Nordiska Afrikainstitutet
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AFRICA'S MINERAL ECONOMIES BREAKING THEIR DEPENDENCE ON MINING

POLICY NOTE NO 6:2018

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Cover photos
FRONT: Diamond core drilling at Katdoornkuil, Beuafort West, South Africa, 8th April 2008. Photo credit: Media Club. Used with CC permission.

BACK: Worker in the Anglo Ashanti gold mine, Ghana, June 23 2006. Photo credit: Jonathan Ernst, World Bank. Used with CC permission.

ISSN 1654-6695
ISBN 978-91-7106-826-2
eISBN 978-91-7106-827-9

Africa's mineral economies: breaking their dependence on mining

The dependence of many African economies on a few mineral commodities exposes them to a number of risks, including economic instability, conflict and damaging environmental effects. Structural, institutional and regulatory reforms are needed to break the mineral dependence and promote economic diversification.

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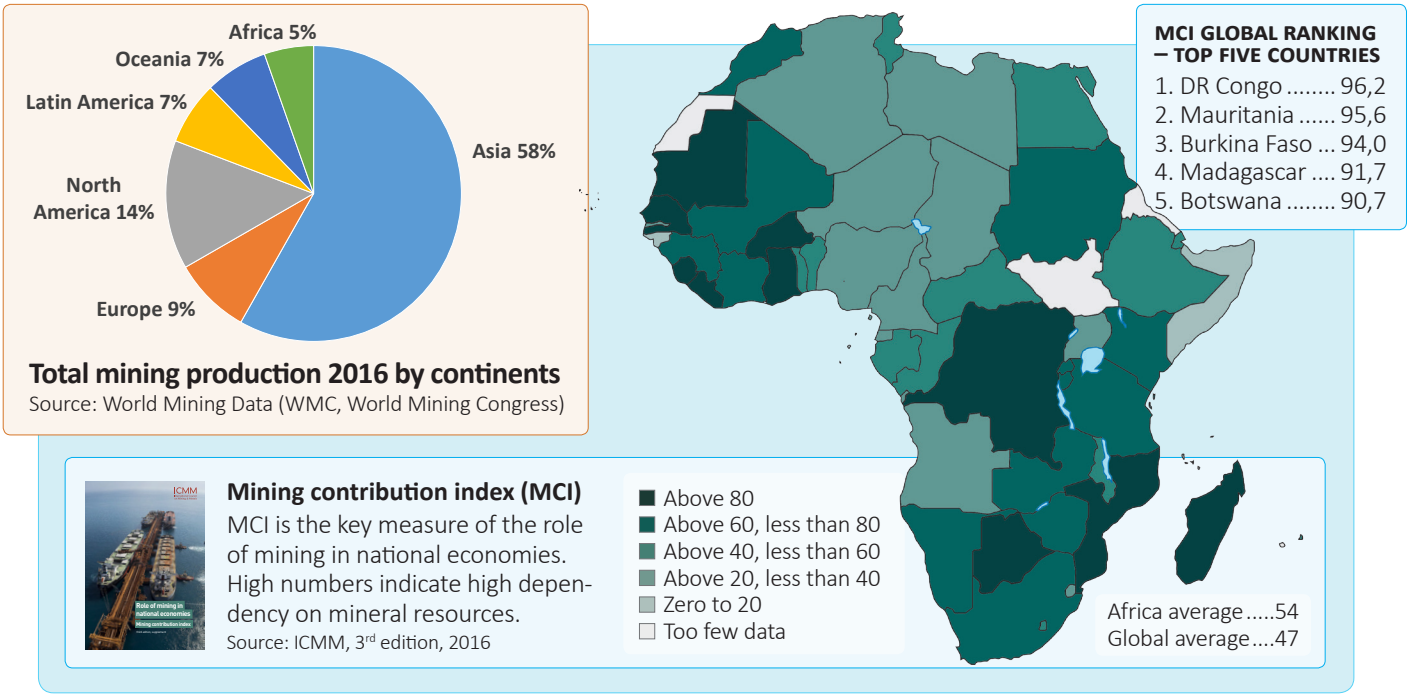
Africa is home to about 30 per cent of the world's total mineral reserves and a significant share of the global production of economically important minerals and metals. In many sub-Saharan African countries, the mining sector makes an important contribution to foreign exchange earnings, government revenues, employment and gross domestic product. However, many of the mineral-rich economies of Africa risk to continue to be dependent on mining.

The key measure for assessing the dependency of a national economy on extractive resources is the mining contribution index (MCI), developed by the International Council on Mining and Metals (ICMM). It is a composite index comprised of four indicators, each capturing different aspects of mining's contribution to the national economy. According to the latest (2016) edition of the ICMM ranking of 183 national economies by their MCI score, five African countries – DR Congo, Mauritania, Burkina Faso, Madagascar and Botswana – are at the top of the list.

