NAMIBIA

By Roger Murray

Although mining's share of GDP has declined in recent years, amounting to 9% of Namibia's N$24 billion (US$3.5 billion) GDP at current prices in 2000, it continues to contribute the largest proportion of exports and a major slice of government revenue. Namibia recorded an estimated 3.9% real growth rate in 2000, slightly below the previous year's 4.3%, and after an exceptional rate of expansion in 1999, diamond real value-added grew by a much smaller 1% (15% in 1999), whereas other mining output rose by 10% after the negative growth of the preceding year.

Continued strong demand for high quality gemstones on the global market boosted Namibian diamond exports sizeably in 2000 despite a slight fall in production. Data on external transactions published by the Bank of Namibia (central bank) show diamond earnings rose by 35% to a record N$4.8 billion (US$698 million) in 2000, reflecting a 7% rise in the volume sold and a 28% increase in prices. Combined with a 13% rise in other mineral exports to N$1.3 billion (US$187 million), total exports rose by a fifth to N$10 billion (US$1.4 billion) in 2000, of which minerals including diamonds contributed 49%. Tax and royalties from diamonds were set to contribute N$769 million in the 2001/02 fiscal year (1 April-31 March), up from N$425 million in 2000/01.

The Namibian mining industry continued to implement stringent controls and re-assessment exercises in order to maintain a competitive edge during 2000 in the context with generally poor market conditions for most mineral exports with the main exception of diamonds. However, production at most operations owned by the 38 full members of the Chamber of Mines of Namibia (CMN) surpassed that of the preceding year and the decrease in the value of the Namibian dollar against the US dollar and sterling helped to alleviate the negative impact of unavoidable local cost escalations. Major developments included the restarting of mining and processing operations previously conducted by Tsumeb Corp. under the new ownership of a local group Ongopolo Mining & Processing (OMP), in March 2000; the approval in mid-year by Anglo American for construction of a zinc mine and concentrator/refinery plant at the Skorpion prospect in the southwest of Namibia, some 20 km from the existing Rosh Pinah lead/zinc mine; and the conclusion of a comprehensive new agreement in November 2000 between the government and De Beers, involving the restructuring of the latter's offshore Namibia mining operations.

Total employment by the mining industry increased to 6,248 in 2000, up from a low of 5,427 in the preceding year, reflecting the reopening of the Tsumeb smelter and mines by OMP. Total remuneration was N$559 million (US$81 million) in 2000, equivalent to an average N$89,000 (US$13,000) per employee.

Exploration spending by CMN member companies fell by 5% in 2000 but was still maintained at the relatively high level of N$167 million (US$15 million) compared with the previous year. Prospecting for diamonds, mainly offshore, accounted for a 79% share, or N$132 million.

On land, the major exploration activities were related to development of the Skorpion mine and the issuing of exclusive prospecting licences (EPLs) for a large portion of the '*Sperrgebiet*' (Forbidden Territory), the widely-used name for Diamond Area No.1, north and east of Oranjemund, which had been previously closed to prospecting. The area is believed to have significant potential for zinc and other base metals and this attracted considerable interest from a number of major exploration companies. A total of 53 applications were received in early 2000, and 24 licences were issued with strict environmental conditions attached in view of the area's fragile desert ecology, to a diverse range of firms. A Land Use Plan is being compiled and a working forum has been set up so that all stakeholders can share information and co-ordinate their activities, especially regarding infrastructure development.

The number of EPLs awarded by the Mining Commissioner's office rose to 155 in 2000, up from 92 in the previous year, while awards of non-exclusive prospecting licences fell slightly to 510, down from 518 in 1999. There was also a fall in the number of claims registered to 147 in 2000, down from 176 in the preceding year. In addition, four mining, three exclusive reconnaissance, and one mineral deposit retention licence were granted during 2000, and the backlog of licence applications in progress at the year-end had been reduced to a small number compared with preceding years.

Exploration companies remained concerned about the implications of continued legal proceedings between Northbank Diamonds, a subsidiary of South Africa's Trans Hex Group, and Aussenkehr Grape Growers' Association regarding prospecting work on the Orange river northbank. This concerns the right of access of the mineral rights holder to carry out exploration under a previous agreement with the landowner. The area concerned is very close to grape production areas and access has been denied subject to appropriate compensation being agreed.

