

Africa's Mining Sector Development: An Industry Perspective

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Abstract

Africa has in the past decade benefited from continuously increasing investment in the mining sector and is becoming a fully-fledged player in the world economy as a result of the mining boom. Growth in demand for mineral resources coming from emerging countries has transformed Africa, which previously received little attention from the investment community, into a major mining destination for mining companies from Europe, North America, China, and of course South Africa. However, there is debate around what the benefits of mining are, and whether African governments have managed to capture a share of mining revenues and whether they will be able to use this revenue to support sustainable economic and social development on the continent. Africa has given rise to a number of global mining giants such as Anglo American (now based in London), Billiton (now BHP-Billiton) and Anglo Gold Ashanti. South Africa and Zimbabwe hold the bulk of global platinum reserves, and the Democratic Republic of Congo has huge largely un-tapped mineral wealth. 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 and sales. Developed countries 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. Clearly, it is imperative that Africa's mineral wealth is tapped into in a sustainable and socially responsible manner. However, 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. The mining sector needs to build capacities of the next generation of mining professionals through collaboration between government, industry and academia. This paper argues for the role of academia in support of capacity building in the mining sector.

Keywords: Mining, Industry, Development, Africa

Introduction

Africa has vast mineral wealth in the form of, amongst others, world-class platinum, gold, coal and diamond deposits. These finite resources need to be exploited in an optimal and sustainable way for the benefit of both current and future generations so as not to create an economic dependency in Africa on mining and to avoid the phenomenon of the so-called “resources curse”. Increasingly African governments, the business sector and society have recognized this fact about mining from past experience and through their participation in international bodies and studies, such as the United Nation’s Global Compact, the Minerals, Mining and Sustainable Development Projects (MMSD), the International Council on Metals and Mining (ICMM), the Global Reporting Initiative (GRI) and the World Bank’s Extractive Industries Review (Viard, 2009).

In the South African context, the South African government, business sector and society have fully embraced the principles of sustainable development in legislation such as the National Environmental Management Act and the Minerals and Petroleum Resources Development Act, in the way mines are operated and in terms of how companies report performance. This legislation is transforming the mining sector in South Africa and it has become a prerequisite that a mining company has environmental, social and labour plans, over and above the usual financial plans, in order to obtain and retain a mining right. These plans require, *inter alia*, that environmental and social impacts be determined, mitigated and monitored for all stages of a mining operation’s life, and in particular at mine closure (Swilling, 2007).

The industry itself continues to face very real sustainability challenges, typically related to issues of governance; safety and health performance; minerals legislation compliance and pressures on resource nationalization; increasing community pressures and expectations of more local benefits from mining; and the access to key resources such as energy, water and land in order to mine (Viard, 2009).

Overview of Mining in Africa

According to Performance Consulting (2007), Africa 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 of the global mining industry. However, 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 (UNCTAD, 2007). One of the main challenges facing Africa is to develop beneficiation industries to process mining raw materials in sustainable economic conditions, thereby contributing to sustainable development. According to research conducted by Performance Consulting (2007), Africa's importance in terms of the supply of new metals to the world is likely to increase across most commodities over the next few years.

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

Figure 1: World Breakdown of the main ore resources in 2010

The world map (Figure 1) gives a breakdown of the main ore resources by geographic location, with Africa dominant in platinum, diamonds and to some extent gold (Raw Materials Group, 2010). Significant exploration work is being conducted in Africa and according to Raw Material Group (2010) Africa was second only to Latin America in terms of amount spent on mineral exploration.

From these estimates, it is evident the mining is going to play an increasing role in Africa's economy and therefore development. The industry has a role to play in ensuring this development of Africa's mineral wealth is tapped into in a sustainable and socially responsible economy.

Sustainable Development and the Global Drivers Affecting the Industry in Africa

Sustainable development was first defined in the Brundtland Report in 1987, which was a report compiled by the then World Commission on Environment and Development, chaired by Gro Harlem Brundtland. The report is well known for coining the phrase "sustainable development" which it defined as "development that meets the needs of the present without compromising the ability of future generations to meet their own needs." The activities of the Commission served as the basis for the UN Conference on Environment and Development, held in Rio de Janeiro in June 1992. This Summit was instrumental in raising the awareness of the concept of sustainable development and in emphasizing the need to integrate environmental and developmental issues.

Although the "Brundtland" definition is widely used, there is still much confusion about what sustainable development really means. It has been recognized that the sources of conceptual confusion surrounding the expression are linked closely to the lack of agreement regarding exactly what is to be sustained, for whom, and by what means (Redclift, 1992; Frazier, 1997). Nevertheless, irrespective of the debates around what sustainable development means, the overall concept has come to be understood to mean the challenge of eradicating poverty in a way that rebuilds eco-systems and natural resources for human survival (Swilling, 2007).

