

The mineral economies of the SADCC: Namibia

By Paul Jourdan

The Namibian economy is highly dualistic in nature in that the agrarian and industrial sectors are both well defined. The primary commodity-producing sectors provide the bulk of the country's wealth, while the traditional subsistence agriculture sector produces little cash income and supports most of the population. In the first of two concluding articles in our series on mining in the SADCC, Paul Jourdan looks at Namibia.

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Introduction

The basic macro-economic indicators of the Namibian economy are given in Table 1. The main economic activities are mining, cattle ranching, wool production and fishing. Although attempts have been made to pursue a more autonomous policy since the installation of the interim government in 1985, economic activities remain heavily influ

Namibia is potentially one of the wealthiest countries in sub-Saharan Africa, with an exceptionally high level of resources per head of population, due to the vast and accessible mineral deposits. However, the economy is very vulnerable to external factors, particularly mineral prices which have been the major cause of the turbulent growth pattern of the economy since 1982.

The economy's productive capacity is based on the export oriented sectors of mining (principally diamonds and uranium) and agriculture (cattle and karakul sheep ranching). These sectors normally account for over 40% of GDP and roughly 90% of exports and employ 35% of the total labour force. The subsistence sector, in which half of the population is engaged, produces only about 5% of GDP. There are not many countries in the world where mineral wealth per capita is as large as in Namibia. While the territory has a strong mineral resource base, this resource is being rapidly depleted.

THE MINING SECTOR

General

The mineral policies and legislation in effect at the end of 1988 encourage investment by both foreign and domestic private sector mining companies. Most of Namibia's mining regulations were written by the South African Government as in the Mining Law of 1968. Ownership of all mineral resources is vested in the state, and the right to prospect, mine, and dispose of all minerals

is vested in the Minister of Mines, but the Mining Code provides easy access to prospecting and mining licences for foreign and domestic companies.

Substantial tax incentives are available to companies and the effective tax rate for most mining companies is 60% and the state requires 25% domestic participation in any mining venture.

Long before the Germans occupied Namibia at the end of the nineteenth century, minerals were mined and worked: copper in the Otavi region, salt in many places but especially in the north of Etosha pan and, over the border in Angola, iron ore at Kassinga.

Before colonisation the mining sector was part of the integrated economy, supplying its output to the manufacturing sector and trade in minerals was developed with ores being moved to northern Namibia for smelting and manufacturing. Minerals were then, as they no longer are, part of an integrated economy.

Ten years after the partition of Africa, mining concessions passed from small prospectors to larger syndicates, financed from Germany, Britain and South Africa. From then on the mining sector became an enormous suction pump, extracting minerals and wealth from Namibia for consumers in Europe. Minerals are almost entirely exported, from a value of 2.5 million rand (ZAR, 20.97 M, 1978 USD) in 1945 they rose to 677 MZAR in 1978 (566.53 M, 1978 USD) with the start of the Rössing uranium mine. The foreign currency generated pays for imported inputs and the repatriated profits of the foreign-owned mining companies (as dividends to shareholders).

Historically, the mining industry of Namibia has been the economy's most important productive sector with a current output value of around one billion rand, employing 6% of the labour force, contributing 80% to exports and 36% to GDP, therefore mines are at the heart of

Blasting the rock at the Rössing uranium mine, one of the world's largest, and a major source of income for Namibia.