In the December 2000 quarter, the Ministry of Mines & Energy (MME) issued a tender for consultants to draft a Minerals Policy, work on which was due to start in the March 2001 quarter. Apart from the new Diamond Act, 1999, implemented with effect from April 1, 2000, which provides for the control and regulation of diamond trading, no other mining legislation was implemented during the year. Work by a joint committee of MME and CMN representatives on the revision of the existing minerals act progressed and it was intended that a revised draft would be completed during the June 2001quarter.

Diamonds

A wide-ranging agreement between the Namibian Government and the De Beers group, concluded in November 2000, has provided a new framework for the latter's large-scale deepsea mining operations along the southern Namibian coast with the aim of increasing offshore investment, production and profitability. The newly-constituted De Beers Marine Namibia (DBMN) has taken over responsibility for these operations from De Beers Marine (Debmarine), a wholly-owned subsidiary of De Beers Consolidated Mines, the South Africa-based arm of the De Beers group. The shareholders in DBMN are De Beers Centenary, the Swiss-based arm of the De Beers Group, with a 70% stake, and Namdeb Diamond Corporation (Namdeb), with 30%. The new arrangements provide the government with its first direct interest in De Beers' offshore Namibia operations, as Namdeb, which produces all diamonds currently mined onshore, is a 50:50 partnership between the government and De Beers Centenary. Through its equity interest in Namdeb, the government will now get a direct share of the profits from offshore mining, in addition to tax revenue and the 10% royalty payable on all mined gemstones.

Under the deal, four production vessels already deployed in Namibian waters (valued at N$700 million or US$120 million) have been transferred from Debmarine to DBMN. Debmarine, which formerly acted as contractor to Namdeb for the latter's Atlantic 1 deepwater concession, will now concentrate on South African offshore diamond mining and exploration and potentially other opportunities elsewhere in Africa. Debmarine's contractor status was held to have inhibited long-term planning for offshore Namibia operations, whereas DBMN has security of tenure until expiry of the existing concession in 2020. As part of a 'significant widening of their collaboration in the mining of Namibian diamonds' a five-year extension of the existing contract for the marketing of all Namdeb's output through De Beers' Diamond Trading Company (DTC), backdated to January 1, 2000, was also agreed. In addition, a Namibian Government representative has been appointed to the boards of both De Beers Centenary and De Beers Consolidated for the first time, while Namdeb's current managing director, Inge Zamwane, was also authorised to attend all meetings

De Beers also agreed to sponsor a second diamond cutting and polishing plant, to be located in Windhoek and expected to employ some 100 persons. The first plant, NamGem Diamond Manufacturing Co., based at Okahandja, reported satisfactory operations during 2000 and output increased to an average 150 polished stones/d, up from 100/d in the preceding year. The average stone size also rose to 0.24 ct compared with 0.16 ct in 1999 with an average reported price of N$1,000/ct, resulting in sales worth some N$30 million, of which 98% accrued from exported stones. Despite the improved financial results the company is still in a development phase and not yet in profit.

Namibia's total output of rough diamonds, both onshore and offshore, was just over 1.55 Mct in 2000, down by 5% compared with the preceding year. Namdeb exceeded its production target in 2000, although its output of 652,746 ct produced from land-based operations north and east of Oranjemund in Diamond Area No.1 (the *Sperrgebiet*) was down 9% on the previous year. But offshore deep-water recoveries by De Beers Marine Namibia (DBMN) rose by 12% to a record 576,470 ct.

A total of 91,092 ct were produced from beach and shallow water operations, up 53% on the preceding year, with 11 contracts awarded, including five to black empowerment groups to facilitate the entry of previously-disadvantaged groups into the mining industry. But, due to substantially reduced recoveries by Namibian Minerals Corp. (Namco), overall offshore output (including recoveries by Namdeb shallow-water contractors) declined by 2.6% to 898,000 ct in 2000. However, because of the lower onshore output, this still comprised a record 58% of Namibia's total diamond output, up from 56% in 1999.

Onshore, a slight shortfall in tonnage treated by Namdeb mainly reflected continuing problems with the dredge and floating treatment plant in Mining Area No.1. To alleviate this problem by increasing throughput, an elutriator, designed to remove at least 30% of the sand fraction (-2mm) before reaching the trommels, has been installed. The two existing cutter-wheels were also replaced by a dredge cutter-head intended to improve mechanical and process availability. Testwork on ore remaining to be treated by the No.4 plant showed crushing requirements as minimal and the plant was significantly modified to reduce working costs. An extension of the No.2 plant ore reserve has increased its run-of-mine life by about a year with the tailings dump to be re-treated subsequently.

