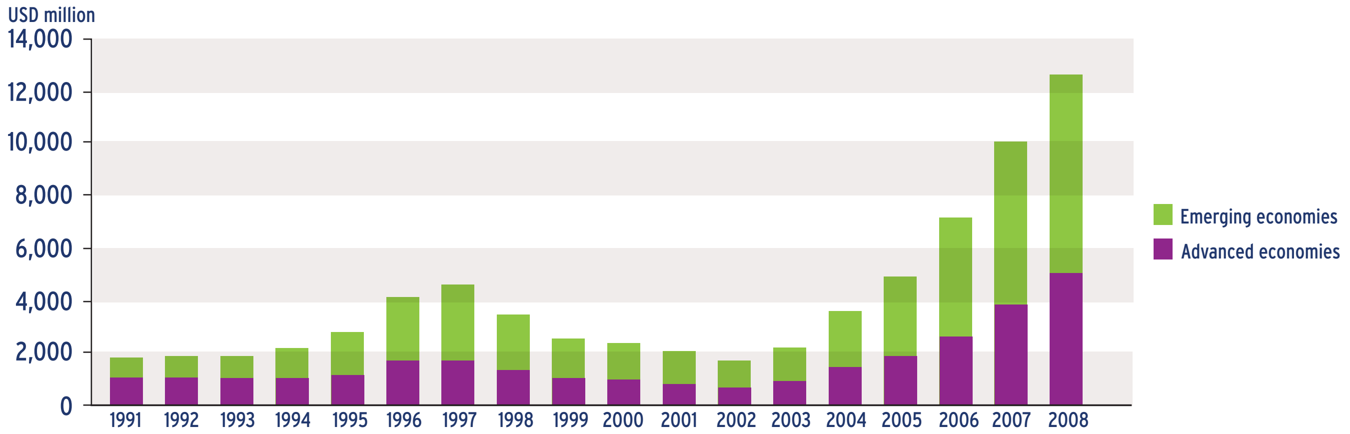



*Sources: UNCTAD, 2000-2007; World Bureau of Metal Statistics, 2000-2007; World Steel Association, 2000-2007*

# The rise of emerging players in global mining: drivers and future challenges

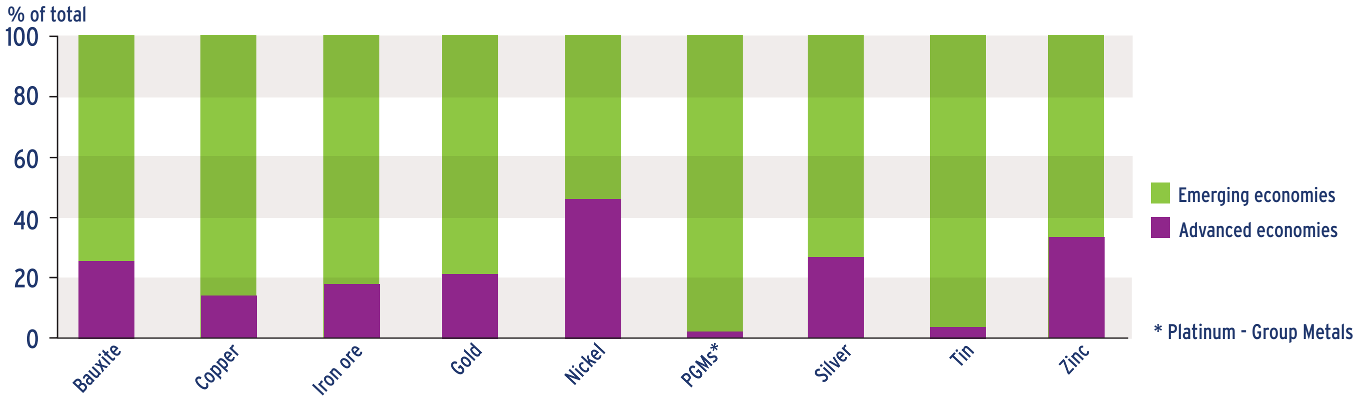
**By David Humphreys, *Centre for Energy, Petroleum and Mineral Law and Policy, University of Dundee (Scotland)***

**Figure 2: Industry exploration expenditure by region between 1991 and 2008**




*Source: MEG, 2010*

**Figure 3: Global distribution of mineral reserves in 2007**




*Source: USGS, 2007*

... based in emerging economies started transforming themselves from bureaucratic and conservative national institutions into modern profit-driven corporations with expansionary ambitions, not just within their home territories but also on the wider world stage. Some of these looked to Africa, with its substantial natural resources, as a likely destination for their investment.

## Drivers for the rise of emerging players

According to Raw Materials Group (RMG, 2009), four companies based in emerging economies are among the world's top 10 mining companies, and 11 are among the top 30, with three of them being south African (Anglogold Ashanti, Impala Platinum and Gold Fields). Several factors have combined to provide a boost to the role and fortune of these companies in mining over recent years.

Firstly, the widespread disengagement of the state from the mining industry was the key to this growth. While under state control, many mining companies in emerging economies were effectively restricted to slow, incremental, and local growth by their lack of access to capital and skills and their lack of knowledge and experience of the industry beyond their borders. The disbanding of state controls opened the door to an inflow of entrepreneurial talent and a more commercial and expansive set of objectives.

Secondly, these companies often had privileged access to local resources. Management were generally politically well connected in their home countries, understood regulations and how to operate within these, and were aware of local resource development opportunities. As the industry began to grow, they had a powerful competitive advantage over newcomers, as well as a powerful lever in negotiations where they needed to involve foreign investors with the technologies and managerial skills they lacked. ...

# The rise of emerging players in global mining: drivers and future challenges

**By David Humphreys,** ***Centre for Energy, Petroleum and Mineral Law and Policy, University of Dundee (Scotland)***

... Thirdly, the commodity boom of 2003-2008 gave companies in the sector strong cash flows and healthy balance sheets. Coupled with improvements in corporate governance and financial reporting, this increased their access to international capital markets.[3] The maturing of banking systems and stock markets in many emerging economies, combined in some cases with high levels of domestic savings and low borrowing costs, also increased funding for resource projects, most notably for smaller and mid-cap companies.

Fourthly, many of the larger mining and metals companies in emerging economies have been on a fast-track mission to globalise, to improve their risk profiles through geographic and commodity diversification, and to acquire skills and technology. Sometimes, they have had the tacit support of their governments, to whom hosting a global champion often appeals. In acquiring assets in lower-risk countries, or those of commodity companies that promise to give greater stability to their earnings, management may feel justified in paying a premium if they believe that the benefits of the resulting improvement in risk profile will be reflected in a higher valuation for the business.

Finally, these companies seek to secure raw materials for their metallurgical operations. This flows from the growth of emerging economies as mineral consumers, and associated concerns over the security of supply of raw materials needed to support their industrialisation and the growth of their metal-processing and manufacturing sectors. Chinese and Indian companies have been actively seeking resource development opportunities overseas, with a view to feeding their domestic smelters and refineries. The mercantilist thinking behind this sort of strategic investment often results in buyers valuing a mineral asset more highly than they would using a strict commercial evaluation.

## Challenges for the emerging players

While the boom of 2003-2008 saw the growth of emerging mining companies, the current market environment is presenting new issues. Falling commodity prices have put pressure on all producers, and risk aversion has afflicted financial markets, impacting particularly heavily on emerging economies, and resulting in the stocks of many companies from these regions being hard hit. Even the most profitable of these companies do not have long track records to point to when asking for understanding and support from banks and investors. For smaller companies, particularly those not yet in production, the sources of funding have almost dried up. The credit crunch has left many banks wholly disinterested in the sector.

Unlike global mining companies, which tend to have diversified shareholdings, the stock of many emerging market companies is concentrated in a few hands, with the minority distributed among a greater number of investors. While the market was strong, reconciling the interests of both sets of shareholders was not difficult. However, with cash flows diminishing and pressure on personal finances, the temptation may arise for larger shareholders to pressure management to prioritise short-term cash generation at the expense of longer-term development interests, an objective that might be preferred by minority institutional investors.

A third challenge faced by emerging market companies is maintaining momentum on globalisation. Many of these companies were established as national companies exploiting domestic resources, which did not equip them well for the global stage. Many retain a strong national focus in their business and cultural perspectives. The current slowdown in commodity markets will likely aggravate these problems, since downturns force a review of priorities. Protectionist political pressure to invest at home, providing domestic employment, will be intensified, especially where companies have become dependent on state financing. The creation of national champions may accentuate this tendency: while they provide for commodity diversification, they do little or nothing for geographic diversification. In fact, they increase investors' exposure to one country and to one currency.

Finally, for emerging economy companies growing off a strong domestic base, the skills and knowledge of their management are confined largely to these markets. This applies to both business skills and technical skills. Due to a lack of international experience, they may lack the required communication skills and sensitivities to other countries' business and cultural practices. This will inhibit their performance overseas and create challenges for foreigners brought in to assist with the globalisation process, restricting their participation in industry and governmental bodies addressing global industry issues and working to develop global industry standards. ...

[3] *The majority of this fundraising was in the form of bank borrowing and bond issues. Some companies, however, also tapped equity markets. Mwana Africa, in 2005, became the first African-owned, African-managed mining company to be listed on the London Stock Exchange's Alternative Investment Market. See CEO of Mwana Africa Kalaa Mpinga's paper in this issue of* Private Sector and Development.

# The rise of emerging players in global mining: drivers and future challenges

**By David Humphreys, *Centre for Energy, Petroleum and Mineral Law and Policy, University of Dundee (Scotland)***

... The economic slowdown could compound these issues, and there is likely to be greater resistance to bringing in highly paid foreigners in a tougher cash environment.

