

An Artisanal Mining Environmental Code of Practice for Namibia

Rosina Ndahafa Leonard

*Ministry of Mines and Energy, Geological Survey of Namibia, 1 Aviation Road, P/Bag 13297, Windhoek, Namibia
kndalulilwa@mme.gov.na*

Morgan Hauptfleisch

Southern African Institute of Environmental Assessment (SAIEA), PO Box 6322, Windhoek, Namibia

Rainer Ellmies

BGR-GSN Project, Geological Survey of Namibia, 1 Aviation Road, P/Bag 13297, Windhoek, Namibia

Abstract. Generally, artisanal or small-scale mining is conducted in an informal manner which is difficult to regulate. The cumulative impacts resulting from this type of mining can have severe biophysical and social consequences. In some regions in Namibia, the Ministry of Mines and Energy with the National Planning Commission have established a programme to facilitate regulation of this industry. The programme analysed the baseline situation of artisanal mining in terms of its economics, social and environmental consequences. Following a situation analysis, an Environmental Code of Practice (ECOP) was developed to maximise economic and social benefits to local communities, and minimise environmental damage. The ECOP was developed in consultation with artisanal miners of the regions and contains pragmatic and affordable mitigation measures. These measures are separated into five main categories illustrated within the ECOP as a "green hand" of responsible small mining: i) co-operate with landowners; ii) mine "light" and rehabilitate; iii) work safely; iv) locate camps cleverly; and v) manage waste. Adherence to the ECOP is not yet a legal requirement; however miners are encouraged to implement it as it provides a number of incentives; which includes a more saleable product, mined with less environmental harm; and better relationships with landowners where minerals are mined.

Keywords. Artisan or small-scale miners, Environment, Environmental Code of Practice, Namibia

1 Introduction

The Ministry of Mines and Energy (MME) estimates that about eighty percent of the estimated 1000-10000 small-scale miners are not legal. While it is recognized that small-scale mining creates opportunities for employment and encourages entrepreneurship, the lack of monitoring of small-scale mining activities can lead to labour malpractices and environmental degradation. These impacts can negatively affect natural resources as well as create a negative perception of the product and brand of gemstone and crystal mining in Namibia.

The objective of the Environmental Situation Analysis is to describe, identify and assess the likely significant effects of small-scale mining on the Namibian biophysical and social environment. The report describes the cumulative impact of these effects and recommends mitigations for these impacts in the form of a practical environmental management plan (EMP). An environmental code of practice was introduced which should be adopted by small-scale miners.

2 Methods

A field inspection to the most important small-scale mining areas as well as the cutting and polishing factory in Karibib and the gemstone markets in Uis and Spitzkoppe junction, was undertaken in January 2010.

The inspection included:

- an estimate of the intensity of small-scale mining in different areas
- the extent of associated infrastructure
- the sensitivity of the ecosystems
- social setting in which small-scale mining takes place;
- The identification of biophysical and social impacts.

In addition, extensive public consultation was also done including:

- interviews with key stakeholders, including small-scale miners (legal and illegal), landowners, conservancy managers, traditional authorities, regional authorities, donor organizations, conservation organizations, minerals dealers and collectors and tourism operators
- Newspaper articles and radio interviews.

Relevant policies, laws and institutions pertaining to small-scale mining in Namibia were also considered.

3 Small-scale mining situations

3.1 Forces and dynamic

Most of the small-scale mining activities are mainly concentrated within the central Namib in cretaceous anorogenic rocks that contain a number of economically sought after accessory minerals such as topaz, quartz, tourmaline, aqua-marine, beryl, fluorite and apatite. Other products include dimension stones and building materials from the northwest and the southern part of Namibia.

Figure 1 is a schematic representation of the forces and dynamics of the small-scale mining.