Diamond Production ('000 ct)

	1999	**2000**	**% change**
Namdeb	1,290	1,320	2.3
of which:			
Onshore[a]	716	653	-8.8
Offshore[b]	514	576	12.1
Beach & marine contractors	59	91	54.2
Other offshore producers[c]	349	232	-33.5
Total	1,639	1,552	-5.3
of which:			
Offshore recoveries	922	899	-2.5
% recovered offshore	56.3	57.9	

[a] Includes Mining Area No.1, Auchas and Elizabeth Bay.
[b] Recoveries from the Atlantic 1 deep-water concession mined by De Beers Marine Namibia (DBMN). c Mainly Namibian Minerals Corp. (Namco).

Inland, along the Orange river northbank, a mobile treatment plant deployed in 1999 to treat deposit samples at Sendlingsdrif was relocated to Daberas in series with an infield screening plant. The latter augmented diamond recoveries during the closing phase of operations at Auchas mine; a new treatment plant was completed in December 2000 at Daberas, with full production scheduled for 2001. Evaluation of the Sendlingsdrif sampling programme indicated the deposit contains a similar resource to those at Auchas/Daberas. At the Elizabeth Bay mine to the north, testwork showed that diamonds locked into the gritstone could be recovered by crushing. A planned crushing facility was installed in August 2000 but problems with throughput and wear have necessitated the investigation of alternative methods to extend the mine's life.

Total capital expenditure by Namdeb was N$302 million in 2000, up from N$199 million in the preceding year, with the major portion spent on replacement earth-moving equipment and some N$62 million on prospecting, exploration and sampling activities.

Namibia's second major marine mining company, UK-based Namibian Minerals Corp. (Namco), experienced mixed fortunes in 2000, and in early 2001 was obliged to place its operating subsidiaries into provisional liquidation due to a serious accident to the NamSSol submersible crawler mining system. Following substantially higher production and profitability levels in 1999 and Namco's takeover of Cape Town-based Ocean Diamond Mining (ODM) at the end of that year, the company initially planned to double output to 400,000 ct in 2000, through technical upgrades of the three acquired ODM mining vessels- equipped with 'airlift' suction technology- commissioning of its new, larger capacity Nam 2 crawler mining system, along with commencing systematic exploration of its licence areas with the aim of substantially increasing reserves and maintaining sufficient resources in the measured and indicated categories for at least two years forward mining.

However, in July 2000, Namco revised downwards its production target for the year to 225,000-250,000 ct, and actual output was 221,000 ct compared with 274,000 ct in 1999 (330,000 ct including ODM's operations). This reflected difficult mining conditions, including higher than expected concentrations of clay, obliging the company to relocate the NamSSol to easier, but lower-grade mining areas within its Luderitz mining licence 51; extended time in port required to upgrade one former ODM vessel and disposal of the oldest and least efficient vessel. Namco expected its Nam 2 mining system, incorporating technical enhancements designed for mining through thicker overburden and more difficult geological terrain, would improve results by the end of the year as it would be able to operate in areas where the NamSSol could not. Initial commissioning of the Nam 2 and its mining support vessel, a former British naval vessel renamed *MV Ya Toivo* in honour of Namibia's first mines and energy minister, Andimba Toivo ya Toivo, took place during the December 2000 quarter. The vessel is equipped with a 100 t/h processing plant and following the completion of dry-testing, the first diamonds were recovered at the end of the year.

In the September 2000 quarter, Namco deployed its new exploration vessel, *MV Zacharias*, equipped with a drilling tool developed in conjunction with Germany's Wirth Group and capable of working at water depths of 250 m and sediment depths of 12 m. The vessel started systematic sampling of 20 out of 65 target features covering an area of 295 km^2 mainly adjacent to the current mining areas offshore Luderitz and around the 'Penguin Islands' (mining licence 36 acquired from ODM), considered to be highly prospective and prioritised for exploration in 2000-01.

But Namco was forced to suspend mining entirely and place its operating subsidiaries into provisional liquidation in February 2001, after part of its NamSSol mining system became detached on the seabed at the end of January, before the Nam 2 mining system was fully commissioned. With an estimated five months required to recover and repair the NamSSol, it became evident that in the absence of a positive cash flow, Namco's financial resources were insufficient to meet repayments to creditors.