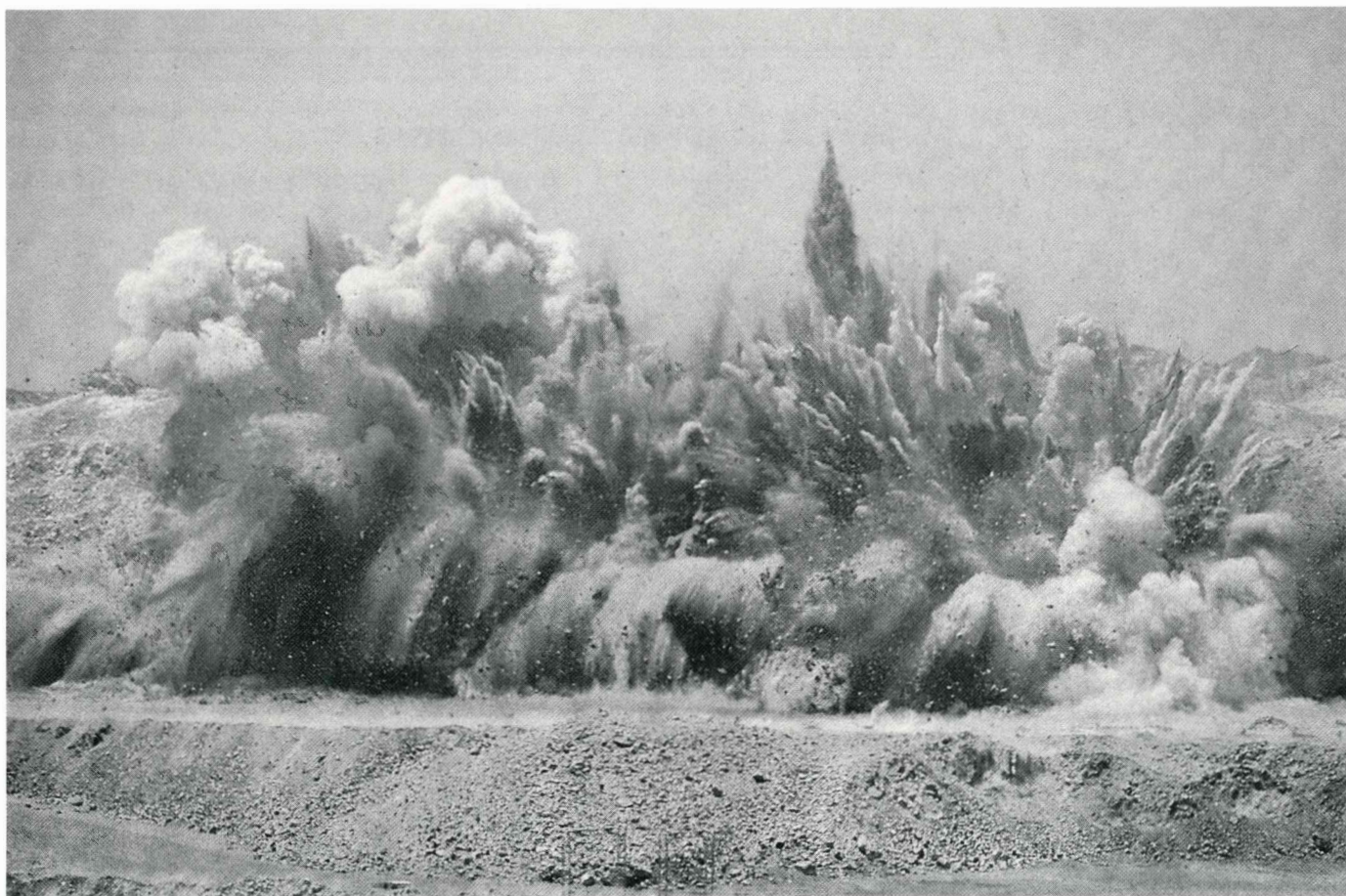


Table 1

Indicator	Unit	1981	1982	1983	1984	1985	1986	1987
Population	M	1.01	1.04	1.06	1.10	1.14	1.18	1.23
Pop.density	/km ²	1.2	1.3	1.3	1.3	1.4	1.4	1.5
Forex Rate	/USD	.870	1.082	1.112	1.438	2.191	2.269	2.04
CPI (1)		115	133	149	162	181	205	231
GDP mp	G	1.51	1.79	1.88	2.11	2.76	3.17	3.13
GDP/cap	USD	1.681	1.588	1.591	1.301	1.085	1.176	1.261
Exports fob	G	.95	1.01	.94	1.10	1.59	1.99	1.81
Imports fob	G	1.07	1.11	1.01	1.18	1.27	1.48	1.71
Trade Balance M	(120)	(98)	(68)	(83)	324	512	97.0	
GFCF (2)	G	.43	.41	.35	.31	.36	.40	.5
GFCF/GDP	%	28.7%	23.1%	18.7%	14.9%	13.0%	12.7%	14.6%
Labour Force	k	350					500	500
Govt Revenue	G+		.64	.67	.80	1.00	1.20	1.57

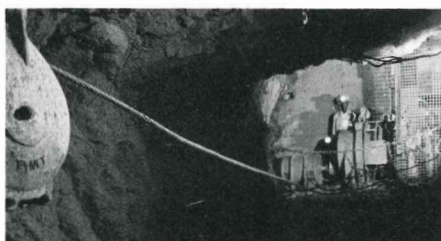
Source:

IMR Database; EIU, 1988.

the present economic structure of Namibia.

In the decade from 1977 to 1987 the contribution of the mining sector to *Gross Domestic Product* (GDP) averaged 34% rising to as high as 46.6% in 1978, during the same period the sector provided about 70% of all foreign exchange earnings and employed 6% of the economically active population in Namibia.

The labour force employed in the mines from 1979 to 1985 together with the total earnings of the workers is given below. However, while the average annual earnings look impressive there is no equity in the distribution of the earnings and since most black Namibians are wage earners (unskilled and semi-skilled) they receive a lower percentage of the total earnings.