According to two indicators of development – the human development index and per capita income – underdevelopment is associated with a higher depen-



Although only five per cent of the world's total mining production comes from Africa, five African countries are at the top of the list as the national economies which depend most heavily on mining.

dency on mining, since both indicators show a negative correlation with the mining contribution index score.

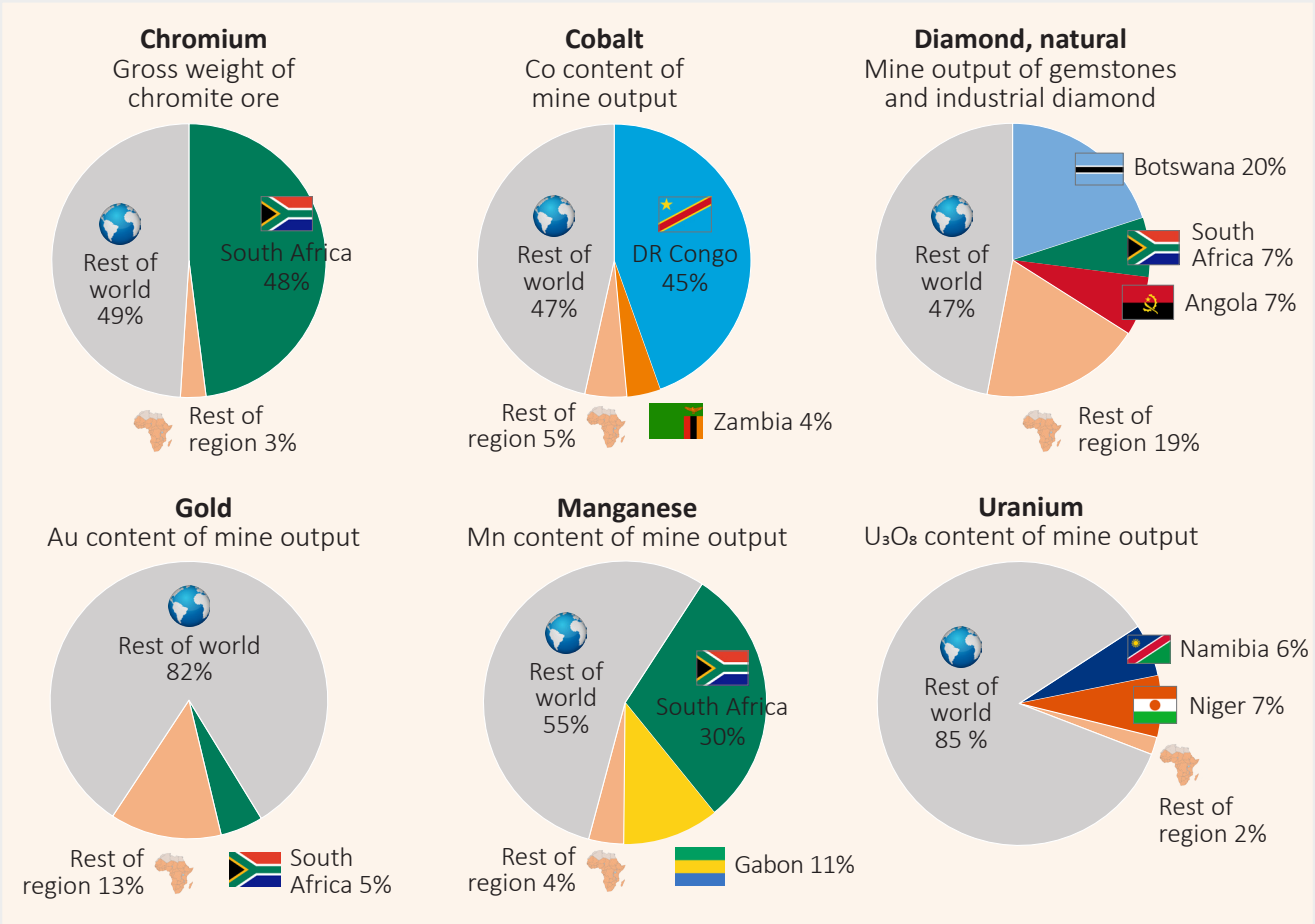
To measure the quality of resource governance when it comes to minerals (and certain other natural resources), the Natural Resource Governance Institute (NRGI), an independent non-profit organisation, has developed the Resource Governance Index (RGI). It is based on data from 81 countries, 34 of which are in Africa. According to the latest RGI (2017) only two African countries, Ghana and Botswana, are ranked as satisfactory.

