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# The Evolution of Diamond Mining in Lesotho

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# Acronyms :

| | |
|---|---|
| EIA | Environmental impact assessment |
| LHWP | Lesotho Highlights Water Project |
| LNDC | Lesotho National Development Corporation |
| NGO | Non-governmental organisation |
| NIR | Net international reserves |
| TRC | Transformation Resource Centre |

# Lesotho

# Background

Lesotho is a country well known for its diamonds and is home to some of the biggest diamond finds in the world. However, since the discovery of diamonds at Letseng in 1967, the contribution of diamond mining to the economy of Lesotho has been unpredictable. In the past diamonds were not mined consistently because most of the initial feasibility studies conducted at the exploration stage showed that diamond mining in Lesotho could not be sustained and commercialised.

This initial conclusion was, however, not supported by individual miners who continued to mine despite the survey findings. Some small companies and individual diggers actually found gems and diamond pipes that could be considered commercially sustainable. These findings justified the re-commissioning of feasibility studies to confirm the discovery of the pipes by diggers and some marginal mines.

The first of the known diamondiferous pipes included the following: the Letseng-la-terai pipe in the Mokhotlong district; the Kao, Liqhobong and Lemphane pipes in the Botha-Bothe district; the Mothae pipe in the Mokhotlong district; and the Kolo and Sekameng pipes in the Mafeteng district.[1]

The Letseng diamond pipe was prospected by the Rio Tuito-Zink Exploration Corporation on behalf of the Lesotho National Development Corporation (LNDC) until 1971. Lonrho group prospected the Mothae pipe, and the Anglo-American Corporation prospected the Kao and Liqhobong pipes from 1962–64; however, all operations ceased in 1967 and the companies involved made the decision not to continue mining due to the limited lifespan of the mines. This sent mixed signals regarding the potential of diamond mining in Lesotho.[2]

The quality of the overall prospecting work that was carried out around 1971 led many to conclude that most of the pipes were low grade and therefore large-scale mining could not be justified. These conclusions echoed the earlier findings of various surveys like the Reconnaissance Geological Survey of 1938–39, Diamond Prospecting 1955–63, a Reconnaissance Mineral Survey in 1963 and the Overseas Geological Survey of 1965/66.[3]

All this work was submitted to the LNDC, a government agency charged with attracting direct investment and promoting the country's production potential abroad. The fact that the surveys were not optimistic led the LNDC to give less recognition to the mining industry as a potential driver of the economy than it may have deserved.

This report will attempt to outline the evolution of diamond mining in Lesotho and to discuss its current and potential contribution to the economic growth and development of the country.

## Development of artisanal mining

Since the mining companies holding prospecting licences did not make use of their mining rights, individual local diggers were granted licences by the LNDC to mine. But these attempts by independent diggers were characterised by limited production capacity due to their use of primitive tools.

In an attempt to remedy this situation the government set up a revolving loan fund whereby the diggers could acquire equipment like rotary pans and pumps on a hire purchase arrangement. By 1971/72 the amount allocated to the fund was only M6 000, a sum considered low even by current purchasing power standards. The limited funds allocated did nothing to advance the individual diggers to middle level companies with the ability to expand their mining to a macro and commercial level.[4]

It is, however, acknowledged that the introduction of the fund did seem to benefit those individuals who did not have even the basic start-up capital to engage in medium-term mining and those who had a limited capacity to grow their mining interests. Thus despite its limitations, the government fund was of some use. (The fund allocation is shown in Table 1.)

Limited assistance was awarded to diggers from 1971–74. During this four-year period M25 000 was allocated to water supply and M6 000 for the purchase of equipment, adding up to a total of M31 000. However, Table 1 clearly shows that the amount of funds allocated to diggers was overshadowed by allocations to surveys (at M511 000), even though the increased presence of individual diggers hinted at greater prospects for diamond production potential than was initially predicted. Available information does not, however, provide specific details regarding the conclusive and quantifiable benefits of the revolving fund; for example, how many diggers received aid or how much progress was made in the careers of individual miners.

It is reported that by 1976 the assistance to diggers by way of the revolving fund had increased to M150 000 – a big jump from the initial allocation of M31 000. But the extra funds were used mainly for the relocation of some 600 individual diggers from Kao and

Liqhobong to Lemphane, a nearby area. These diggers were moved to make way for two companies that had expressed interest and seemed to have the potential to mine at a higher capacity than the artisanal miners. The relocation assistance was thus aimed at avoiding revolt among the communities and the diggers themselves.