## Commercial prospects and development expectations

Much of the literature (for example, United Nations Conference on Trade and Development– UNCTAD, 2007) is focused on the development impacts of 'north-south' foreign direct investment (FDI). Less attention has been devoted to the development implications of FDI in mining originating from emerging economy countries, commonly referred to as 'south-south' FDI. In principle, companies from emerging economies face the same challenges as those based in developed economies. Yet they sometimes bring a different perspective, emphasising both secure raw material supply considerations and commercial prospects, along with such investments taking place within the context of a broader government-to-government financial and cooperation agreement. This approach to investment is supported by some resource-rich countries, and may in time deliver the benefits it promises, but the political nature of these arrangements will require careful management. Note that not all Chinese investment in mining is large-scale and government-backed. A great deal of Chinese investment going into Africa's cobalt operations has been from small private enterprises, many of them employing Chinese workers.

Although less well documented, emerging economy mining companies often have substantial experience in grappling with development issues at home. Many have grown up with a wide range of social responsibilities and face high expectations in the communities where they operate, about what these responsibilities should be. Social responsibility forms an integral part of these companies' corporate history and character. While transforming themselves into competitive commercial enterprises, they have often had to disengage themselves gradually from a range of activities more appropriately carried out by elected, tax-funded authorities. Nevertheless, they continue to play an important role in economic development where they operate, and will doubtless face a tough challenge over the next year or two in balancing the demands of their businesses with the demands of political processes. •

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THE MINING SECTOR, AN OPPORTUNITY FOR GROWTH IN AFRICA?

The World Bank Department in charge of energy and mining projects operates in 70 countries, mainly in Sub-Saharan Africa. In order to boost the contribution extractive industries make to economic growth and poverty reduction, it supports government efforts *via* loans or technical assistance.

# What are the impacts of the African mining sector liberalization?

*Mineral sector reform has brought mining back to Africa – aided by price rises in the early 2000s – impacting on investment, growth and poverty reduction. And there are no indications that price trends will decline to previous levels. For the sector to have a sustainable impact on poverty in Africa, governments must convert non-renewable capital into skills, infrastructure and business development. The success of this will be underpinned by improvements in governance.*

**By Gary McMahon,** ***World Bank***[1]

**Gary McMahon**
World Bank

Gary McMahon has worked for the World Bank since 1996, primarily on social and environmental sustainability in the mining sector and research capacity building in developing countries. From 1989 to 1996, he worked in the Economics Program of Canada's International Development Research Centre. Before that, he was professor at Laurentian University, Canada.

At the macro level, the mining sector has never played as important a role across Africa as it does now. This is due partially to the rise in mineral prices since the early 2000s but more to the success of many mining sector reforms in the late 1980s and 1990s. Many African countries view this sector as a possible engine of sustainable development. They want mining developments, rather than taking place in an enclave fashion, to increase linkages to other economic opportunities, directly or through better integration of associated infrastructure. They also want a larger share of the sector's rents, particularly when mineral prices are high.

Most African countries nationalized their mining sectors in the 1960s or 1970s. However, by the end of the 1980s the trend had reversed, partially due to market liberalization but also due to the weak performance of state-owned mining enterprises. Further, to attract additional Foreign Direct Investment (FDI) into their mining sectors, African countries often called upon the World Bank - which, with the IMF, was often involved in structural adjustment programs that began in the 1980s - to support the design of mining policies and laws that would make countries attractive destinations for FDI. This all occurred at a time when mineral prices had been very low for nearly 20 years (and would remain so for another 15 years).

The focus of mining sector reform in the 1990s was revitalization, as state control of the sector had scared away both new developments and exploration. State-owned companies typically suffered from underinvestment, as profits were mostly brought into the countries' general fiscal revenues. ...

## Table 1: Mining sector reform and investment in Africa

| Country | Year Reform Completed | Amount of Mining Investment | Comments |
|---|---|---|---|
| Tanzania | 2000 | 2001-2008: averaged over USD 250 million per year | From 1990-1999, investment less than USD 10 million per year |
| Liberia | Ongoing; began in 2006 | USD 7 billion of investment agreements signed between 2006 and 2010 | Could be USD 10 billion of total investment by 2015 |
| Madagascar | 2005 | USD 5.5 billion of investment agreements signed for 2 projects in 2005 and 2006 | QIT Madagascar Minerals* (USD 1 billion); also benefited from a World Bank loan guarantee to renew the port it will use for export purposes |
| Mozambique | 2006 | 2008: USD 804 million | USD 24 million in 2002; USD 2 billion-USD 3 billion investment in coal expected in next 3-4 years |
| Mauritania | 2003 (approximately) | 2003-2008: USD 500 million in total | Investment was USD 13.5 million in 2001; USD 11 million in 2002 |

** QIT Madagascar Minerals, a partnership between the government of Madagascar and Rio Tinto, developed an ilmenite mine near Fort-Dauphin at the south-eastern tip of Madagascar.*
*Sources: Mining Journal (2009), Pelon (2010), Roe and Essex (2009), World Bank (2003, 2009, 2010a, 2010b)*

[1] *The opinions expressed are those of the author and not necessarily those of the World Bank Group.*

# What are the impacts of the African mining sector liberalization?

**By Gary McMahon,** ***World Bank***

... Hallmarks of these reforms were revisions to mining laws and regulations. These included transparent and non-discretionary procedures in allocating exploration and production rights; exploration rights allocated on a first-come, first-serve basis and subject to minimum work conditions; according finders the automatic right to exploit a deposit, subject to certain conditions, or to sell the right; stable fiscal terms - although not necessarily fixed as discussed later - throughout the lifetime of the operation (or for a well-defined period); well-defined property rights and, subject to commitments being made, no expropriation.

## Mining reform, investment, and growth

Table 1 illustrates the impact on private mining investment in several African countries that undertook mining sector reform with World Bank support. These rather spectacular results were similar in other countries around the world (*e.g.* Argentina, Mongolia, Papua New Guinea).

This investment contributed to large increases in GDP growth in many African countries, as shown in Table 2. Average growth rates for 12 mineral-dependent countries in Africa rose from 0.3% in the 1990s to 5.7% in the 2000s. Mining sector reform was just one of several major reforms undertaken in these countries, and they benefited from high average prices. Nevertheless, the mining sector led the growth spurt in all of them.

**Table 2: Mining reform countries: growth rates and Human Development Index (HDI) – 1990s *versus* 2000s**

| Country | Mineral export revenues (% of total exports of goods, 2000-2007) | GDP Annual Growth Rate, 1989-1998 | GDP Annual Growth Rate, 1999-2008 | Human Development Index (HDI), 1995 (or 2000) | HDI, 2008 |
|---|---|---|---|---|---|
| Burkina Faso* | - | 4.4 | 5.4 | 0.297 | 0.389 |
| Democratic Republic of Congo | 54.0 | -5.9 | 3.2 | 0.353 (2000) | 0.389 |
| Ghana | 34.5 | 4.3 | 5.2 | 0.495 (2000) | 0.526 |
| Guinea | 85.6 | 4.2 | 3.2 | - | 0.435 |
| Liberia | 51.9 | -14.3 | 7.0 (2005-2008) | 0.280 | 0.442 |
| Mali* | - | 3.3 | 5.5 | 0.267 | 0.371 |
| Mauritania | 51.6 | 2.5 | 4.6 | 0.495 (2000) | 0.520 |
| Mozambique* | - | 4.7 | 7.7 | 0.310 | 0.402 |
| Niger* | - | 1.5 | 3.7 | 0.258 (2000) | 0.340 |
| Sierra Leone | 64.1 | -4.2 | 9.9 | - | 0.365 |
| Tanzania* | - | 2.8 | 6.5 | 0.425 | 0.530 |
| Zambie | 66,2 | -0,1 | 4,9 | 0,454 | 0,481 |
| Average–unweighted | - | 0.3 | 5.7 | 0.363 | 0.433** |
| (weighted by population) | - | (0.1) | (5.1) | (0.355) | (0.428) |

** New mineral dependent country in 2000s*
*** 0.439 (0.435) without Guinea and Sierra Leone*
*Sources: IMF (2009) for column 2, World Bank (2010c) for columns 3 and 4, and United Nations Development Programme (UNDP, 1995; 2000; 2008) for columns 5 and 6*

Whether these growth spurts will lead to a higher growth path remains an open question given the relative recency of the reforms and the difficulty in separating their impacts from the high prices of recent years. The true, difficult to measure, test of the contribution of the mining sector is whether it leads to sustainable development.

## Long-run growth and sustainable development

A large mining sector can have a strong impact on the long-run sustainable development of a country by, first, being an engine of growth through the spin-off firms and industries[2] it creates and opportunities opened up by non-dedicated infrastructure, such as roads, railways, ports, and power stations, and second, by using fiscal revenues generated by natural capital to produce other forms of capital.

Mining is the only sizable industry for many African countries. It is usually valued for its ability to kick-start economies and for its fiscal revenues. This is particularly the case for coal or base metals like copper and iron ore, which require substantial infrastructure that can be used for other purposes. The infrastructure may be paid for entirely by private mining companies - usually the case in Africa - or funded through public-private partnership, as frequently happens in higher-income countries. There is a strong tendency in Africa for new mining contracts negotiated between central governments and large mining companies to emphasize infrastructure provision. Mozambique, Madagascar, Guinea, Democratic Republic of Congo, Sierra Leone, and Liberia are among the countries that require private companies to finance non-dedicated infrastructure in large mining projects. ...