Basic data for the mining sector from 1980 to 1987 is presented in Table 4, and displays its contribution to GDP ranging from 25% to over 43%, percentage of export receipts from 69% to 83% and its contribution to national revenue from 7% to 20%. Except for employment generation, mining is clearly the most important sector in the formal economy.

The mining industry exports 90% of its output and as a result serves as a source of government revenue as forex earnings. Diamonds are the greatest contributor to government revenue through a 10% export duty, a 45% diamond mine tax and a 4.5% surcharge. Export orientation makes the whole economy very vulnerable to world economic recessions as was the case in 1981/2 when mineral demand was depressed and mineral prices were low.

Table 2
Breakdown of GDP and employment in 1980

Economic activity ¹	GDP(cp)	%GDP	Employment	% Labour
Mining	730	48	20 000	6
Manufacturing	60	4	12 500	4
Retail trade	110	7	15 700	4
Business service	110	7	15 700	4
General govt.	140	9	44 100	13
Commercial & sub.Agric	150	10	180 000	51
All other	230	15	62 000	18
Total	1 530	100	350 000	100

Notes:

¹In SA Rands (ZAR), GDP(cp): GDP at current prices, %Labour: % of total labour employed

Source: Mineral Perspectives, Namibia, 1983

Table 3
Employees and salaries in mining

Year	Total employees	Total salaries p.a.	Average salary p.a
1979	20 074	90 302 021	4 498
1980	19 776	108 941 413	5 509
1981	19 240	120 804 606	6 279
1982	17 300	132 157 914	7 639
1983	16 595	139 705 600	8 418
1984	15 624	139 441 000	8 925
1985	14 869	152 825 000	10 278

Note: Salaries are in South African Rands (ZAR)