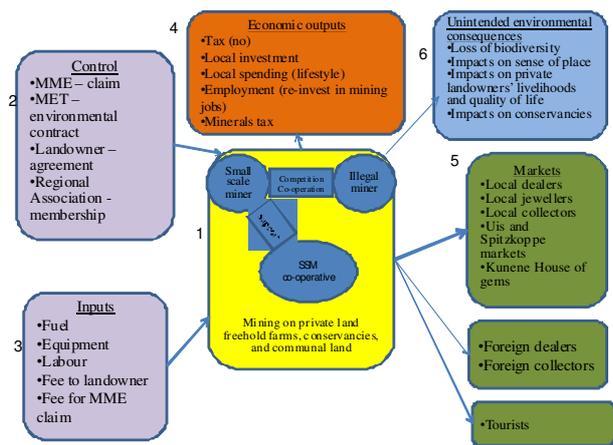


Figure 1. Forces and dynamics of small-scale mining.

4 Regulatory frameworks

The Minerals (Prospecting and Mining) Act 33 of 1992 is the main legal mechanism controlling the allocation of mineral rights in Namibia. In order to undertake mineral prospecting and mining operations, small scale miners SSMs must adhere to an environmental contract, issued by Ministry of Environment and Tourism (MET) in consultation with MME. Additionally, SSM also had to adhere to the Communal Land Reform Act 5 of 2002, The Soil Conservation Act No 76 of 1969 and the Soil Conservation Amendment Act No 38 of 1971, The Nature Conservation Ordinance 4 of 1975, Water Act 54 of 1956 and the National Heritage Act 27 of 2004.

The legislation dealing with environmental issues in terms of small-scale mining remains fragmented and sector based, despite the emergence of the Environmental Management Act, which has not yet been properly implemented. Other legislation that can have an impact on the small-scale mining sector includes the proposed Parks and Wildlife Management Bill and the Water Resources Management Act of 2004 – both of which are not yet implemented. Furthermore, land use planning is characterised by conflicting policies between various ministries and devolution of authority is easily overridden by centrally placed government agencies. The ultimate decision making lies in the Ministry at a central level. It is also clear that established guidelines have been set in order to organise and promote the small-scale mining sector, and it appears that the process is working to the extent that small-scale miners are being drawn into the formal economy via co-operations and organised associations. This in turns bodes well for co-ordinated approach to management and capacity building of this important economic sector. There is however, room for improvement in this regard. There appears to be inadequate capacity within the Ministries to properly monitor this sector insofar as training and technical assistance is required.

In spite of the existing safeguards noted earlier, there remain environmental concerns because of factors such as:

- The large number of miners (legal or illegal) involved in this sector.
- The fragile environments where mining activities occur.
- The weak incentives and disincentives for compliance with permit conditions and best practice guidelines.

However, care should be taken to balance the requirements of law and administrative concerns with the needs of the small-scale mining fraternity and their socio-economic role. Small-scale mining organisations need environmental, technical and economic support in order to promote a self-policing industry that will root out informal and illegal operators.

5 Results

An Environmental Code of Practice (ECOP) is proposed to guide small-scale mining operations in order to minimise the impacts identified regionally (Fig 2). The code of practice is a visually explanatory document based on five key points of practice which, when implemented correctly, will address all of the identified impacts. The key points are described in Table 1.

Table 1. ECOP points and the impacts they address

ECOP point	Impacts reduced
Co-operation with landowners	<ul style="list-style-type: none"> • Poaching • Litter & waste • Risk of fire • Security risk • Disruption of farming activities • Interference with tourism
Mine “light” and rehabilitate	<ul style="list-style-type: none"> • Visual • Erosion • Interference with tourism • Risk to health & safety of miners
Work safety	<ul style="list-style-type: none"> • Risk of fire • Risk to health & safety of miners
Locate camps cleverly	<ul style="list-style-type: none"> • Wildlife displacement • Visual • Risk of fire • Risk to health & safety of miners • Damage to archaeological heritage
Waste management	<ul style="list-style-type: none"> • Litter & waste • Visual • Risk of fire

A commitment to implement the ECOP should be a precondition for the registration of claims and for membership in regional association. Figure 3 illustrates the institutionalisation of the ECOP.