**Table 1** **Mining development (R'000)**

| | 1971/72 | 1972/73 | 1973/74 | Total |
|---|---|---|---|---|
| Mineral surveys | 260 | 120 | 131 | 511 |
| Aid to diggers | 31 | - | - | 31 |
| Total | 291 | 120 | 131 | 542 |

Source: Government of Lesotho 1975. "Kingdom of Lesotho Second Five Year Development Plan: 1975/76–1979/80, Vol 1". Government Printers.,Maseru.

# Development of alluvial diamond mining

Alluvial mining is a form of diamond mining which involves the collection of diamonds that have been deposited on river banks and beds as a result of natural action over thousands of years. This method of mining requires the sifting of mud, sand and gravel and does not involve extensive excavation. The Lesotho government's Department of Mining and Geology is considering issuing new prospecting licences for mining using this method. The approach is similar to that of individual diggers in that it involves the operation of mobile units of production using prospecting mobile rigs and submersible silt pumps.

The areas earmarked for alluvial mining are likely to be around the river beds of the Patiseng, Khubelu, Qaqa, Matsoku and Mokaolibane rivers. The advantage of these rivers and their tributaries is that they have linkages with the Letseng and Mothae pipes. The envisioned mining will probably require a large initial investment and will use advanced technology to enhance efficiency and output. Alluvial diamond mining can be contrasted with open cast mining which requires the digging of shafts and tunnels and the use of earth moving equipment.[5]

## Production capacity (1964–1990s)

Diamond output production for the period 1964–74 when individual diggers were active showed an overall increase in output; an indication that there was potential for greater diamond production in most of the prospecting areas (see Table 2). This stimulated renewed interest in the exploration of diamond mining in Lesotho.

However, the fourth five-year development plan for Lesotho (1986/87–90/91)

**Table 2 Diamond exports by licensed dealers**

| | Carats | Value (R'000) |
|---|---|---|
| 1964/65 | 4 333 | 219 |
| 1965/66 | 624 | 587 |
| 1966 | 12 505 | 697 |
| 1967 | 21 737 | 1 048 |
| 1968 | 11 913 | 376 |
| 1969 | 29 787 | 1 174 |
| 1971 | 6 815 | 212 |
| 1972 | 9 019 | 196 |
| 1973 | 8 587 | 255 |
| 1974 | 11 307 | 752 |

Source: Government of Lesotho 1970. "Lesotho First Five-Year Development Plan: 1970/71–1974/75". Maseru: Government Printers, Maseru; Government of Lesotho 1975. "Kingdom of Lesotho Second Five Year Development Plan: 1975/76–1979/80, Vol 1". Government Printers. Maseru:, Government Printers.

described mining as a sector which needed massive investment, but had an uncertain future and often distant returns. Similar sentiments were expressed by Sechaba Consultants in 1995, which also stated that contrary to popular belief that mountains are generally rich in minerals, this was not the case in the Lesotho mountain kingdom.[6] This was also the explanation given for the closure of the De Beers diamond mining operation at Letseng-la-terai in 1982.[7]

## Production capacity (1999–2006)

Recent production capacity indicates, however, that Lesotho's diamond potential was either underestimated through error, or a miracle has taken place and the original prediction was correct. This is mentioned in the context of the recent discovery of exceptional precious gems that have fetched high prices on the international market.

There are currently only two operational mines in Lesotho with the rest still at prospecting status. The first mine to come into production recently was the Letseng diamond mine. A mining lease was concluded in 1999 with the government holding 24 percent of the equity. In November 2004, 215 carats were discovered followed by two large diamonds weighing 95 and 125 carats respectively. In less than 12 months the mine had processed an estimated 21 500 carats, with the 2004 estimates indicating 50 million tonnes of open pit mineral reserve. The expectation is that production will indeed rise given that the economic life of the mine is about 34 years.[8]

Gem Diamonds, which is listed on the London Stock Exchange, currently owns 70 percent of Letseng Diamond Mine while 30 percent is owned by the Lesotho government. Gem Diamonds bought out South African–based JCI's share in Letseng for an estimated US$143 million in September 2006. Letseng celebrated the discovery of a 603 carat diamond named the "Lesotho Promise" in August 2006 – the 15$^{th}$ largest diamond ever found.[9] The previous largest find dates back to 1967 when a diamond weighing 6.03 carats was excavated. The Government of Lesotho receives royalties from the proceeds of the mines.