[2] *These vary from caterers and security firms to machine shops, pipe tube producers and manufacturers of specialized exploitation machinery and super-sized trucks.*

# What are the impacts of the African mining sector liberalization?

**By Gary McMahon,** ***World Bank***

... Considerable staff training is required to take advantage of the opportunities afforded by mining operations, particularly to provide goods and services to mines. Most new mining contracts in Africa require companies to provide training to increase the percentage of nationals working in the mining operation; many require efforts to build the capacity of domestic SMEs to subcontract to mines. Many companies do this willingly, partly to develop and keep good relations with their host communities, the citizens of which often benefit the most from these programs.

While it is too early to tell whether income and job creation[3] related to the growth of mining sectors has had a significant impact on poverty in African countries, the HDI of all the countries in Table 2 (columns 5 and 6) improved significantly in the 2000s, with an 18% increase on average. This suggests that the benefits of a mining boom are more broad-based than commonly believed.

## The fiscal question

In principle, goods provided in mining contracts could be provided by the state, with mining revenues, if these were adequate. This implies that tax (including royalty) rates are below what they should be to maximize governments share of natural resource rents. While taxation could be higher without damaging the industry, there are a number of qualifiers to this statement.[4]

First, tax rates were low because metal prices were low over an extended period, and political risk was high in most African countries. In many countries, political risk has not diminished significantly. Second, large tax increases will eventually result in less exploration and less investment in the sector, which means fewer direct benefits from mining. Third, some proposed new tax instruments, such as super-profit taxes, would be difficult to administer in many African countries. Fourth, provision of infrastructure and community services is often preferred over higher taxes, at least in the short- to medium-term, as it helps overcome governance problems in many countries.

Is there an optimal fiscal regime for mining? Clearly, one with fixed rates is not optimal. At best it leads to contract renegotiations and negative knock-on effects for future investment; at worst it leads to civic strife, violence around mining operations, and even nationalization. However, it is important that flexible regimes are stable, so that potential investors know how rates vary with prices and/or profits. It is also important that taxes can be collected, suggesting that in low-income countries, royalties, which are paid even if a mining company is losing money, will play a much larger role than called for in theory. Income tax, which depends on profitability, is the preferred method of taxation, as royalties could result in closures. However, as most mining production is exported and must cross borders, it is easier for governments to determine the value of production than the profitability of operations.

## The way forward

Evidence suggests that recent mining sector expansion has had positive impacts on growth and poverty reduction in African mineral-rich countries. Two questions arise though. First, is there an optimal legal, regulatory and fiscal mining regime that is more likely to lead to these results? Second, under what circumstances are these results most likely to be sustainable?

On the first question, for a mining regime to be considered 'optimal', first, mineral legislation, institutions, and the tax regime must be sufficiently attractive to induce investment. Second, the regulatory framework must be clear and comprehensive, with adequate monitoring and enforcement capacity. Third, fiscal revenues should be collected in a transparent and efficient manner. In recent years, adherence to the Extractive Industries Transparency Initiative (EITI),[5] in which both companies and governments report to independent auditors what they have paid and collected, has been the main governance tool for increasing fiscal transparency. Fourth, governments must be able and willing to manage and allocate fiscal revenues efficiently and in a manner that contributes to sustainable development. It will be important to simultaneously build capacity to manage the large increase in revenues and overcome political economy factors that tend to drive resources towards private hands. Fifth, increased experience and training should lead to more linkages being developed over time. Sixth, a portion of natural capital should be transformed into infrastructure, underpinned by mining developments.

Most African countries are moving towards an optimal mining sector regulatory regime, as the experience and lessons of other countries on the continent and around the world have had a snowball-like effect. While investment and economic growth have been predominant, significant progress is being made in skills development, creating linkages, fiscal transparency ...

*[3] Data on overall employment in mining is not available. It is worth noting that excluding artisanal jobs, employment directly in the mining industry is usually not very large. Employment created through linkages, multiplier effects, and increased fiscal revenues, would be greater, although data on individual countries would be required to confirm this.*

*[4] In the 12-country sample in Table 2, the mining sector contributed more than 10% of total 2008 fiscal revenues only in Democratic Republic of Congo and Guinea.*

*[5] The EITI is a coalition of governments, companies, civil society groups, investors and international organizations. It sets a global standard for transparency in oil, gas and mining, making it possible for companies to publish how much they pay and for governments to reveal their incomes.*

# What are the impacts of the African mining sector liberalization?

**By Gary McMahon,** ***World Bank***

... and taxation, and infrastructure provision. Yet most countries still lack in their ability to monitor environmental and social performance, as well as the broader macroeconomic goals related to budgeting, sustainable investments, and creating conditions for developing other sectors.

On the second question, while companies, regulatory institutions, local governments and other stakeholders (including NGOs) are primarily responsible for the social and environmental sustainability of mining operations, the sustainability of economic benefits is primarily a macro problem related to governance improvements. National governments are responsible for ensuring that mining synergies are captured through regional development planning, shared infrastructure, and capacity building for workers, SMEs and local governments. They are also responsible for ensuring that the capital captured in the fiscal revenues is turned into renewable capital. If these revenues primarily become a new source of rent-seeking for the political elite, there is a strong possibility that after closure mining regions will sink into another 'hundred years of solitude'.

However, causality does not extend only from the center to the mining regions. Given its importance, the mining sector can strongly influence the center. If mining regions are experiencing broad-based prosperity due to the actions of private companies, there will be pressure on national governments to change traditional patterns of behavior. Moreover, new stakeholder and interest groups will be created who perceive development differently. These can impact strongly on the political economy of a country. Of course, mining companies cannot do this alone. Civil society, local governments and international agencies have a large role to play. Innovative programs, such as EITI, are also essential in modifying historical ways of governing. •

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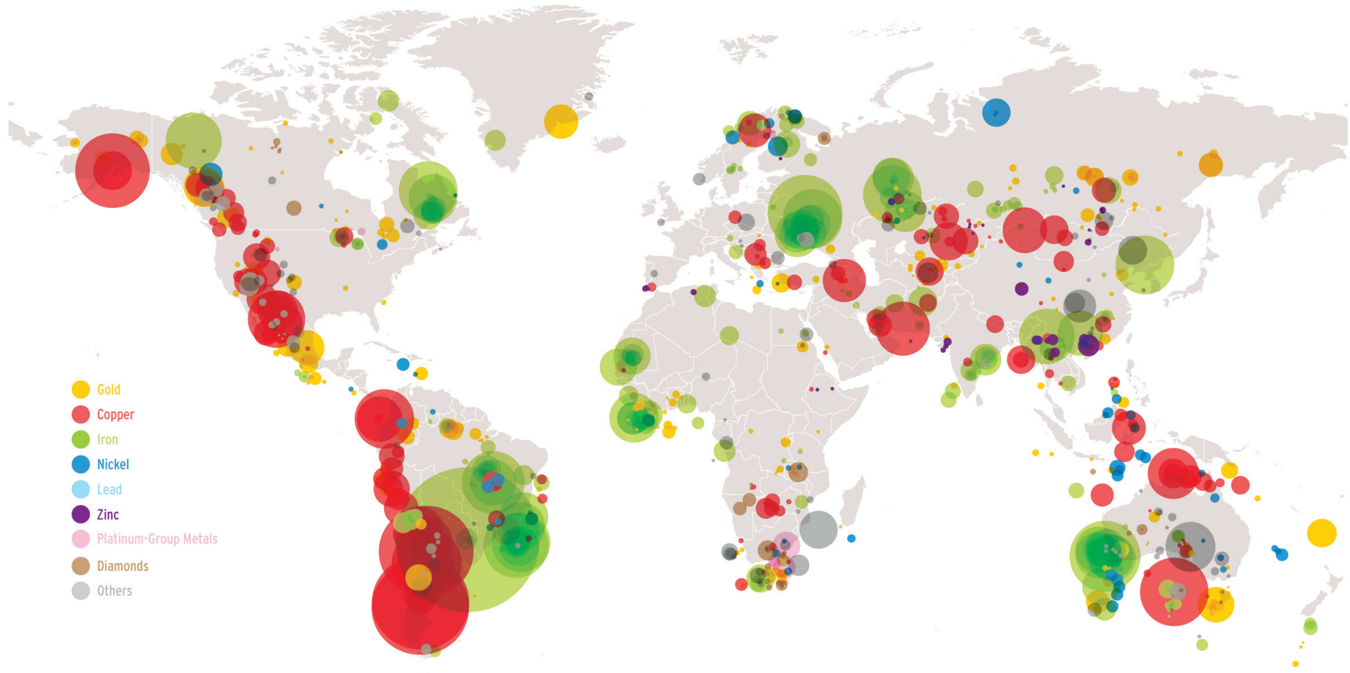
THE MINING SECTOR, AN OPPORTUNITY FOR GROWTH IN AFRICA?