When a small-scale miner applies for a mining claim,

part of the application process includes an environmental screening questionnaire, and the signing of an environmental contract with MET. A commitment to the ECOP needs to be included in the environmental contract. The letter which is written to landowners informing them of the claim registration will be accompanied by the ECOP. This will allow landowners to monitor the implementation of the ECOP.

MET (Environmental commissioner under the EMA (2007)) should be responsible for monitoring compliance with the ECOP. The small-scale miner (as prescribed in the ECOP) will report on various aspects of the ECOP to association, and compliance must be reported by MET and landowners. Penalties for non-compliance will be decided on by MME, and action will be taken accordingly, either cancelling claims or black-listing miners for future claim applications.

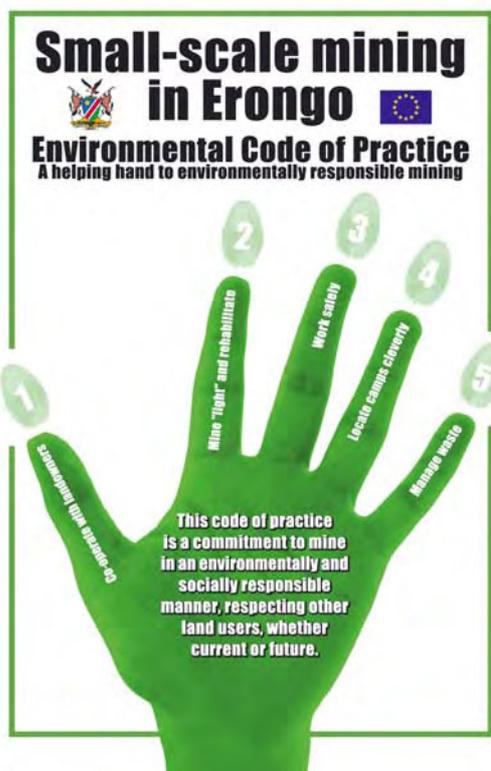


Figure 2. Code of Practice for Small-scale mining

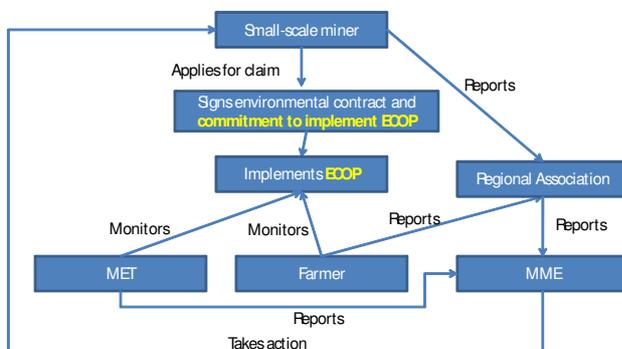


Figure 3. Implementation of the Environmental Code of Practice (ECOP).

6 Conclusions

Small-scale mining in the Erongo region has the potential to be a reasonably sustainable livelihood strategy. Although it currently exists with minimal conflict with other land-uses, it can be operated in harmony with other land-uses towards a synergistic relationship with other valuable industries, such as tourism. Mining intensity varies from heavy to moderate and light, hence its success also varies.

Numerous impacts on the socio-economic and biophysical impacts of small-scale mining were identified. Impacts of high significance are:

- Security risk to landowners;
- Poaching (in a socio-economic sense);
- Disruption of day-to-day activities; and
- Damage to archaeological heritage.

Impacts of medium significance are:

- Wildlife displacement;
- Visual scarring;
- Risk of fire;
- Erosion;
- The biophysical impact of poaching;
- Interference with tourism; and
- Safety of miners.

A number of positive impacts were also identified, including the provision of jobs for locals and stimulus of local economy.

For each negative impact, mitigation actions are recommended. With implementation of these mitigations all negative impacts can be reduced to low significance. Enhancements of positive impacts are also proposed. An environmental management plan is proposed which details the implementation of these mitigations.

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