The second mine, Kao, is reported to have reserves of 147 million tonnes and a remaining lifespan of 23 years. Lesotho Diamond Corporation (a private company incorporated in Gibraltar) has the full shareholding of Lesotho Diamond Mining, which in turn owns an estimated 93 percent of Kao diamond. The remainder of the equity is held by the Government of Lesotho, which is at liberty to increase its share up to 20 percent.

The Kolo Mine is prospected by Angel Diamonds, which is a subsidiary of Thabex. Motapa Diamonds is prospecting at Mothae, where diamonds were first found in 1961 by Basutholand Diamonds. Mothae yielded 16ct/100 loads from 136 loads (85t) of brown kim-

berlite. Motapa Diamonds is listed on the TSX Venture Exchange and has other mining properties in Botswana, Gabon, Mozambique and Zambia.

Liqhobong is operated by AIM-listed European Diamonds, which also has mining property in Finland. The Liqhobong mine has a main pipe estimated at 9.5 ha with an estimated grade of 17ct/100t and value of US$60/ct. Its satellite pipe is estimated at 1.6 ha with a grade of 68ct/100t and value around US$50/ct.

The benefit of having listed companies active in Lesotho is that most of them have international presence with access to sources of capital injection, thereby ensuring availability of finance for exploration. There is, however, unconfirmed speculation that the international presence may have resulted in unauthorised cross-border sales and re-exports. Included in this speculation is the Lesotho Promise diamond that was sold for US$12.36 million to the South African Diamond Corporation, which is part of the Graff portfolio, a London-based buyer of diamonds. It is estimated that once the diamond has been cut and polished its retail value will exceed US$20 million.

The discovery of the Lesotho Promise has drawn much attention to the Lesotho diamond industry. Since the takeover of Letseng by Gem Diamonds and before the discovery of the Lesotho Promise, about four large diamonds weighing a total of 366 carats had been excavated.[10] The recent high rate of diamond discoveries in Lesotho has, however, raised some suspicion regarding the true source of the diamonds, especially when contrasted with historical discoveries presented by surveys. There is no evidence as yet to confirm these speculations; however, it may be necessary for the Government of Lesotho to disseminate public information about the industry to avoid any further speculation on the nature of the diamond mining industry in the country and to minimise any potential credibility problems.

# Economic impact of mining on the general economy

Sectoral distribution of credit to enterprises indicates that since the recent mining ventures in 2005, mining in Lesotho has had little support from local financial institutions. The local financial markets are still in the developmental stages and consequently still subject to the financial intermediation of commercial banks. It was only in 2006 that limited financial requirements for the mining sector were sourced locally. This is interesting as most other sectors seem to be predominantly reliant on local financing (see Table 3).

Diamond output in Lesotho has increased significantly from 2004 to 2007 (see Figure 1) and the diamond mining sector is emerging as a serious player in the Lesotho economy. The current level of growth may also encourage an increase in direct foreign investment.

The increase in diamond output corresponds with an increase in the share of diamond exports to total Lesotho exports, as shown in Figure 2 where imposing a linear trend depicts an upward trend. Foreign revenue from diamonds is now a major contributor to foreign exchange – second only to manufacturing, in particular textiles and clothing. The increased contribution of diamond-related foreign exchange augers well for Lesotho as it is likely to increase the country's net international reserves (NIR) position. This is paramount as Lesotho requires an NIR level in the range of US$450-500m in order to maintain the local currency peg of 1:1 with the South African rand.

Although the mining sector seems to be an important player in the context of the general Lesotho economy, the sector is, however, generally capital-intensive – and in a country with serious unemployment problems.