KEY DATA

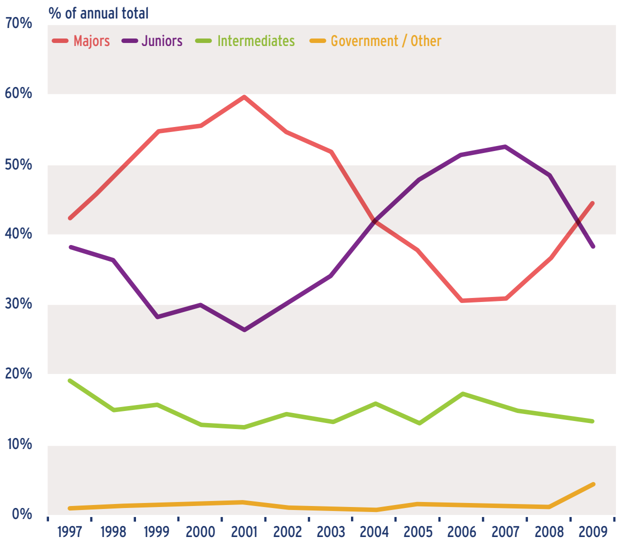
*During the 1990s, the share of Africa's mineral production in global production fell from 16.6% to 10%. Despite this relative drop, to the benefit of Asia and Latin America, Africa is the largest producer of the ore coveted by industry, such as platinum, cobalt and diamonds. This dominant position is expected to be strengthened further by 2015. However, Africa currently only accounts for a small share of global resources due to the lack of exploration. Yet the surge in mineral resource prices, which has made the sector more profitable prompted junior players to scale up prospecting in Africa as early as in 2002. These favorable prospects do not, however, guarantee the development of the continent. This is demonstrated by the fact that there is little correlation between mineral exports and the Human Development Index.*

## Worldwide breakdown of the main ore resources in 2010



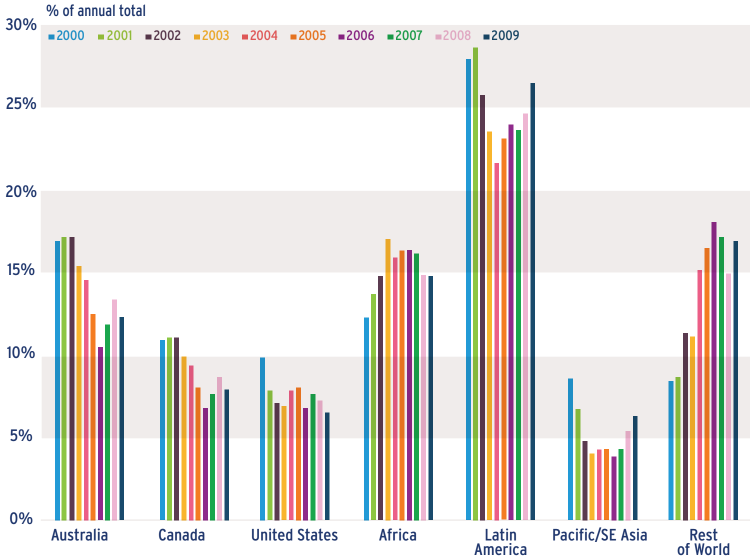

The size of each circle is proportional to that of the mineral resources measured in million tons. Mineral resource is a concentration or occurrence of natural, solid, inorganic or fossilized organic material in or on the Earth's crust in such form and quantity and of such a grade or quality that it has reasonable prospects for economic extraction. Mineral reserves are resources known to be economically feasible for extraction.
*Source: Raw Materials Group, 2010*

## Total exploration expenditures by type of company between 1997 and 2008



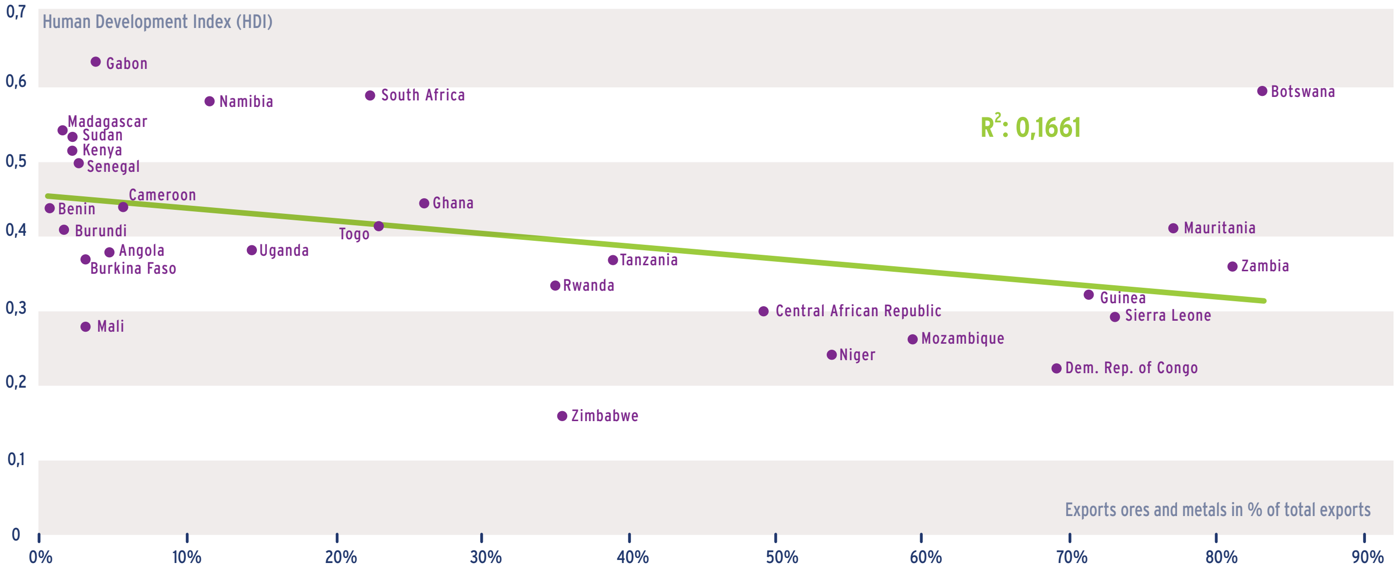

*Source: Metal Economics Group, 2010*

## Exploration expenditures of mining companies by region between 2000 and 2009




*Source: Metal Economics Group, 2010*

## Weak correlation between mineral exports and Human Development Index in Africa in 2005



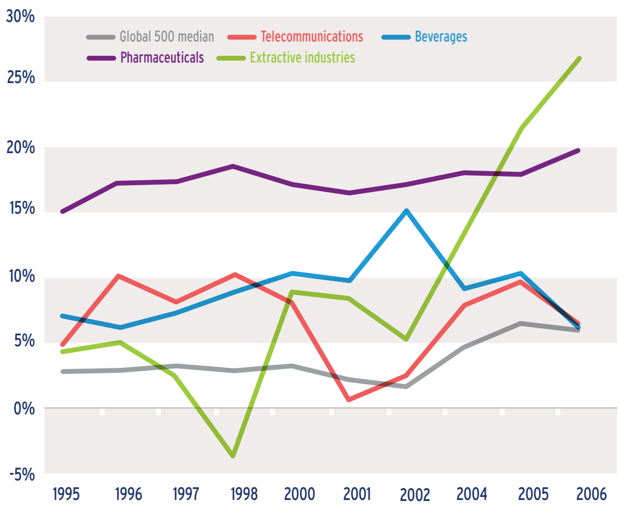

The higher the value, the better the index. The correlation coefficient, $R^2$, illustrates the intensity of the relation between the two variables. It varies between -1 and +1. The closer it is to 1, the more the variables are correlated. Here, the coefficient is very close to 0 meaning that the correlation is thus not meaningful.
*Source: Calculations of M. Patrice Christmann, Bureau de Recherche Géologique Minière, 2010*

## African mining production as a percentage of world total between 2005 and 2015

| | | Production in 2005 | | | Production in 2015 (estimates) | | |
|---|---|---|---|---|---|---|---|
| Minerals | Unit | Africa | World | % of world total | Africa | World | % of world total |
| Platinum | 1 000 ounces | 5,115 | 6,640 | 77% | 6,100 | 7,800 | 78% |
| Cobalt | tons | 32,100 | 57,500 | 56% | 48,000 | 80,000 | 60% |
| Manganese | 1 000 tons | 4,010 | 10,400 | 39% | 8,000 | 14,000 | 57% |
| Diamonds | 1 000 carats | 90,400 | 196,000 | 46% | 120,000 | 210,000 | 57% |
| Palladium | 1 000 ounces | 2,605 | 8,405 | 31% | 3,100 | 9,000 | 34% |
| Gold | tons | 522 | 2,470 | 21% | 550 | 2,550 | 22% |
| Uranium | tons | 8,150 | 50,900 | 16% | 12,000 | 55,000 | 22% |
| Bauxite | 1 000 tons | 15,900 | 172,000 | 9% | 30,000 | 200,000 | 15% |
| Copper | 1 000 tons | 730 | 15,500 | 5% | 2,000 | 23,461 | 9% |
| Zinc | 1 000 tons | 410 | 9,560 | 4% | 800 | 11,165 | 7% |
| Coal | 1 million tons | 249 | 5,886 | 4% | 425 | 8,857 | 5% |
| Aluminum oxide | 1 000 tons | 675 | 66,733 | 1% | 780 | 94,673 | 1% |

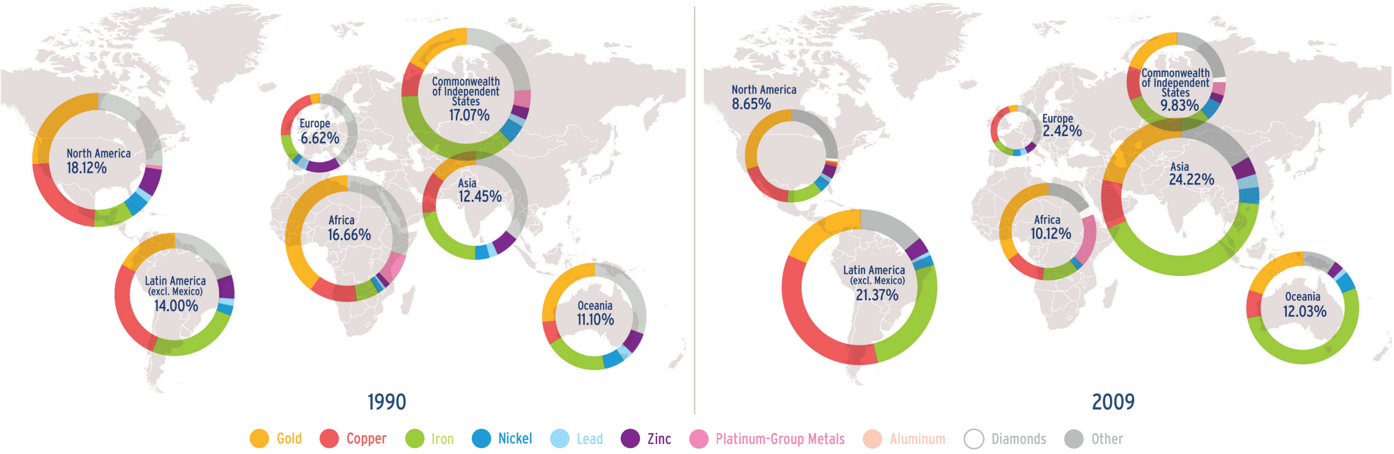
*Source: Performance Consulting, 2007*

## Strong volatility of extractive industries' profitability*




*Profitability is measured as the ratio of profits to revenues in the Fortune 500 Global, in their respective activity.
*Source: United Nations Conference on Trade and Development, 2007*

## Evolution of mining production by region and type of metal between 1990 and 2009




*Source: Raw Materials Group, 2010*

THE MINING SECTOR, AN OPPORTUNITY FOR GROWTH IN AFRICA?

