

# Boosting Artisanal and Small-scale Mining

Harnessing the potential of ASM to improve rural livelihoods, to stimulate entrepreneurship in a socially responsible manner, to promote local and integrated national development as well as regional cooperation

—The Africa Mining Vision

The term **artisan and small-scale mining** (ASM) refers to mining operations run by local enterprises, as opposed to large-scale mining (LSM) operations, which are usually run by transnational companies.

In small-scale mining, project finance is relatively low (less than \$5 million) and the workforce is less than 50, whereas in artisanal mining only basic hand tools and processing may be used, miners work in small groups and project finance is much, much less.

Compared to LSM, ASM generates a living for many more miners and their families. **Whereas LSM is capital intensive, ASM is labour intensive.** However total employment in the sector fluctuates; for example during periods of drought, farmers will temporarily become miners. But when other sectors become more rewarding, ASM mining contracts.

In Africa, ASM exploits many kinds of minerals ranging from diamonds and a variety of other gemstones, to precious metals such as gold and tantalite, industrial minerals including limestone for aggregate and agricultural purposes, clays for pottery and many other non-metallic minerals.

Artisanal operators are generally migratory. They move from site to site searching for easy ways to extract minerals. A combination of practical, economic and social factors accounts for this migratory behaviour, such as the ease of winning minerals, the lure of high-value mineral strikes in other areas, displacement from mining areas (perhaps after their allocation to LSM companies) and the need to follow agricultural seasons. Since artisanal miners' capital investment is low, the opportunity cost of moving is not a deterrent.

Because of the non-mechanised and under-capitalised nature of ASM, there is often a poor recovery rate and returns are relatively low. This then reinforces the lack of capital investment and a vicious circle develops. ASM miners become caught in a poverty trap, and their continued existence becomes a sustainable livelihoods issue.

So the paradox of ASM is that although it has many more local linkages than LSM these linkages are not economically robust. Nonetheless, ISG estimates suggest that, in Africa today, ASM directly employs over 8 million workers who, in turn support over 45 million dependents.

Indeed, despite its cyclical and often informal nature, ASM continues to make a significant contribution to global mineral extraction; worldwide, 5% of gold and 25% of tin is won through ASM.

By employing and supporting many millions and through its significant contribution to world mineral extraction, **ASM has become integral to the economies of many mining countries in the developing world.**

So considered from the perspective of poverty reduction, ASM can be an important opportunity for improving conditions in rural and remote areas, especially where alternative livelihoods are few.

## Challenges

However ASM faces many challenges that prevent it from contributing to development in a more meaningful way. The ISG Report argues that these challenges need to be tackled holistically if ASM is to be transformed into a means of sustainable development. The report identifies the following issues:

- Most countries lack **policy frameworks that are flexible enough** to accommodate ASM and this impinges on their ability to operate. For example, the process of applying for mining rights usually favours LSM companies to the extent that ASM frequently operates without security of tenure. This in turn impacts on the ability of ASM enterprises to borrow and to invest. Furthermore without formal mineral rights small-scale miners can end up trespassing on legal concessions provoking local disputes.
  - ASM is **challenged technically**. Operators usually lack knowledge about legislation on health and safety, protection of the environment, mineral rights and a decent work environment. They will typically lack a business plan and will have little knowledge of marketing or mine planning. Furthermore, they lack access to appropriate technology because without capital to invest suitable plant and equipment becomes prohibitively expensive. Consequently short-term mining operations are soon abandoned once the easy ore is extracted, often leaving behind long-term environmental damage.
  - Efficient mining requires long-term financing for initial exploration and then to assess feasibility of extraction, however **without access to capital**, ASM cannot afford to get involved at this early stage. This has an impact on raising further funds; without quantified reserves miners cannot develop the strong business plan required by investors. ASM operators are therefore obliged to work outside formal financing institutions. Without access to finance, many artisanal miners have no option but resort to predatory middlemen or “supporters”, who sponsor their mining operations but to whom they have to sell at low prices, thus preventing them from ever accruing sufficient capital to invest in a formal mining business.
  - There is a **lack of access to a transparent market**. Often, ASM operators are tied to a sole sponsor, who also provides inputs such as mercury (for gold extraction) or tools, and it is he who will set the selling price rather than the market. ASM miners are thus disconnected from the market and are unable to get a fair price for their products.
  - The informal, unregulated nature of much ASM makes it **vulnerable to illegal dealings**. ASM is an easy victim of organised crime and paramilitary operations, especially in high value minerals like diamonds, gold and coltan. Rebel groups have used ‘conflict minerals’ to finance military campaigns against established governments. In response, various tracking and certification systems have been introduced both at regional level (Lusaka Declaration) and internationally (US Financial Stability Act, Kimberley Process etc.). But such measures need to be introduced with care. ASM operators need to have a practical and affordable way to certify production before systems are introduced; otherwise there is the risk of jeopardising ASM livelihoods.
  - Even amongst the poor there are levels of poverty, and in ASM **women benefit less than men from mining**. Women are disadvantaged in respect to mineral rights, capital and equipment. Their role as providers of fuel wood and fresh water can be affected by the environmental consequences of mining.
  - **Children suffer disproportionately** too; child labour in mines damages not only young bodies and minds but also means that schooling is missed. In some poor communities, girls are more likely than boys to be taken out of school to eke a living from mining.
- So given these multiple challenges, how can the contribution of ASM be boosted? Many countries have already reviewed their policies and have mainstreamed ASM into their poverty reduction strategies.
- However all too often initiatives have been partial and the piecemeal approach has resulted in unintended consequences. For example, a scheme in Ghana to introduce new mining technology led to the wild proliferation of informal mining using Chinese chang fa processing equipment. Increased ASM mining led to more encroachment on LSM concessions, increased harm to the environment and increased accidents. The opposite of what was intended.
- Other countries have introduced schemes to help improve the marketing of minerals by setting up