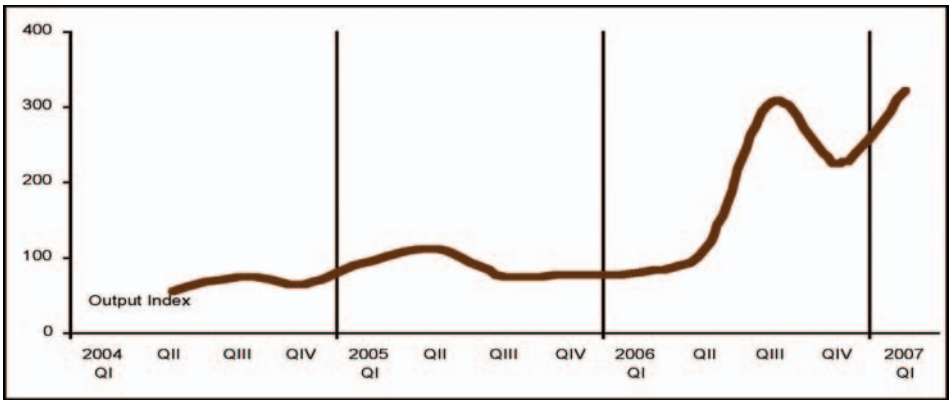
It is estimated that by the first quarter ending March 2007 only 384 employees were employed by the mines. By contrast, for the period just after 1982 the combined employment of large- and small-scale diamond miners was estimated at 1 500 people.[11] To further illustrate the poor employment capacity of the mines, it was estimated that when the

**Table 3** **Sectoral distribution of credit**

| Sector | 2005 | | | 2006 | | | | 2007 |
|---|---|---|---|---|---|---|---|---|
| | Jun | Sep | Dec | Mar | Jun | Sep | Dec | Mar |
| Mining | 0.0 | 0.0 | 0.0 | 0.0 | 13.5 | 3.0 | 2.8 | 26.5 |
| Manufacturing | 46.0 | 41.3 | 47.8 | 20.4 | 15.6 | 44.0 | 45.7 | 44.3 |
| Construction | 126.8 | 121.0 | 133.6 | 133.3 | 99.1 | 97.8 | 107.9 | 112.5 |
| Other development sectors | 4.9 | 10.7 | 135.2 | 151.5 | 184.2 | 241.5 | 257.1 | 273.7 |
| Distributive services | 42.2 | 46.5 | 27.5 | 16.1 | 6.7 | 12.0 | 12.3 | 11.3 |
| Other services | 6.0 | 6.1 | 6.9 | 18.4 | 6.6 | 0.9 | 1.1 | 1.5 |
| All sectors | 225.9 | 225.7 | 350.0 | 339.6 | 325.8 | 399.3 | 426.9 | 469.8 |

Source: Central Bank of Lesotho. 2006. *September Quarterly Review* Vol XXVI, No. 3. Maseru, Lesotho. Central Bank of Lesotho. 2007. *March Quarterly Review* Vol XXVII, No.1. Maseru, Lesotho.

**Figure 1** **Diamond output index,* 2004–07**

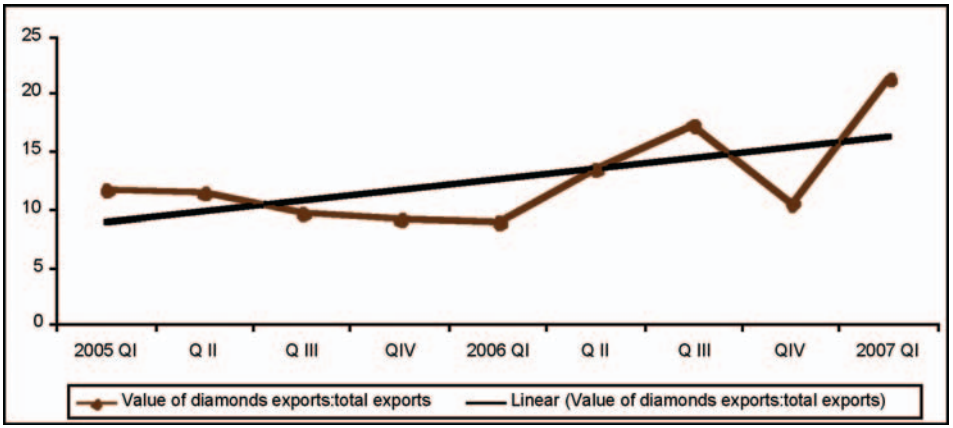



Source: Central Bank of Lesotho. 2007. *March Quarterly Review* Vol XXVII, No. 1. Maseru, Lesotho.
* The base is the first quarter of 2005.