Curtis Research, an independent research firm, was set up by Mark Curtis in 2005 in order to conduct research on public policies for development aid. It seeks to be both less consensual than universities and public institutes with the actions of governments and mining companies, and to propose rigorous research to NGOs which need it in order to promote change.

# The role of transparent and fair taxation in converting Africa's mineral wealth into development

*The mining industry does not contribute enough to Africa's development – when it does not make local populations poorer and destroy the environment. Its fiscal regime needs to be overhauled, with a greater share of revenues transferred to governments. Fiscal transparency must also be made mandatory; the sums paid by mining companies, the revenues received by governments and the expenditure made must be published. Finally, international standards, backed up by local legal tools, could revolutionize the sector tax system.*

**By Mark Curtis,** ***University of Strathclyde (Scotland)***

**Mark Curtis**
University of Strathclyde

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Mineral extraction is an 'enclave' economic activity. In African mineral-rich countries, foreign mining companies create very little forward or backward linkages into the local or national economy that would stimulate private sector development and job creation. This is why there is consensus among the United Nations Conference on Trade and Development (UNCTAD), the United Nations Economic Commission for Africa and the IMF that the paramount development benefit of mining in Africa is the potential to generate public revenue through a transparent taxation and budgeting system (UNCTAD, 2007). This is the key instrument through which governments can make mining work for development in the foreseeable future.

Up to now, African governments have failed to collect the additional rents generated by mining companies before and during the price boom (2003-2008), partly because mining companies operating in Africa are granted too many tax subsidies and concessions. This partly explains the high prevalence of low-income indicators in mineral-endowed African countries and communities in mining areas.

Many Africans harbour expectations of economic and social development, based on the continent's rich mineral deposits. They believe that mining activity, if well managed, can transform the continent's economies. To do so, the process of creating tax regimes and mechanisms of tax payment need to become transparent, and African mining-tax regimes need to be reformed to ensure that African governments are able to collect a fair share of mining rents.

## Mining revenue, key to development

Foreign mining companies import most of their mining equipment, as well as the technical, financial and managerial services needed to run the mines. Very few African firms, mostly based in South Africa, can provide this equipment and these services. Once extracted, raw ore is exported for further refinement or processing elsewhere. Furthermore, given the capital-intensive nature of industrial mining, these companies create very few jobs relative to the abundant labour supply in mineral-rich African countries. As an illustration, UNCTAD (2007) estimates that the mining sector employed just 0.2% of Tanzania's workforce in 2001.

The World Bank has challenged this view, and maintains that if multinational mining companies can commit to sustainable development as part of their bottom line, then the transfer of skills, technology, and capital from mining can improve the impact of mining on economic and social development. However, this commitment is still lacking, especially among the junior players in the mining industry. Coupled with legal mining frameworks linking mining to local communities and wider economic development – on which governments are intentionally or unintentionally silent – revenue collected through the budget remains the key instrument through which they can make mining work for development in the foreseeable future. Furthermore, a surplus of revenues could counteract the impact of mining on local communities (See box beside).

These community impacts constitute an additional cost to society. So far, African mining tax regimes have failed to encourage mining companies to sufficiently improve their social and ...

# The role of transparent and fair taxation in converting Africa's mineral wealth into development

**By Mark Curtis,** *University of Strathclyde (Scotland)*

... environmental practices, and national laws have generally failed to adequately protect communities and the natural resources on which they depend. Compared with the enormous energy devoted to costing and mitigating the commercial risks of mining to companies, very little energy has been devoted to costing and mitigating the social and environmental risks of mining to communities.

## Downward drivers of revenue: mining tax subsidies, concessions and avoidance

During the 1980s and 1990s, slower international metals-driven growth, together with oversupply, led to a slump in international prices. Many African mineral-rich countries were suddenly faced with a sovereign debt crisis, as they no longer earned sufficient foreign exchange from their mineral exports to fund the repayments of loans they took during the boom years. The World Bank became a lender of last resort, and used this position to rewrite the mining laws and tax regimes across Africa, resulting in a shift to lower tax rates and other tax concessions offered to foreign mining companies. The justification was that capital for mining was scarce, given low international prices; therefore, African countries had to compete with one another and with other mining economies to attract high-risk capital, by developing 'competitive' tax regimes. Many of these laws allow ministers to negotiate tax deals with individual mining companies at their discretion, often leading to lower royalties, corporate taxes, fuel levies, and windfall or other taxes than those stipulated in the law. At their worst, contracts may completely exempt companies from any taxes or royalties.

These tax reforms, coupled with the tax incentives offered by some of the major mining economies, such as Australia, Canada and the US, to mining multinationals for overseas exploration, have led to an upsurge in 'junior' exploration companies obtaining mining licences and trading their concessions, or attempting to make quick short-term profits. For example, Canadian companies now account for more than 60% of all new investors in African mining exploration (Open Society Institute of Southern Africa – OSISA *et al.*, 2009). Five out of every six of the 1,220 companies registered on the Toronto Stock Exchange are juniors (Tougas, 2008). This is significant, as these companies are seen as very risky by institutional investors, and are more likely to ask for special tax deals from governments to help sway potential financial backers. The upsurge in these types of investors has compromised the quality of foreign direct investment in Africa's newly privatised mining sector. 'Junior' companies require huge tax subsidies to help them finance their operations; they need to turn profits faster as they are not in business for the long term, and they are often less sensitive to the need for corporate social responsibility.

In addition, multinational mining companies seeking to invest or expand their investment in Africa often enter into confidential agreements with governments to acquire special tax rates and concessions that are outside statutory frameworks. These agreements are legal commercial contracts, and can override national laws and tax regimes. Mining companies have been able to obtain these exemptions in countries desperate to attract foreign private investment into their mining sectors. In Zambia, the mining development agreements negotiated with private investors who took over the copper mines after the privatisation of Zambia Consolidated Copper Mines in 1998 offer huge tax exemptions to companies. The two largest mining companies, KCM and Mopani Copper Mine, managed to ...

## Impacts of mining on local communities

**Those who are living around mining areas** continue to fall victim to the social and environmental fall-out from large-scale mining, with very little protection from their governments to stem the erosion of their livelihoods, health and natural resource base. The costs of mining to communities and households include the loss of land for farming, soil and water contamination, air pollution, deforestation, forced removals, physical damage to dwellings, and an unsafe living environment. In Zambia, for example, farmers living near Konkola Copper Mines's (KCM) Nchanga plant have suffered crop losses due to sediments and silt that are flooding farmers' fields so that farmers can no longer use them (Christian Aid, 2007). This has prevented farmers from growing basic foodstuffs such as cabbage, tomato and maize for their own consumption or for selling in local markets. This cost local farmers a total of USD 19,523 in lost income during 2005 alone. Such routine discharges are not the only problem caused by mining operations. On 6 november 2006, one of KCM's pipelines released significant quantities of acidic liquid into several rivers, including the Kafue – one of Zambia's largest rivers.

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... negotiate deals whereby they would pay only one fifth of the royalty stipulated in the mining law. At 0.6%, these royalty rates were the lowest in Africa. While KCM reported increased net earnings, from USD 52 million in 2005 to USD 206.3 million in 2006, Zambia's minister of finance in his 2006 budget speech estimated that the country would earn less than USD 11 million from copper mining royalties in the next financial year (OSISA *et al.*, 2009).

Some mining companies have also been accused of illegally evading taxes – in Tanzania, a government-commissioned auditor alleged that the country's four main gold mining companies over declared their losses by millions of dollars.

Tax subsidies, together with tax avoidance and alleged tax evasion practices by mining companies, have robbed African treasuries of millions of dollars of tax revenue from the mining industry. OSISA *et al.* (2009) have estimated that in Ghana, South Africa, and Tanzania, lower royalty rates have or will cost treasuries up to USD 68 million, USD 359 million, and USD 30 million a year respectively. In Malawi and Sierra Leone, tax breaks granted in mining contracts have cost or will cost treasuries up to USD 16.8 million and USD 8 million a year respectively (OSISA *et al.*, 2009). In the Democratic Republic of Congo, the tax exemptions in a single mining contract have cost the treasury USD 360,000 a year (OSISA *et al.*, 2009).