Creating jobs and government revenues

The mining sector's contribution to employment is important and can be categorised into three forms: direct, indirect and induced employment. Direct employment comprises persons employed by the companies that own and operate the extraction site. Indirect employment applies to persons who are employed by companies that supply goods or services to the mining companies or that use its services (i.e. employment through the supply chain). And finally, induced employment is the additional employment generated as a result of the spending activities of those employed directly and indirectly by the mining industry. In terms of direct employment, the best statistics available are those produced by the International Labour Organization (ILO), whose latest data show that the share of the mining sector in total direct employment is greater than one per cent in many African economies:

Country	Year	Mining employment	Share of total employment
South Africa	2014	428,000	2.8%
Namibia	2013	13,600	2.0%
Zambia	2012	90,000	1.7%
Liberia	2010	17,000	1.6%
Zimbabwe	2014	92,300	1.5%
Madagascar	2012	126,800	1.2%
Ghana	2010	112,700	1.1%
Senegal	2011	41,200	1.1%
Guinea	2012	53,300	1.1%

Source: ILOSTAT and ICMM 2016.

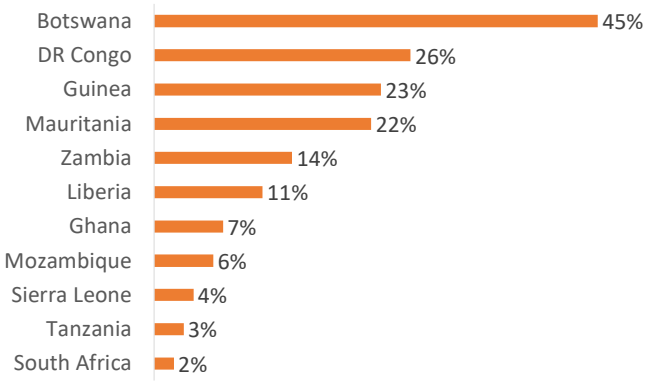


Sub-Saharan Africa's share of world production of selected mineral commodities. Source: Minerals Yearbook 2014, U.S. Geological Survey, December 2017.

Because of national differences in data gathering, classification and estimation methods, it is hard to generate internationally comparable employment figures from the national mining sectors – especially in sub-Saharan African countries, where informal jobs in artisanal and small-scale mining are common. For example, studies from Burkina Faso estimate that 100 times more people are engaged in artisanal gold mining (700,000) than work for mining companies (7,000).

In countries like South Africa and Zambia, where the formal mining sector is relatively large, jobs with mining companies are normally better paid than similar jobs in other sectors, and so their contribution to the total wage bill is proportionately larger than their contribution to job numbers. Furthermore, mines are often located in areas where alternative livelihood opportunities are limited.

In terms of the mining sector's contribution to government revenues, there is enormous variation across those countries for which we have relevant information. For example, over the period 2000–2013, the average contribution of mining to government revenues was 45 per cent in Botswana and only 2 per cent in South Africa.



Average contribution of mining to government revenues. Period 2000-2013. Source: ICMM, 2016.

Role of foreign capital

The continent's mining sector has become an attractive destination for foreign direct investment (FDI), due to the favourable geology of Africa, the long history of mining, favourable price movements for some minerals, the launch of privatisation programmes and the low risk of expropriation. FDI flows to the mining sector have the potential to promote technological change through learning-by-doing effects; to generate skilled employment, and hence raise the skill premium; and to increase spending on locally produced goods and services, which offers scope for generating additional employment.

Reform of the mining sector in Africa is a key factor in the flow of foreign capital into that sector. Reform has come in the shape of structural adjustment programmes, which aim at ensuring liberalisation, deregulation and privatisation of the mines. Another key factor is the commodity price boom. A sustained increase in the prices of key economically important

Some 700,000 people are estimated to be engaged in artisanal gold mining in Burkina Faso.

Photo: Cristiano Lanzano, the Nordic Africa Institute.

> Conflict is often prevalent in small-scale mining communities where concession boundaries are not clearly defined

minerals between the late 1990s and about 2012 increased the returns on investment in the mining sector; hence the increase in the inflow of foreign capital into the sector. Alongside policy reforms and the shocks in the prices of minerals, the presence (and quality) of the desired mineral resources and political stability are both important in attracting FDI into the mining sector.

Risk exposure due to overdependence

Overdependence of mining in Africa exposes producing countries to a number of risks. Among them are:

Macroeconomic instability. Unexpected falls in commodity prices cause significant shortfalls in government revenue targets and foreign exchange earnings. This leads to rising public debt and currency depreciation. Such a development may call for a painful fiscal adjustment (cutting public spending and increasing taxes).

Social effects. Mineral resource booms and the sudden occurrence of livelihood opportunities in rapidly growing mining towns can give rise to many socio-economic effects, both positive and negative. They have the potential to encourage children to drop out of school and take up jobs to earn money. Small-scale miners are often labour migrants. How well they integrate in the local context depends on many factors. Failed integration can cause societal problems, such as an increase in crime, alcohol-fuelled violence, mental health problems and prostitution.