Source: Chamber of Mines of Namibia, 1988

Table 4
Basic mining sector data¹

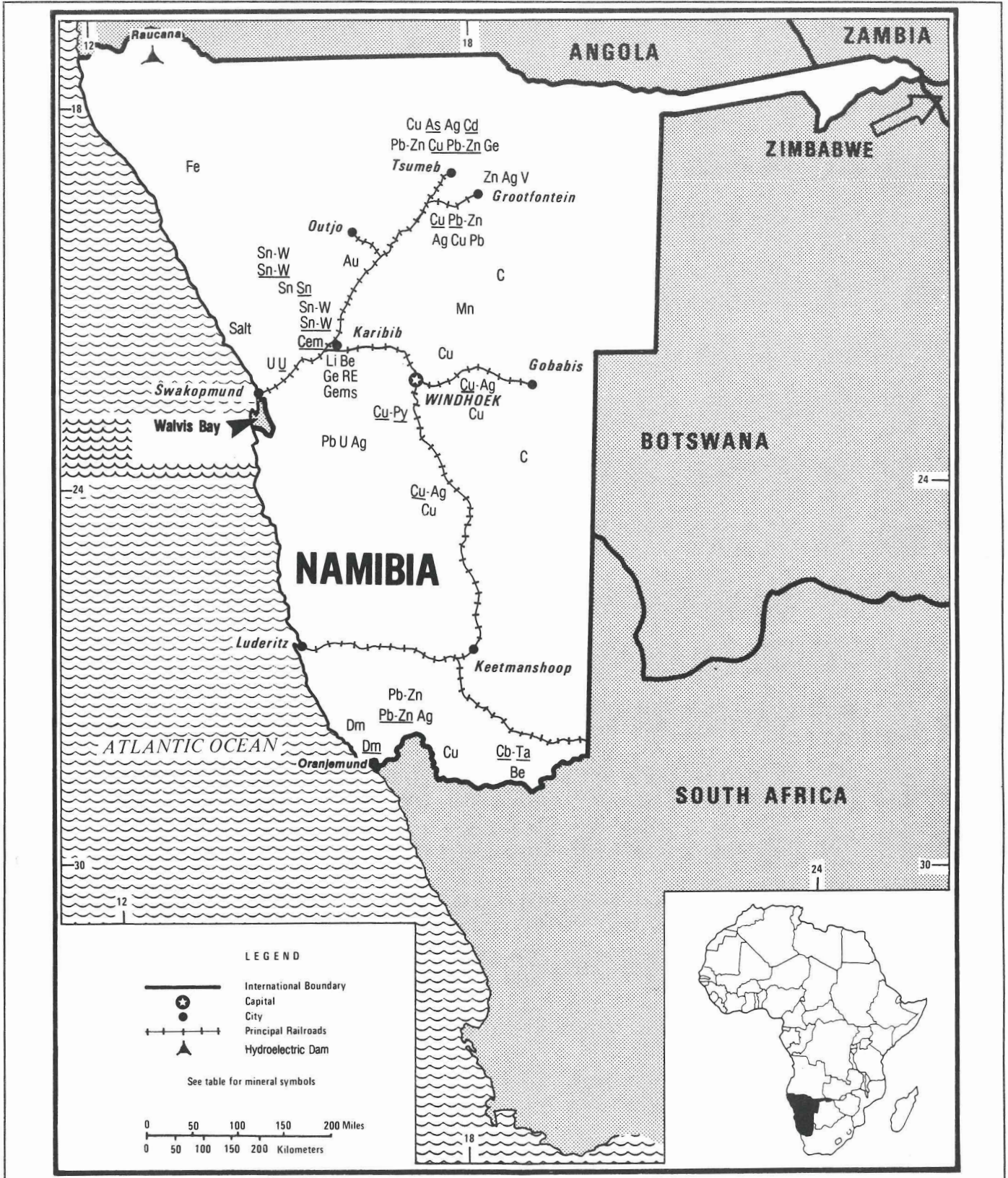
	1980	1981	1982	1983	1984	1985	1986	1987
GDP (total) G	1.56	1.51	1.79	1.88	2.11	2.76	3.17	3.13
GDP mining G	.68	.45	.47	.50	.55	.99	1.14	.77
% GDP mining	43.5	30.0	26.0	26.6	25.9	35.9	36.1	24.9
GFCF mining ² M		74.6	47.6	40.8	31.9	31.9	75.3	94.5
% Mng GFCF ³		17.3	11.5	11.6	10.2	8.9	18.8	20.7
Total exports G	1.14	.95	1.01	.94	1.10	1.60	1.99	1.88
Mineral exports G	.91	.66	.76	.72	.85	1.29	1.65	1.32
% Mineral exports ⁴	79.8	69.4	74.8	76.0	77.3	80.7	82.6	72.9
Mining revenue ⁵	182.9	151.1	55.0	48.3	86.8	133.4	241.8	282.1
% mining revenue			8.6	7.2	10.8	13.3	20.2	18.0