## Increasing mining revenues

Too many African governments are still unwilling to open up their tax deals and tax receipts from mining companies to public and parliamentary scrutiny. And too many mining companies are still pushing for tax exemptions, and fail to report what they earn and what they remit to government in each jurisdiction where they operate. The credit crunch and its impact of a reduction in finance available for mining investment are set to motivate governments to continue such secret deals. The crunch will also give mining companies the moral instrument to demand more exemptions.

In order to reverse the 'paradox of plenty' characteristic of many mineral-rich societies in Africa – whereby countries with the most natural resources are often the poorest and worst governed – two major changes are needed to increase mining revenue and transparency.

First, the process of creating tax regimes and mechanisms of tax payment needs to become transparent. To ensure that the correct amount of revenue is collected from mining activity, and that this is spent equitably according to the country's agreed national development strategy, civil society organisations and parliaments need to be able to monitor and oversee the collection, allocation, and actual spending of budget revenue. To contribute to such transparency, a new international accounting standard that requires all multinational companies to report on their remittances to governments, and their profits and expenditures in each of the countries where they operate needs to be established. The International Accounting Standards Board (IASB[1]) is presently discussing whether to introduce such a standard for the extractives sector. This would be an important systemic reform, which would enable governments and citizens to track where companies pay tax, and how much. This would make it more difficult to shift profits between the subsidiaries of different companies.

Second, African mining tax regimes need to be reformed to ensure that African governments are able to collect a fair share of mining rents to fund their national development plans. In some countries, this would require an increase in the rates of royalties and other taxes; in others, it would require stopping the practice of negotiating tax breaks for individual companies in secret contracts.

African governments also need to revise their company acts to require the subsidiaries of multinational mining companies incorporated in their jurisdictions to publish the financial information required by the Extractive Industry Transparency Initiative (EITI[2]). This will ensure that private or state-owned mining companies, such as the growing number of Chinese state-owned or financed mining companies are required by national law to publish their profits and losses, and remittances to government and other structures. ●

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[1] *IASB is an independent, privately-funded accounting standard-setter responsible for developing international financial reporting standards and promoting the use and application of these standards.*

[2] *The EITI is a coalition of governments, companies, civil society groups, investors and international organisations. It sets a global standard for transparency in oil, gas and mining, making it possible for companies to publish how much they pay and for governments to reveal their incomes.*

Mwana Africa, a mining company founded and managed by Africans, operates in Angola, Botswana, the Democratic Republic of Congo, Ghana, South Africa and Zimbabwe. The company is listed on the London Stock Exchange's Alternative Investment Market and is specialized in the exploration and extraction of gold, nickel, copper, cobalt and diamonds.

# The singular identity of a true « African child »

*Mwana Africa – a mining company founded and managed by Africans – bases its development strategy on diversity (geographical sites, minerals exploited) and responsibility. Although employee safety is a priority, the company also mitigates the impact of the crisis on local populations. It pays for its employees' health care, provides them with accommodation and access to education. This responsible approach, coupled with its African identity, is extremely demanding on the company; but in return, it also constitutes its main asset.*

**By Kalaa Mpinga,** ***Chief Executive Officer of Mwana Africa***

**Kalaa Mpinga**
Mwana Africa

Kalaa Mpinga began working for Anglo American in South Africa in 1991; he joined the New Mining Division in 1995 where he was in charge of the exploration and acquisition of resources in Africa. He was appointed to the Board of Directors in 1997. Kalaa Mpinga left the Group in December 2001 and in 2003 founded Mwana Africa Holdings (Pty) Limited – a company which led to the creation of Mwana Africa PLC.

Mwana Africa means "African child" in several Bantu languages spoken in Eastern, Central and Southern Africa. It is also the name of the first mining group held by investors from Sub-Saharan Africa to be listed on the London Stock Exchange's Alternative Investment Market in October 2005.

One of the unique features of the company lies in the structure of its team: former employees of Anglo American South Africa with undisputed expertise and an impressive number of contacts and a group of businessesmen from Angola, the Democratic Republic of Congo (DRC), Kenya, South Africa, Zambia and Zimbabwe, who have been successful on the continent. They all had a long-term vision whereby the development of the company would contribute to Africa's growth. Today, 20% of its capital is still held by African players; this African origin influences its investment strategy and the way in which Mwana conducts its operations on the continent.

The company, whose market capitalization reached some USD 400 million prior to the financial crisis in the autumn of 2008 (USD 83.7 million at December 10, 2010), has a pan-African vocation with all its assets located exclusively in Africa: Angola, Botswana, DRC, Ghana, South Africa and Zimbabwe. As well as being one of the only junior mining companies to have such geographically diversified assets, Mwana's activity also focuses on several raw materials (gold, diamonds, nickel, base metals[1]), while most companies operating in Africa focus on just one asset or one country.

## A responsible approach, the key to long-term success

In addition, all operations are managed by Africans and follow a responsible process, which is considered to be one of the long-term keys to success. Indeed, the company seeks to offer its employees a safe working environment and look after their health; it also makes efforts to mitigate the environmental impact of its activities as much as possible.

The company is aware of the fact that mineral exploitation carries a high risk that cannot be disregarded, and considers that it has the responsibility to create an environment which guarantees the safety of all its employees. Despite these efforts, a fatal accident unfortunately occurred at Mwana at the end of 2010. This is certainly little compared to its 2,982 staff – 322 office staff and 2,660 operators or engineers – , but it is, of course, obviously already too much. The reopening of the Freda Rebecca gold mine, located in Zimbabwe and owned by Mwana, which had been shut down during the period of hyperinflation in the country, provided an opportunity to make huge improvements in terms of safety, now a top priority. Similarly, this constant concern is a cornerstone of the new procedures defined by Bindura Nickel Corporation (BNC), Mwana's Zimbabwean subsidiary, for its reopening in 2011. BNC has consequently obtained the Occupation Health and Safety Assessment Series (OHSAS) 18001 certification,[2] which is internationally recognized in the mining industry for health and safety at work.

The main public health problems encountered in the regions where Mwana operates are either caused by malaria or are AIDS-related. In order to prevent and treat malaria, Mwana trains its employees and their relations and provides them with medication. Mwana Africa has set up anti-AIDS community programs in Freda Rebecca, Klipspringer (a diamond mine in South Africa) and BNC. These programs include awareness-raising campaigns, voluntary screening, health care and training for local communities. Freda Rebecca ensures employees infected with the virus and their dependents have access to antiretroviral (ARV) treatment.

...

*[1] Base metals generally refer to copper, nickel, zinc, lead, cobalt.*

*[2] OHSAS 18001: this series of recommendations concerns health and safety at work and allows companies to manage risks relating to their activity.*

# The singular identity of a true « African child »

**By Kalaa Mpinga,** ***Chief Executive Officer of Mwana Africa***

... Mwana also takes concrete measures to mitigate the impacts its activities have on the environment. It makes an optimal use of resources, such as water, fuel and electricity. The management systems in place comply with the ISO 14001 standard[3] (as early as in 2005 for BNC). This certification is also internationally recognized. Freda Rebecca implements a program established in compliance with the performance standards of the International Finance Corporation, World Bank and World Health Organization. As a general rule, Mwana recognizes its obligation to rehabilitate the sites where it operates and has made financial provisions for this, particularly in Zimbabwe and South Africa, in compliance with local laws.

## Limiting the impact of difficult decisions

This responsible process was not affected by the unprecedented turbulence observed on global financial markets in 2008, which drastically reduced available financing and caused a slump in raw materials prices. For example, nickel prices fell from USD 55,000 a ton to under USD 10,000.

Mwana had to resign itself to the fact that difficult decisions had to be taken. In November 2008, the decision was taken to shut down the BNC nickel mine, which at the time accounted for 100% of the Group's turnover, in order to conserve the liquidity of the Group and maintain all its operations. The fact that Zimbabwe was in a state of total decline – a victim of hyperinflation – made this decision even more difficult. There was obviously the risk that stopping BNC's activities for nearly three years would have a negative impact on the local population; indeed, it can be estimated that for each employee, ten members of the community benefit from the mine's activity. There was consequently the risk that laying off 2,425 employees would ultimately affect 30,000 people. To mitigate this impact, Mwana therefore decided to continue to pay for the accommodation, electricity and health care of BNC's employees during the closure.

The company's African identity undoubtedly influenced its decisions in this context. Despite the unprecedented crisis in the mining sector over these last two years, Mwana's headcount has only been reduced by 8.6%, whereas the price of nickel saw a fivefold decrease over the same period.

These difficult decisions have allowed Mwana to safeguard its future growth. The upturn in commodity prices and the improvement in Zimbabwe's economic situation with the end of the monetary chaos – following the abandonment of the national currency which was replaced by the US dollar – made it possible to resume operations in Freda Rebecca. A budget of USD 6.2 million was allocated to the first phase of works in 2009. A USD 10 million loan allocated in November 2009 by the Industrial Development Corporation of South Africa should allow a production of 50,000 ounces of gold as early as in 2011. It has been scheduled to resume BNC's operations in Zimbabwe this year.

## Long-term development of local communities

The clout that the mining industry carries in certain African countries is unique. Its financing requirements – estimated at several billion dollars – and the investment potential it represents would allow it to make a sizeable contribution to the economic development of a country.

When the crisis hit its peak, Mwana continued to make long-term investments, always with the concern of supporting the development of local communities, which are often located in remote regions. Indeed, it boosts the local economy by creating employment, helping SMEs to operate and develop, providing outlets for service activities and subcontractors located close to the mine (engineering, equipment maintenance, etc.) – not to mention its impact on the development of local infrastructure (roads, runways, telecommunications, etc.). For example, Mwana contributed to the installation of a mobile phone network in Ituri Province in northeastern DRC, which did not exist before its arrival. The impact of Mwana's activities consequently does actually go well beyond its direct contribution to employment.