Liqhobong operations commenced in 2005 it had the potential of producing 200 000 carats a year using only 75 Basotho employees.[12]

Although the figures show minimal direct employment, the mining houses assert that preference is given to the employment of local residents where possible if they have the basic necessary skills, and that jobs are created in secondary industries that serve the mines, such as food catering and maintenance.

**Figure 2 Value of diamonds exports as share of total exports (million Maloti)**




Source: Authors calculations

# Socio-economic implications

The regulatory authority for mining in Lesotho is the Commissioner of Mines and Geology, which forms part of the Ministry of Natural Resources and is guided by the Mines and Minerals Act No. 4 of 2005. Before any licence can be issued an environmental impact assessment (EIA) has to be undertaken and approved by the Lesotho Environmental Secretariat within the Ministry of Tourism, Environment and Culture. This is regulated through Environmental Act No. 15 of 2001.

All mining companies in Lesotho need to follow the procedures set up by the legislative framework to obtain mining rights. Although EIAs are conducted they generally conclude that the mining activities will not be harmful to the environment, and occasionally they indicate a minimal impact to the environment. This pattern in studies of overlooking the harmful effects of mining has aroused suspicion from some quarters of society. However no complaints have been formally lodged with regulating authorities to prompt an investigation of the issue.

The environmental obligations state that the holders of mineral rights shall preserve the natural environment, minimise and control waste or undue loss of or damage to natural and biological resources and prevent, and where unavoidable promptly treat, pollution and contamination of the environment.

The current mining method in Lesotho is open cast extraction, which involves shafts, pipes and tunnelling. Since most of the mines are located near rivers or tributaries, it would be logical to expect some level of pollution at least of the water resources and a negative impact on downstream vegetation. But surprisingly, most EIAs align their findings with environmental impact studies undertaken during Phases 1A and 1B of the Lesotho Highlights Water Project (LHWP), which found minimal and correctable negative impacts.

The socio-economic impact of the LHWP on communities around the project area has been a subject of concern for a number of non-governmental organisations (NGOs), in particular the locally-based NGO Transformation Resource Centre (TRC). TRC has lobbied for the

resettlement of communities, compensation for loss of livelihood and grazing land for animals, and direct employment and environmental benefits promised by the project.

There are no conclusive studies that conflict with the findings of the existing environmental studies. Financial limitations and lack of technical expertise within NGOs are possible explanations as to why the NGOs have not been able to conduct independent scientific studies to refute the existing findings. Without solid facts it is difficult to contradict the original EIAs. As a result there have been allegations that the government system has been remiss in allocating sufficient personnel to monitor the environmental degradation that is often a by-product of industrial development and processes.[13]

# Conclusion

Lesotho diamond production has been characterised by booms, busts and periods of suspended production since the discovery of diamonds in the mountain kingdom in the late 1950s. Nonetheless, diamond mining in Lesotho is still considered a promising and growing sector.

This report has attempted to highlight that although it has been concluded that diamonds are present in Lesotho, there is still no government policy aimed at directly promoting Basotho involvement and participation in the mining industry. This seems to be the missing link in the development of this sub-sector. The importance of the involvement of the Basotho is vital to mitigate any possible trauma that may arise from a fall in investor confidence at any point in time. It is important not to follow the example of the manufacturing sector, particularly textiles and clothing, which is dominated by foreign nationals, thus making the country susceptible to capital outflows and volatility.

The mining sub-sector is also characterised by a lack of information about its activities, which has led other sectors of the economy to suspect foul play. There have even been allegations that the diamonds found in Lesotho have been smuggled in from elsewhere and then re-exported. However, there is no evidence to support this allegation conclusively and therefore it has not been debated exhaustively in this report.

It was noted further that diamond mining output is increasingly steady in Lesotho and that the industry could become a significant foreign exchange earner for the country's economy. This contribution is further magnified by the financial injection it gives to the economy, though not much of it is generated internally. It is expected that it will integrate with the local financial sector in the long run.

In conclusion, it would be beneficial for the sustainability and stability of the general macroeconomy of Lesotho if institutions such as the Department of Mining and Geology and the LNDC could be persuaded to establish mechanisms to ensure that the Basotho people play an integral role in the Lesotho diamond industry.

# Endnotes

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