Notes:

¹In South African Rands (ZAR), ²Gross Domestic Product, ³Gross Fixed Capital Formation, ⁴Minerals as % of total exports, ⁵Revenue from mining.

Source:

IMR SADCC Databank, 1989



THE MINING COMPANIES

Introduction

The mining industry is dominated by three major companies which own the three largest mines in Namibia: *Consolidated Diamond Mines* (CDM), *Rössing Uranium Ltd.* and *Tsumeb Corporation Ltd.* (TCL), which account for 90% of mineral production in terms of value. This foreign ownership of the mining industry has far-reaching implications to the Namibian economy, the mineral wealth of Namibia has so far not benefited the nationals, but has rather resulted in their exploitation, both economic and political. Because of its nature the mining sector has not been used as a propelling sector in economic development, but only for growth in GDP.

Mining companies have contributed to the infrastructural development of Namibia, they have built up towns such as Oranjemund, Uis, Kombat, Rosh Pinah and Arandis to accommodate employees. Also the discovery and establishment of mines has provided government with economic justification for extending physical infrastructure into previously undeveloped or underdeveloped parts of the country for the benefit of the non-mining community as well.

However, such a high level of foreign capital involvement and the emphasis on exports in the mining industry has led to disparities between national income and GDP.

The major source of investment in the mining industry are mining companies based in Canada, France, South Africa, the United Kingdom and the United States. Five of South Africa's finance houses have extensive and frequently overlapping interests in diamonds, uranium and base metals exploration and production.

A complete list of mines, ownership and minerals produced in Namibia is given in Table 5.

Consolidated Diamond Mines (CDM)

CDM is a wholly-owned subsidiary of De Beers Consolidated Mines of South Africa which works closely with its partner Anglo American Corporation of South Africa. These two South African mining conglomerates jointly own Minorco which is also indirectly active in Namibia.

CDM is the sole producer of diamonds in Namibia. CDM is extremely important to De Beers Consolidated Mines. In the early 1970s their Oranjemund operation generated over 30% of De Beers worldwide after-tax profits, however in 1980 the share had declined to 17% due to the development

of new De Beers group mines, particularly in Botswana.

Namibian diamonds remain extremely crucial to the De Beers mining strategy, due to the fact that they are almost all of gem grade which is crucial for the maintenance control of the world diamond market by the *Central Selling Organisation* (CSO). However, a report published in 1986 has severely attacked the over-mining strategy of CDM (concentrating on high grade ores only) which could lead to the rapid exhaustion of gem grade diamonds.

In 1986 CDM announced the recommissioning of one crushing plant and two screening plants and during the same period employed 5,400 workers

Table 5
Mines, ownership and minerals of Namibia

Company/mine	Major shareholder/s	Mineral/s
CDM	De Beers Consolidated Mines	Diamonds
Koes Salt	Private	Salt
Kombat	Tsumeb Corporation	Copper, lead
Otjihase	Tsumeb Corp, Otjihase Mining	Copper, silver
Peralin	Private	Marble, gold
Rosh Pinah/Imcor Zinc	Iscor, Molly Copper	Zinc, lead
Rössing Uranium	RTZ Ltd	Uranium
Salt Company	Private	Salt, calcite
SWA Lithium	Metramco	Beryl, petalite
Tsumeb	Gold Fields of SA	Copper, silver, tin
Uis/Imcor Tin	Iscor	Tin, tantalite
Usakos	Private	Lime

Source:
MJL, 1988; UNIN, 1988

Table 6
Financial status of CDM

	1982	1983	1984	1985	1986	1987
Sales revenue	218	234	232	409	616	650
Tax collected	46	40	41	62	73	115
Profit after tax	29	50	33	101	123	58

Source:
EIU, 1988

and paid a monthly wage of 809 ZAR (including overtime and other payments). In the mining industry as a whole four out of every 10 workers are employed by CDM and earn 80 MZAR annually in wages and salaries.