However, in March a US$24 million refinancing agreement was negotiated, which once confirmed was expected to enable Namco take its operating companies out of provisional liquidation and resume mining by mid-2001. This involved Israel's Leviev group subscribing to US$15 million in Namco common shares with warrants attached, exercisable over three years, equivalent to a 31% equity stake, and making it the effective controlling shareholder. An additional US$9 million cash injection was provided through a securities placement by Canada's Canaccord Capital Corp. The terms of the deal also provided the Leviev Group with a 15-year exclusive marketing agreement for Namco's entire output, to be bought at open market prices, although the latter retains the right to independent pricing control via its own price-checking mechanism.

During 2000 Canada's Diamond Fields International (DFI) made continuing progress with evaluation of a commercial mining operation for the Sea Diamonds Project at its 660 km^2 mid-water concession offshore Luderitz, and the first recoveries are expected in July 2001. An independent scoping study and phase 3 of an advanced sampling programme completed in the March 2000 quarter confirmed that the concession, which includes the resource-rich Marshall Fork feature, had the potential to support a long-term, profitable marine mining operation. A final feasibility study, completed in August 2000, outlined an indicated and inferred resource totalling 1.1 Mct, double the previous estimate, of which over 95% are of gem quality. DFI applied for and was granted a mining licence for an initial tenure period of 15 years covering some 310 km^2, in January 2001. It also finalised an agreement granting exclusive diamond marketing rights to Diamond Tenders (Belgium), an Antwerp-based firm controlled by Jean-Raymond Boulle, DFI's largest shareholder, in return for a US$2 million unsecured loan and a 24% equity stake in DTB.

Mining of the Marshall Fork feature and Diaz 12 zone was scheduled to start in October 2001 under a joint venture with South Africa's Trans Hex Group, which mines on- and offshore South Africa. The joint venture, signed in March 2001, runs for seven years initially, and commits Trans Hex to providing two mining vessels, the first to be operational no later than November 2001 and the second by end-October 2002. But Trans Hex subsequently acquired the *Ivan Princep* mining vessel from Namco (one of the three the latter had acquired under its takeover of ODM at the end of 1999) thereby enabling commercial mining operations to start five months ahead of schedule, pending the deployment of its first vessel. Production is estimated at 65,000 ct (base case) to 130,000 ct (inclusive of sampling bias) for the 12 months to end-June 2002, and for the duration of the joint venture at between 675,000 ct and 1.35 Mct on the same basis, equivalent to an average yearly output of 96,000-193,000 ct. The joint venture covers under 1% of DFI's concession area and is expected to provide positive cash flow in the second half of the year, enabling it to proceed with exploration and development plans for the non-joint venture areas, while avoiding the need for heavy capital outlays or the downside risks associated with introducing new technology. Revenues and direct operating costs are shared 60:40 DFI/Trans Hex until all its exploration and development costs up to N$8.5 million are recovered, and equally thereafter. DFI has also been granted two exclusive prospecting licences covering some 1,100 km^2 on land some 40 km northeast of Luderitz, within the northern part of the 'Sperrgebiet'

Uranium

Uranium oxide output from Rossing rose by just under 1% to 3,201 t in 2000. However, it is expected that production will be about 13% lower in 2001, in line with delivery requirements and the objective of reducing inventories and mine costs. In its annual profit release for 2000, Rio Tinto's attributable after-tax earnings from Rossing Uranium were US$19 million in 2000 (based on the group's 69% equity interest), unchanged on the preceding year, despite a 7% fall in the mine's gross turnover to US$124 million (on a 100% basis). Rossing's ability to maintain profitability despite lower sales by value reflects the success of a cost-cutting programme introduced at the mine in 1998 in response to low global prices. Rossing has maintained a substantial capital investment programme, amounting to N$47 million (US$4 million) in 2000, bringing total investment over the past five years to N$267 million (US$24 million). Construction of a pilot ore sorting plant was due to have been completed in early 2001. Ore currently processed contains 20% waste and the new plant will ensure this is removed before the material is sent to the secondary crushing plant. If projected savings from operation of the pilot plant are realised a full production plant could be commissioned by the end of 2002

Base and Precious Minerals

Total gold production increased by a fifth during 2000 to 2.42 t (2.0 t in 1999), of which a record of just under 2.4 t were produced by the Navachab mine, near Karibib, owned by AngloGold, and a small amount as a by-product of blister copper smelted at Tsumeb by OMP. The 19% increase in Navachab's output reflected a normalisation of operations, which started in the latter part of 1999.