Clearly mining companies in Africa do not operate in isolation from the rest of the world and there are numerous global issues and

considerations that influence and impact on the sustainable development agenda in Africa. In 1992, the Earth Summit was held in Rio de Janeiro, and the nations of the world agreed on a human and environmental action plan for the next century, entitled Agenda 21. The Commission on Sustainable Development was then established to supervise national and international implementation of the Earth Summits commitments, especially Agenda 21.

In 1997, and as a result of a growing concern about global warming, the Kyoto Protocol was formulated. The Protocol committed 38 industrialized countries to cut their greenhouse gas emissions, between 2008 and 2012, to 5.2% below 1990 levels. In 2000, the United Nations Global Compact was launched to address some of the world's more intractable problems by challenging business leaders to adopt and apply nine operating principles across human rights, labour and environmental practices. At the Millennium Summit, also held in 2000, over 150 heads of state agreed on the Millennium Development Goals, an ambitious agenda to reduce poverty, improve lives and protect environmental resources. In 1999 and 2001, the Dow Jones Sustainability Index and FTSE4 good indices were launched in the USA and UK, respectively. Both of these indices require companies wishing to qualify to report on economic, social and environmental performance against acceptable indicators, no matter where they operate. In 2002, the World Summit on Sustainable Development convened in Johannesburg and brought together heads of state from around the world: they adopted the Johannesburg Declaration that includes plans, *inter alia*, to reduce poverty, increase access to health care and medicines, reduce environmental degradation and improve the quality of life for the poor (Freemantle and Rockey, 2005).

Clearly the some mining companies operating in Africa are guided by many of these global initiatives, and they are factored into company policies and operating practices to ensure mining development is sustainable.

Developmental Challenges Facing the Mining Industry in Africa

The sustainable economic, social and environmental development of Africa's mining sector hinges on many things including the implementation of good governance practices at the national, regional and international level. Moreover, the infrastructure needed to support mining

must be developed and both investments and local capacities need to be increased.

According to Maréchal (2011), a priority in many African countries 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. The industry should support such initiatives as the Extractive Industries Transparency Initiative (EITI), which encourages improved governance in resource-rich countries through the verification and full publication of company payments and government revenues from oil, gas and mining. Maréchal (2011) goes on to advocate that it would also be ideal if a policy for the establishment of a global development plan in a country could be defined and applied. Such a plan must include the mining sector and serve the industrialization and economic diversification of producing countries.

It is essential to combat the illegal exploitation of resources in Africa in order to put an end to the financing of local conflicts and civil wars such as those in the DRC. 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. This can be done in the manner put forward by for example the Kimberley process and more recently in legislation in the United States, where in a bid to stem the flow of money from minerals mined in eastern Congo, widely seen as fuelling the ongoing conflicts, the US government included a clause in the financial reform legislation the Dodd-Frank Wall Street Reform and Consumer Protection Act. This law requires companies to conduct "due diligence" and disclose annually if they use the minerals cassiterite, columbite-tantalite, gold, wolframite or their derivatives (tin, tantalum or tungsten) in products that originate from the DRC or adjoining countries (Swilling, 2007). These minerals are essential to many popular items, from mobile phones and laptops to jewellery and jet engines.

Infrastructure construction, particularly in the transport and power sectors, constitutes another challenge for growth in the industry in Africa. Many mining areas suffer from being isolated. This often hinders investment as single investors do not necessarily have sufficient financial resources to single-handedly finance infrastructure construction.

According to Maréchal (2011), an example of this is in the Tambao manganese fields in Burkina Faso. The strengthening of Africa's infrastructure network – one of the objectives of the G20 – will 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.

The Role of Academia in Mining Sector Development

There is a need to train and develop the next generation of professionals who are responsive towards the challenges of the mining industry in Africa. Higher education institutions in Africa need to ensure that graduates who enter the mining industry are aware of the challenges and their complex interrelationship, as they have a material impact on the industry and the way it operates.

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 (Viard, 2009). There is a need for the industry and academia need to work together in the development of academic programmes that will assist both governments and the industry in addressing the challenges and opportunities faced by the mining industry in Africa to ensure sustainable development.

Conclusion

The African continent is blessed with an abundance of mineral wealth, and ethical leadership is required to ensure that these minerals are exploited responsibly, yielding lasting benefits to economies on the continent. The continent's mining industry has remained a vital part of the region's economy. Since one key problem facing the mining sector is lack of human resource capacity - at government and industry levels - to develop and promote sustainable mining practices, the academia has an important

role in building new capacities to produce the next generation of mining professionals in Africa.

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