The most significant new mining development was the decision by Anglo American Corporation to proceed in conjunction with CDM, with the open-cast gold mining operation at Navachab, north west of Windhoek. Production from this mine is scheduled to begin in October 1989 at the rate of 750 000 t/an low grade ore containing 2-3 g/t of gold.

In the 1987/88 fiscal year CDM was responsible for nearly half of all direct taxes paid to the Namibian government by mining industry and accounted for 13% of all public revenue collected in the country.

CDM has great interest in the future of Namibia: this is shown by the amount of money that the company has spent on the development of human resources. Since 1980 the company has invested 14.3 MZAR in community development and educational programmes, and the company also spends R5 million a year on workers training and education. In addition CDM has transferred its diamond sorting operations from Kimberly in South Africa to Windhoek where Namibians are being trained as sorters.

The financial status of the company is given in Table 7.

Rössing Uranium Ltd.

Rössing Uranium is a subsidiary of RTZ of the UK, which has 45.6% of the issued shared capital. *General Mining Union Corporation* (GENCOR) and the *Industrial Development Corporation* (IDC) both of South Africa and Minatome of France are the other major share holders.

Rössing is an important investment for RTZ, in 1982 it was only 4.5% of RTZ group assets and only 5.5% of the

group's sales but it contributed 26% of RTZ's profit after tax. Production in 1980 stood at 5 kt but fell to 3.5 kt during 1985-87. The company employs about 3 200 workers and claims to contribute 100 MZAR a year in wages and taxes. The mine accounts for 35% of national export earnings and around one-fifth of the gross domestic product.

The main uranium customers have long-term contracts and include power utilities in France, Japan, West Germany, Spain and Taiwan. Unfortunately no financial information on Rössing could be added because RTZ has ceased to publish separate financial data for this company.

Tsumeb Corporation Ltd. (TCL)

Tsumeb Corporation Limited (TCL) is a wholly-owned subsidiary of *Gold Fields of South Africa* (GFSA) through Gold Fields of Namibia with the ultimate owner of GFSA being Consolidated Goldfields of the UK. TCL also operates the only integrated copper smelter, lead refinery and ancillary plants for by-products in Namibia and outside South Africa, in the southern African region as a whole. The local production of base minerals declined in 1987/8 due to a serious labour dispute on their mines, this specifically affected

the output of blister copper which declined by 25% in 1987.

In 1982 TCL employed 6 400 workers. The mines owned by TCL include: Tsumeb, Kombat, Asis Ost, Asis West, Matchless and Otjihase. Basic financial data for the company is given below.

Other companies

Dasig Mining Company is a South African company involved in mining and prospecting for amethyst, white marble, pink granite at Bonnie Brae and Burgershof in the Otjiwarongo district of central Namibia. Dasig has also acquired all the major sodalite deposits in Kaokoland in the north west where mining has begun.

The South African parastatal, the Iron and Steel Corporation (IsCOR), produces lead, silver and zinc from Rosh Pinah mine near the border with South Africa in the south-west and tin from Uis mine. Undisclosed amounts of columbite/tantalite are also recovered at Uis. Production of zinc concentrate totalled 70.244 kt in 1987 while lead concentrate production was 20.684 kt during the same year.