However, assay results from exploration drilling of the open pit, associated with the phased pit expansion project, do not support the viability of a significant extension to the current mining area at projected gold prices and operational costs. The phase one extension work completed in 1999 on the western side will enable operations to continue for another five years or so. Navachab, is however, carrying out exploration activities at a number of prospects in a bid to source alternative, replacement deposits, on which N$3 million was spent during 2000.

Mining and smelting of copper resumed in 2000 with the takeover of the assets of Tsumeb Corp. Ltd (TCL) by a local consortium, Ongopolo Mining & Processing (OMP) in March of that year. OMP is a fully Namibian-owned company, whose partners include former senior managers at TCL and the Mineworkers Union of Namibia (MUN). In addition to the purchase price for the assets, OMP has spent considerable sums on rehabilitation work and committed an initial N$3 million to a trust fund to finance the cost of rectifying past environmental damage at the Tsumeb smelter site. From April 1, 2001 it was to contribute a further N$1.00/t mined.

OMP has defined its core business as the mining and processing of the mineral resources within its licence area, focusing on the production of copper, and a divestment programme for non-core activities is being implemented. The initial priority has been to bring the Kombat mine back into full production, where the concentrator has an ore capacity of 35,000 t/mth, with 15,600 t of copper concentrate produced in 2000. At the Otjihase mine east of Windhoek, extensive development and rehabilitation work was undertaken to bring the mine back into production. The Otjihase concentrator capacity is 60,000 t/mth of ore and in 2000 just under 3,500 t of copper concentrate was produced. The final phase of an 800 m development project to open up the Karume ore deposit was completed in January 2001 with production from this compartment scheduled to start the following month.

Concentrate from Otjihase also contains gold, recovered as a by-product of smelting at Tsumeb, and the mine is a traditional producer of pyrite concentrate for production of sulphur at the Rossing mine. During Otjihase's closure, Rossing obtained other supply sources but OMP arranged for the sale of the 12,000 t of concentrate produced in 2000 to Zambia's Kongolo copper mine.

Operations at the Tsumeb smelter were successfully recommissioned, with some 5,000 t of blister copper produced during the year. A tap-hole lancing system was installed by Afrox Namibia at the end of 2000. This has replaced the cylinder method previously used, and enables molten copper to be released directly onto ladles for transporting to the conversion unit, at a substantial cost saving.

Some 9 t of silver was also recovered as a by-product in 2000 but production of refined cadmium, arsenic trioxide and sodium antimonate has not been resumed and there are no immediate plans to reopen the lead refinery. However, it may be reopened at some point in the future if a joint venture partner for the slag retreatment project can be found.

At the Rosh Pinah lead/zinc mine in the southwest, zinc production rose by 13% in 2000, with 39,100 t of metal in concentrate produced, while the concentrate grade increased from 50.0% in 1999 to previous historical levels at 53.2%. Some N$32 million was spent during 2000 on measures to expand the overall run-of-mine production rate by 100,0000 t/y of ore to 750,000 t/y. A re-engineering programme has been successfully implemented with highly encouraging results and a number of innovations made during 2000 included introduction of a four-shift system for both underground mining and the concentrator plant. Zinc concentrate continues to be sold for refining to the Springs, Gauteng, plant of South Africa's Iron & Steel Corp. (ISCOR).

Production of lead concentrate by Rosh Pinah increased by 7% to 20,655 t, while the concentrate grade improved to 54%. The silver content in lead concentrate correspondingly increased to 564 g/t. Rosh Pinah's lead concentrate continued to be sold via trader tenders for overseas shipments via Walvis Bay. However, the company and Namibia Ports Authority (NPA) are investigating the most efficient method for shipment of future consignments through Luderitz harbour, which is much closer to the mine, with a trial shipment scheduled for March 2001.

Since 1999, Rosh Pinah is now able to plan ahead with the resolution of the previous protracted ownership dispute. The mine is 95% owned by ISCOR with the remaining 5% held by Rosh Pinah Mine Holdings. The latter is an empowerment vehicle for Namibian citizens and it was planned to increase this holding to 15% by mid-2001. Rosh Pinah Zinc Corp., comprising the local firm PE Minerals and ISCOR, an associate company which holds the mineral rights, was awarded 11 out of the 24 blocks allocated in the 'Sperrgebiet' during 2000. These are located in a highly-prospective area for zinc and other base metals.