Inequalities and conflicts. Mining operations vie with agriculture for important inputs (such as land, water and labour) and this can generate conflict. Mineral exploration and exploitation involve the destruction of agricultural land, the construction of roads, river diversions and massive immigration. This can all contribute to disruption of the lifestyle and livelihood of people dwelling in the mineral-rich areas and can lead to resentment among the locals. Conflict is often prevalent in small-scale mining communities where concession boundaries are not clearly defined and where mining activities make use of arable land without offering adequate compensation. Environmental degradation and insufficient job opportunities add to the conflicts. In some cases, such as Sierra Leone and Angola, rebel organisations have seized mines and used the proceeds to fund their insurgencies.

Weak institutions. Mineral resource endowment affects the legal and political institutions of Africa. Countries that have applied the proceeds from mining judiciously have witnessed the development of stable and strong economies. Countries with autocratic and corrupt ruling elites lean precariously toward failure. Mineral-rich and politically stable countries such as Ghana, South Africa, Botswana, Namibia, Tanzania, Mozambique and Zambia have long histories of significant mineral resource endowment. Mineral-rich but politically unstable countries could be said to exemplify the so-called 'resource curse': this refers to the paradox (disputed by many) that countries with an abundance of natural resources tend to have lower economic growth and less democracy than countries with fewer natural resources. Some examples would include Angola, Sierra Leone, the Democratic Republic of Congo and Equatorial Guinea.

Environmental effects. Mining contributes to air pollution, water pollution, land pollution/degradation and noise pollution (among other things). The damage that mining causes to the environment impacts adversely on the health and livelihood of the local population. There is evidence that pollution from mining can reduce agricultural productivity and biodiversity.

Policy recommendations on how to break mineral dependency


Photo: Botswana Diamond Trading Company

Add value by processing – the case of Botswana

Africa's mineral-rich countries must reduce the massive export of minerals and instead add value by processing a larger percentage of them at home. Botswana serves as a good example. In 2011 the government of Botswana embarked on a win-win marketing agreement with the multinational diamond-producing corporation De Beers. Under this agreement, De Beers relocated supply and sale of diamonds from its offices in London to Botswana's capital Gaborone. This strategy led to the relocation of about 160 jobs to Botswana, half of which were reserved for local people. In addition, the agreement offered Botswana the opportunity to supply rough diamonds worth about USD 500 million annually to local cutters and polishers, and this generated about 3,400 direct jobs.

Lessons can also be learned from Australia and Canada, mining-intensive economies that have established robust backward linkages with engineering, service industry and higher education.


Beaufort West, South Africa. Photo: Media Club.

Diversify – cases of Namibia and South Africa

Africa's mineral-rich countries should aim to diversify their economies on the back of the revenue from minerals. For instance, Namibia and South Africa have diversified their closely interlinked economies through the supply of goods and services to the mining sector. Furthermore, Namibia is developing vertical and horizontal integration of mining into secondary sectors, involving the transformation of raw or intermediate materials into finished goods.

Australia and Botswana also offer good examples of how to use the proceeds from mining to invest heavily in nationwide educational and infrastructural development.


Photo: Onça Puma Furnace 1 Rebuild project

Empower the local people – the case of Brazil

Regulatory approaches should seek to empower local people. In Brazil, the local content regulation governing the mining sector enshrines two important concessions for the local people. First, it ensures that firms engaged in mining in indigenous protection areas are controlled by Brazilians by insisting that national capital must own at least 51 per cent of firms. Second, local communities within the indigenous protection areas are empowered to reject projects that do not offer enough royalties to develop their communities. In the region of Onça Puma, for instance, the indigenous officials ensure that mining firms abide by the compulsory social obligation to acquire environment licences. These reserve 70 per cent of employment for local people in the first two years of operations, with a target of 100 per cent within seven years.


Mine in Bicol, Philippines. Photo: Joseph Fortin, ILO.

Promote research and development – the cases of the Philippines and Malaysia

In the area of mining technology transfer, mineral-rich African economies can turn the resource curse into a blessing by learning from the Philippines and Malaysia. The government of the Philippines ensures that mining firms allocate a minimum of 1.5 per cent of annual operating expenditure to support the development of mining technology and geoscience in the country's universities. Meanwhile, Malaysia's government enforces a regulatory requirement for mining firms to set aside 0.5 per cent of their operating costs and profits for research and development.

About the Authors

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About the Institute

The Nordic Africa Institute (Nordiska Afrikainstitutet) is a centre for research, knowledge, policy advice and information on Africa. Based in Uppsala, Sweden, we are a government agency, funded jointly by Sweden, Finland and Iceland.

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