Mwana therefore takes part in the development of local communities; the company particularly considers that their education is partly its responsibility. For example, BNC provides all the resources required for the primary education of its employees' children and has set up a fund (BNC Chairman's Fund) in order to facilitate access to secondary and university education. Each year, around ten scholarships are also allocated to higher education establishments that receive the deserving children of Mwana's employees. BNC consequently helps both the local university and the Zimbabwe School of Mines to operate. In Freda Rebecca, maternal, primary and secondary education is supported *via* school modernization. Finally, Mwana wishes to support redeployment for its ...

*[3] The ISO 14001 standard is part of the "ISO 14000" series of standards designed to help businesses mitigate their negative impact on the environment.*

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**By Kalaa Mpinga,** *Chief Executive Officer of Mwana Africa*

... employees (for those that request it) towards agriculture or craft industries, particularly by helping them gain access to microfinance.

Finally, Mwana has anticipated measures aiming to give local populations economic autonomy, for example, by offering local investors a shareholding in the company. Today, the Chamber of Mines of Zimbabwe, of which BNC and Freda Rebecca are members, is negotiating with the government over the application of the law promoting the "indigenization" of Zimbabwean businesses. 47% of BNC, which is listed on the Harare Stock Exchange, is already held by Zimbabwean pension funds and investors. Moreover, Mwana has already announced the sale of 15% of Freda Rebecca to a local partner.

It should be possible to promote and reinforce this method of firmly establishing companies at the local level in other contexts, in other African countries. It is certainly true that ever-increasing efforts are demanded of Mwana as a result of its African identity; but this demand is also an asset. By being transparent and responsible, Mwana Africa is both effective and recognized.

## The limits of the model and how to improve it

The mining sector provides African States with revenues. Unfortunately, the exploitation of mineral resources is often at the expense of local populations and the environment, which makes its development difficult. There may be no doubt that mineral exploitation can benefit national economies, but the reforms introduced in the mining sector during the 1980s and 1990s under the auspices of the World Bank[4] and IMF would not appear to guarantee this contribution. They are often criticized because of the considerable incentive measures that benefit mining companies. In addition, they have undoubtedly contributed to reducing the share received by African governments – a share they absolutely need to finance their social and economic development programs.

The mining industry should promote the development of businesses in the countries where it is established, which provide it with a whole range of inputs. These businesses can build ties with other local economic sectors and consequently find outlets and speed up the development of techniques relating to mineral exploitation. The latter is by nature not sustainable, the lifespan of a mine is always limited as the resources end up being exhausted. However, thanks to the ties built with other economic sectors (upstream, downstream and *via* by-products), a mine can be guaranteed a certain level of sustainability. If their activities are to truly benefit local populations, mining companies must adopt a long-term vision, give priority to the development of sustainable mines and build mutually-beneficial partnerships with the States and peoples of the countries that host them.

It is possible to create wealth for the continent and give Africans a greater share, provided the continent's mineral resources are exploited in an integrated manner – and if this is to be achieved, there must be consultation among all players. ●

[4] *On this subject, see Gary McMahon's paper in this issue of* Private Sector and Development.

THE MINING SECTOR, AN OPPORTUNITY FOR GROWTH IN AFRICA?

Proparco, a Development Finance Institution, has been operating in the mining sector for many years. It has, for example, financed one of Mali's first gold mines, the first one in Niger, and finances junior mining players in Africa, particularly *via* the African Lion investment fund.

# Getting the mining sector to work for Africa: the role of DFIs

*The role played by Development Finance Institutions (DFIs) in the rapid development of Africa's mining sector has seen a slight downturn. This can be explained by the strong presence of private investors. And yet DFIs do play a useful role: it is their natural vocation to support risky projects that do not interest private investors. They can also play a determining role in kick starting all the reforms needed in the sector: better distribution of revenues, mitigation of social and environmental impacts…*

**By Jérôme Bertrand-Hardy,** ***Deputy Investment Director***
***and*** **Xavier Darrieutort,** ***Investment Officer at Proparco***

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Jérôme Bertrand-Hardy is an agronomist engineer and holds a Master's Degree from the Graduate Business School, IAE of Paris. After working as a consultant in the urban water sector, he joined AFD in 1998 as head of project financing in the water and electricity sectors in Africa. He joined Proparco in 2001 and managed the Infrastructure and Mining Department from 2006 to 2010, before being appointed Deputy Investment Director.

**Xavier Darrieutort**
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Xavier Darrieutort graduated from Sciences Po Paris (Public Service Department) and the ESSEC international business school (Specialized Master's in International Business). After having worked for several years in the banking sector, he joined Proparco where he is an investment officer specialized in mine and infrastructure project financing in developing and emerging countries.

Since 2002, a number of base metal and precious metal commodity prices – particularly for gold and copper – have risen sharply. This has prompted an increase in investments in the mining industry, both in exploration and in commercial operations. Africa has not been left out – even though one could have imagined it would have been able to benefit more from this keen interest. Copper exploitation has resumed in Zambia, and now also in the Democratic Republic of Congo (DRC). The gold mining potential of Tanzania and West Africa – with Ghana the leader – has been confirmed. It is expected that Madagascar will very soon be producing nickel.

In view of this situation, Development Finance Institutions (DFIs) should also logically have scaled up their investments in Africa's mining sector. The reality is, however, more contrasted. There have been relatively few opportunities for debt financing that meet the criteria for DFI investments. Although institutions, such as the European Investment Bank, have invested sizeable amounts in projects to exploit copper in Zambia or nickel in Madagascar, most mining projects in Africa produce gold and manage to obtain financing from the markets. Proparco, for its part, has focused its efforts on mining exploration, mainly by making a total investment of USD 13 million in three African Lion[1] investment funds, alongside partners such as EIB, Investec or Rand Merchant Bank. To date, thanks to these investments, six gold or nickel mines have been opened in five countries by junior companies, such as Red Back in Ghana, Gallery Gold in Botswana, Albidon in Zambia. Even though these companies have experienced mixed fortunes and have sometimes been subject to consolidation processes, this type of investment does appear to be particularly justified from a DFI's perspective. The exploration phase may require less investment than the launch of the operating phase, yet it is crucial to the development cycle of a mining site. Junior companies are not always viewed favorably, but at least some do employ experienced professionals. Moreover, these companies often do not have the capacity to put as much pressure on local authorities as the major players. This allows public authorities to negotiate more profitable contracts. However, these companies lack resources, which can mean they do not apply the best environmental and social practices. African Lion has consequently decided – under the impetus of its investors – to strengthen its environmental and social requirements by monitoring the companies in its portfolio more closely.

The investments made by DFIs such as Proparco have consequently been lower than could have been expected. This situation can be explained by the obligation to only finance projects with strong impacts on economic development, by the respect for the principle of financial subsidiarity, and also by the scale of the environmental and social impacts of the projects.

## Only finance projects that contribute to economic development

The first condition for a DFI operation to finance a mining project is the contribution this project will actually make to the economic development of the country and to poverty reduction. The developmental impacts of mining investments are gauged by the direct and indirect employment created and the scale of fiscal revenues levied by the State. In terms of job creation, mining projects generally employ several hundred people that are either unskilled or have a low level of skills. They are generally recruited locally during the construction phase (the most intensive phase in terms of labor). DFIs play close attention to the impacts projects have on local employment. Some countries have legislation that requires a certain …

[1] *African Lion is an Australian investment fund specialized in African mineral resources. On this subject, see Mike Brook's paper in this issue of* Private Sector and Development.

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**By Jérôme Bertrand-Hardy,** *Deputy Investment Director* *and* **Xavier Darrieutort,** *Investment Officer at Proparco*

... percentage of local employees to be recruited. For example, the agreement signed between the Senegalese State and the Australian company Mineral Deposits concerning the operating of the Sabodala gold mine stipulated that the operator had to train and employ local labor. At the end of the day, 45% of employees were Senegalese and came from regions immediately neighboring the mining site (Mineral Deposits, 2010).

The tax system is also a tool that can help the mining sector make a greater contribution to the economic development of a country – provided, however, that the revenues States receive are equitably redistributed to the population. DFIs must ensure that fiscal regimes for mining projects guarantee a fair level of remuneration for States. This vigilance is even more important in Africa, where the mining sector often accounts for a large share of a country's exports and GDP. Donors must consequently be careful not to finance projects using "fiscal optimization" techniques, which deprive States of the revenues they are entitled to. Proparco has come across this type of arrangement in West Africa. As the borrower was registered in a tax haven, it was logical to wonder whether such an arrangement amounted to reducing the taxable base of the project, something which is unacceptable for DFIs.

If the taxation of mining revenues is too low, it can lead to governments renegotiating contracts and a legal instability which can deter foreign investors. A few years ago, the governments of DRC and Zambia, having observed that the conditions they had granted to mining projects were too favorable, engaged in an extensive process to renegotiate contracts in order to gain a greater share of mining revenues, which were on an upward trend at the time.

## A principle of financial subsidiarity jeopardized by highly liquid markets

DFIs only finance projects or businesses when there is a lack of investors or private lenders, thus respecting the principle of financial subsidiarity. There is consequently less need for DFI investments in mining projects – even in Africa – due to the strong presence of private funders in this industry. This phenomenon is exacerbated by the predominance of gold mining projects on the continent, which are generally financed by loans with maturities of five years or shorter that specialized banks are perfectly willing to offer.