licensed selling to either private (Tanzania) or state-run buyers (Ghana and Ethiopia and Mozambique). But such organisations find it hard to dislodge illicit trading which remains rampant.

To address the problem of access to capital, some governments have introduced loan schemes for miners. However ASM operators often struggle to pay back loans, which then depletes the revolving fund.

### **Putting ASM on a business footing**

The ISG Report suggests a pragmatic way of beginning to tackle these many challenges and issues would be to first adopt criteria to distinguish between potentially viable from marginal ASM operations. Viability in this case means fit to grow into a business. This would depend not only on the deposit itself but also on technical, managerial, legal and entrepreneurial capacity.

According to the ISG Report, ASM operators need to become properly run businesses; it is only in this way that they can begin to access finance and become sustainable. The ISG Report suggests that one way to achieve this is by collaboration between LSM and ASM operators. An LSM company would, for example, adopt several small companies and provide technical and financial support over an agreed period. In South Africa, such mentoring, along with preferential sub-contracting is part of their Mining Charter.

Mentoring provides a possible pathway to move beyond the limits of philanthropic corporate social responsibility (CSR) to active corporate investment in ASM. The Report recognises this approach comes at a cost to LSMs and may need incentivising.

RECs have a contribution to make to ASM. Their reach allows them to develop a ‘regional toolkit for engagement’ between LSM and ASM. Such a regional approach could also bridge many of the technical and financial deficiencies of ASM.

To summarise, implementing the Africa Mining Vision entails bringing **ASM into the mainstream of economic life**, particularly in rural areas, and to offer it the financial and technical support that it conspicuously lacks.

This has to be formulated and implemented as part of a broad rural development strategy, and should include:

- Regularizing informal ASM.
- Simplifying and decentralizing procedures for acquiring ASM rights.
- Devising realistic implementation plans that enhance institutional capacity.
- Assisting miners to graduate from subsistence to sustainable businesses.
- Assuring a legal regime that gives ASM right-holders enough land, duration of rights and security of tenure.
- Providing accessible institutional, technical and financial support.
- Encouraging support for ASM from the more established private sector (including LSM).
- Expanding exploration work to help designate and allocate areas for ASM.
- Ensuring regional and international cooperation to address the challenges of conflict minerals.
- Raising capacity locally to run tracking and certification schemes before enforcing bans on transporting non-compliant minerals.
- Enforcing international norms prohibiting child labour.
- Exploring and launching measures to redress discrimination against women, whether due to the law or operation in practice.
- Promoting sub-regional cooperation in technology development, research, construction of appropriate plant and machinery, technical standards, compilation of a database of local capacity and generation of financial resources.

Artisanal and small-scale mining (ASM), which is prevalent in Africa, exploits a wide range of minerals. It sustains (often poor) livelihoods and makes significant contributions to national economies but it has the potential to contribute much more.

In the next bulletin we shall look at the ISG approach to managing the harmful social and environmental impacts of large-scale mining.