The development of the Skorpion zinc mine and refinery is another positive factor and will involve improvements to local infrastructure including upgrading the main access road from Auas, inland from Luderitz, and proclamation of Rosh Pinah township as a municipality.

Other Minerals

Production of acid grade fluorspar by the Okorusu mine, owned by the international chemicals group Solvay, rose by 15% to 66,100 t in 2000, with an equivalent rise in shipments to 67,400 t. Work on a new milling plant, providing for a doubling in metallurgical throughput capacity, was completed during 2000, and the new facility was commissioned in November of that year. In addition, this incorporates three fine ore stockpiles, enabling the efficient blending of ores of a highly variable mineralogy, prior to milling and flotation.

Just over N$10 million was spent on other capital investment projects, geared towards overall modernisation of the mine. The ‘A’ pit rehabilitation initiated in 1998 was completed during the second quarter of 2000 at an overall cost of N$27 million, financed via the European Commission’s Sysmin aid facility and the government’s Mineral Development Fund (a rotating fund holding the proceeds of repaid monies originally on-lent to companies from Sysmin grants to Namibia). Some 3.5 Mt was mined from the hanging wall of the orebody during 2000, exposing in excess of 1 Mt of high-grade ore, mineable at low-cost stripping ratios. During the year Okorusu was also granted an area adjoining the ‘B’ orebody, which will enable the company to mine the whole area more efficiently. In addition, the company was granted an EPL for the whole Okorusu geological complex, which is expected to enable it to access additional ore deposits, some of which have previously been delineated, and has secured another ore deposit elsewhere and is assessing the viability of developing the resource.

Salt production from coastal brine pans at Walvis Bay and Swakopmund continued at a high level in 2000. Output of coarse salt from the largest operation, that of South Africa’s Salt & Chemicals at Walvis Bay, rose by 5% to 514,100 t, with supplies to Sentrachem, its parent company, up by 12%. The company has embarked on an expansion programme designed to increase output capacity to 600,000 t/y, as developments in South Africa’s chlor-alkali industry as well as in other markets that require high quality chemical grade salt, have indicated demand will rise in the near future.

Sales of refined and rock salt by locally-owned Salt Co. which operates the Swakopmund facility, suffered from economic difficulties in neighbouring and West African states. Sales of coarse salt declined and were especially affected by the uncertain situation in the Democratic Republic of Congo (DRC), traditionally the main export market for Namibian bagged salt.

Namibia continues to produce a variety of high-quality dimension stone (mainly marble and granite) and semi-precious stones, of which tourmaline, amethyst, blue-lace agate and rose quartz are the most important. The local added-value of semi-precious stones, currently exported in mainly rough form, will be boosted as a result of a decision to build a N$28 million gemstone polishing plant at Keetmanshoop.

Namibian Mineral Production (t, unless otherwise stated)		
Production	**1999**	**2000**
Diamonds (‘000 ct)	1,639	1,553
of which marine	923	899
Uranium oxide	3,171	3,201
Gold (dore/blister) (kg)	2,008	2,417
Silver	0[a]	9
Copper (blister 99% Cu)	0[a]	5,082
Lead (refined)	0[a]	0
Lead (conc. 30% Pb)[b]	19,283	20,665
(contained metal)[b]	9,361	11,114
Zinc (conc. 52% Zn)[b]	69,913	73,535
(contained metal)[b]	34,639	39,126
Pyrite (conc. 50% S)	0[a]	11,967
Arsenic trioxide (75% As)	0[a]	0
Fluorspar (97% conc)	57,700	66,128
Salt (coarse)	489,330	514,077
(rock)	6,220	4,585
(refined)	7,220	4,347
Value (N$ million)[c]		
Diamonds	3,578	4,841
Gold	120	160
Silver	5[d]	12[d]
Copper	0	70[d]
Zinc	133	117
Uranium and other	908[d]	962[d]
Total	4,744	6,162
Value (US$ million)	776	888

[a] There was no production of these minerals in 1999 due to closure of Tsumeb Corp. (TCL) mines and smelter/refinery.
[b] Rosh Pinah mine only. c Export sales revenue. d estimated.

Source: Ministry of Mines and Energy; Bank of Namibia (central bank); Central Statistics Bureau; Chamber of Mines of Namibia; De Beers Group; Namibian Minerals Corp. (Namco); Rio Tinto.