The financial subsidiarity of DFIs is even less relevant during periods of upward price trends. Indeed, mining investments were bolstered by the boom in the global raw materials market which rose 39% between 2004 and 2009 (Raw Materials Group, 2010). Mining companies generally had no difficulty in obtaining vast amounts of financing from commercial banks and specialized equity markets, the first being the Toronto, Sydney and London stock exchanges, which were highly liquid at the time. The financial crisis, which coincided with a slump on raw materials markets, spared gold – a safe investment in times of crisis – the prices of which soared to record levels. A gold mine project in West Africa demonstrates the fact that investors have not lost their appetite for the yellow metal. It was entirely financed by the promoter on its own equity, despite the financial turmoil in 2009.

## Projects with strong social and environmental externalities

Most mineral extraction projects have an impact – which is sometimes extremely strong – on natural capital and local populations. DFIs must systematically ensure that the projects they finance comply with the environmental and social legislation of the relevant country. Beyond this, the reference international standards for mining projects must be respected – particularly the "Performance Standards on Social and Environmental Sustainability" defined by the International Finance Corporation (IFC).

For example, Proparco has studied the feasibility of a gold mining project in West Africa, which required the displacement of over 2,000 households, *i.e.* a total of roughly 11,000 people. The initial impact assessment and resettlement plan did not provide for measures to compensate people affected by the project who earned their livelihood from gold panning on the site of the future mine. The application of IFC Performance Standards makes financial compensation for the tangible or intangible assets that are lost by displaced persons mandatory. It also requires for them to be rehoused in a new home and for their incomes to be restored in a sustainable manner. A mission to the project site was able to ensure that the negative impacts of the project had effectively been mitigated by its sponsors. Despite these constraints, DFI investments in Africa's mining sector do offer a real added ...

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... value. Indeed, these investments are essential in countries and metals which are seen as carrying risks; they are also imperative for promoting the best environmental, social and fiscal practices.

## Higher level of risk taken

Although commercial banks continue to show a high level of interest in short-term mining projects, in the most common metals (such as gold, nickel and copper) and in the most stable countries on the continent, they are, however, more cautious when it comes to long-term financing and countries and metals which present a higher risk profile. DFIs have a mission to respond to market discontinuities, for example, by allocating long-term loans (10 years or longer) that allow mining projects, which have sizeable upfront investments, to be profitable thanks to more extended repayment schedules. DFIs can also support projects involving rarer and more risky metals, for which there are no forward hedging instruments to secure volumes and sale prices. Finally, one of the missions of DFIs is to take more risks than private funders by investing in countries that are geologically rich, but more unstable or less developed.

## Promoting exemplary projects

If DFI investments are to guarantee the exemplary nature of the mitigation of the social and environmental impacts of projects, it is essential for the IFC Performance Standards to be systematically applied. These standards were reviewed in 2006 and have de facto become the key reference standards for the responsible development and financing of extractive projects in emerging countries. They also widely inspired the Equator Principles[2] that have to date been adopted by some sixty private financial institutions. The eight IFC Performance Standards cover extremely varied areas, which include human resources, working conditions, pollution prevention and mitigation, biodiversity conservation and sustainable natural resources management. These standards require a high level of involvement of local populations in the project.

## A fair distribution of revenues and greater transparency

The overhaul of the mining sector tax system must both ensure that States and mining companies receive a fair remuneration, and guarantee the stability of the legal and fiscal framework in order to attract investors. It is necessary to ensure that Africa's mining States do not enter into a form of fiscal dumping, whereby they constantly lower tax rates in order to attract investors.[3] Minimum rates – which could become international standards – could be defined under the impetus of donors and in consultation with the different players in the sector. Tax exemptions must be less systematic and should be approved by national parliaments. Greater transparency in transactions between States and mining groups, in line with the recommendations of the Extractive Industries Transparency Initiative (EITI),[4] will strengthen their legitimacy. This will also make it possible to measure the developmental impacts of projects more accurately. DFIs have a key role to play in all these reforms in terms of both their application and widespread implementation.

DFIs should be neither excessively proud nor ashamed of the results achieved by their investments in Africa's mining sector in recent years. They tend to be left on the sidelines due to the dynamism of private investors and the specific constraints of extraction projects. Yet this must not lead them to stay away from the sector. They must remain true to their mission and invest in areas where the private sector is absent. In addition, they can play a key role in the widespread implementation of good environmental, social and fiscal practices – prerequisites for the sustainable and equitable development of Africa's mining sector. ●

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[2] *The signatory banks of the Equator Principles, which were established in 2003, pledge to select their investment choices on the basis of criteria for respecting the environment and social and human rights.*

[3] *On this subject, see Mark Curtis' paper in this issue of* Private Sector and Development.

[4] *The EITI is a coalition of governments, companies, civil society groups, investors and international organisations. It sets a global standard for transparency in oil, gas and mining, making it possible for companies to publish how much they pay and for governments to reveal their incomes.*

# Lessons learned from this issue

**By Benjamin Neumann,** *Editor in Chief*

The price of mineral raw materials skyrocketed in the early 2000s on the back of the huge appetite of emerging countries, such as China, India and Brazil. The financial and economic crisis that shook the planet and brought a number of countries into recession sparked a fall in prices – except for gold, which was seen to be a safe investment. But prices once again saw an upward trend in 2010 – particularly for tin, copper and aluminum; their levels have now reached or even topped those of the summer of 2008. Most experts today estimate that there are good days ahead for the mining sector and that it could have a knock-on effect on the entire African continent.

## An opportunity not to be missed for Africa

This situation indeed constitutes a historic opportunity for Africa which must not be missed. The continent has a wealth of mineral resources and major advantages it can exploit. For example, it is estimated that by 2015 Africa will provide 78% of global platinum production, 60% of cobalt and 57% of manganese and diamonds. South Africa has a mining tradition that dates back over a century and enjoys both invaluable expertise and a vast network of small specialized companies.

The liberalization of Africa's mining sector – which had previously been dominated by State-owned companies that were running out of steam – was briskly led by the World Bank in the 1980s and 1990s. It opened the continent up to exploration and simultaneously attracted a whole host of new junior players from Canada, Australia, Ireland, but also from Africa, China and India. In 2009, four companies from emerging countries ranked among the world's top ten players in the sector. Eleven ranked among the top thirty – three of them are South African. The exploration expenditure of mining companies in Africa tops the 15% mark, except for in 2008 and 2009 (the crisis years); they now fall within the global average.

## Challenges to be met

Africa can hope to play the "leading role" and finally benefit from its mineral wealth in order to develop and reduce poverty. But to achieve this, it must face some major challenges.

It must first and foremost create a local industry for mineral resources development. The revenues generated by the sector are today primarily related to raw materials exports, which only account for a tiny amount of potential revenues from finished or semi-finished products. Mineral extraction is highly capital-intensive and is a practically self-sufficient economic activity. The companies are mainly foreign: they build very few ties with the local economy, contribute little to promoting the private sector and create relatively few jobs. In addition, they import the bulk of their extraction equipment, as well as technical and financial services and the management required for mining exploration and exploitation.

The last challenge concerns fiscal revenues from the mining industry. From this perspective, it has to be admitted that mining industry has not managed to create as many spillover effects as those from the petroleum industry. The reforms of the 1990s led to the implementation of attractive fiscal systems for investors. Yet many NGOs consider that these preferential systems have been too profitable for mining companies. They also condemn – and they are not the only ones to do so – the African governments that refuse to have the agreements they have signed with mining companies scrutinized by their parliaments and their citizens. Finally, they criticize companies that continue to exert pressure in order to obtain tax exemptions and fail to publish what they earn and what they pay to the governments of the countries where they operate. And when one considers the projects that use "fiscal optimization" techniques – or even involve fraud in some cases – African Treasury Departments are ultimately deprived of millions of dollars of revenues every year.

## Promoting sustainable development in the sector

Many countries sought to cash in on the price boom between 2003 and 2008 and set out to reform their mining tax systems in order to readjust revenue distribution to their advantage. Yet these processes have all been interrupted by the recent drop in prices. However, the definition of a balanced legal and fiscal framework that is both attractive for investors and preserves the interests of States and local communities must continue to be a top priority. At the same time, the way revenues are managed – a sensitive issue, which is a matter of State sovereignty – must comply with good governance practices. The increasing amount of international involvement aims to promote this – one example being the Extractive Industries Transparency Initiative (EITI). It has been the most widely used tool in recent years for promoting better governance of revenues from natural resource exploitation in producing countries. EITI gathers States, private companies and civil ...

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... society on a voluntary basis. In order to "take up the gauntlet" and promote sustainable development in the sector – economically, socially and environmentally –, Africa must implement good governance practices at the national, regional and even international level.

It must also scale up investments and build local capacities. Developing the infrastructure network will also enhance the attractiveness of Africa's mining sector and help other economic sectors to develop rapidly – the remoteness of some mining basins can, for example, put off certain investors. The challenge consequently lies in defining and applying a comprehensive planning policy for development and getting the mining sector to work for the industrialization and economic diversification of producing countries.

It is also essential for African States to take on board a geological and economic understanding of their mining potential by making an accurate inventory of their mineral resources. Finally, if sustainable development strategies in the sector are to be successful, Africa needs an administration equipped with financial resources and managed by experienced executives.

Although the role played by Develop-ment Finance Institutions – whose principle of subsidiarity has been jeopardized by highly liquid markets – has seen a downturn in recent years in spite of the boom in the mining sector, their investments do offer a real added value. Indeed, they are essential in countries and for investments in metals which are seen as carrying risks; they are also imperative for promoting the best environmental, social and fiscal practices because they not only ensure that the projects they finance comply with local legislation, they also ensure that they are in line with international benchmark standards. •



# In our next issue

## What role for the private sector in African railways development?

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