SWA Lithium Mines owns Rubicon mine near Karibib which produces lithium minerals. The mine is operated by Metramco of South Africa. In 1987 production consisted of 2.173 kt of quartz,

Table 7
Financial data for TCL (MZAR)

	1982	1983	1984	1985	1986	1987
Sales revenue	106	122	132	210	192	222
Operating income	3	-1	6	39	19	11
Tax paid					1	1
Profit after tax	-9	-10	-8	39	17	9
Dividends paid				8	4	4

Source:

EIU, 1988.

750 t of petalite, 106 t of amblygonite, 53 t of lepidolite and one ton of beryl.

Locally owned companies are also involved in mining and these include: Deblin Mining which produces lead, zinc and silver from a deposit near Rossing, The Salt Company which produces coarse salt from pans near Swakopmund, and Peralin, which produces marble.

THE MAIN MINERALS

Introduction

The major minerals mined and produced in Namibia are diamonds, uranium, copper, lithium, lead and zinc. In addition the following minor minerals are produced: gypsum, tourmaline, rose quartz, aragonite, amethyst, diopside and agate. Mineral production from 1980 to 1987 is presented in Table 8. Little or no zinc has been produced from Tsumeb since 1983 due to depressed world prices.

In terms of exports, uranium is generally the largest earner followed by diamonds and base metals. Export earnings by mineral for 1985 to 1987 are given in Table 9.

Diamonds

Diamonds are mined by CDM from alluvial coastal deposits north of the Orange River. The proved and probable reserves of gem diamonds available in Namibia may be up to 30 million carats. The types of assessed reserves include raised beaches conglomerates and other terrestrial deposits (1-6 million carats), foreshore deposits (9 million carats), and submarine deposits (10-15 million carats).

Production in 1986 at 1,01 million carats was higher than that of 1985 by 11% but less than the 1,56 million carats produced in 1980 and almost equal to the output for 1987 (1,019 million carats). The recovery is about 11,12 carats per 100 tons, and although this is

Table 8

Nambian mineral production 1980-1987

Mineral	Unit	1980	1981	1982	1983	1984	1985	1986	1987
Arsenic	kt	1.3	1.4	1.9	1.1	2.5	2.5	2.2	1/9
Cadmium	t	69	0	110	51	40	58	61	51
Copper	kt	82.3	85.9	49.5	54.2	48.6	47.6	50.1	78.3
Diamonds	Mcts	1.56	1.25	1.01	.96	.93	91	1.01	1.02
Gold	kg	0	0	242	296	196	194	184	172
Lead	t	104	107.5	87.5	109.9	96	83	106	85
Lithium	kt	.90	1.90	1.0	.80	.90	1.90	2.08	3.08
Salt	kt	105	230	175.2	136.6	85	83	130	124
Silver	t	337	326	87	93	96	98	110	95
Tin	kt	1	1	1.30	1.30	1.40	1.50	.70	1.10
Tungsten	t	155	160	140	150	150	165	150	150
Uranium	kt	4.77	4.68	3.78	3.71	3.69	3.39	3.49	3.50
Vanadium	t								
Zinc	kt	31.9	39.6	61.1	56.3	56.5	57	60.5	70.2
Tantalite	t					9	3	7	5
Pyrite	t			109	118	172	174	190	120

Source: BGS,1988; CIIR 1984; MJL, 1989

Table 9

Mineral exports by value (MZAR)

	1985	1986	1987
Diamonds	409	616	650
Uranium	585	762	700
Base metals	291	268	350
Total	1 285	1 645	1 700
% of exports	81	83	85

Source: EIU, 1989

Table 10

Contribution of diamonds to state revenue (1980-1985)

MZAR	Tax ¹	Duty ²	Total ³	% of total ⁴
1980	133.70	41.10	337.80	51.75
1981	101	33.50	291.80	46.09
1982	32.50	20.50	436	12.16
1983	24.30	21.70	452.60	10.16
1984	26.60	23.10	524.90	9.47
1985	42.80	24	562	11.89

Notes: ¹ Tax on diamond mines income, ² diamond export duty, ³ total revenue, ⁴ tax on income and export duty as a % of total revenue collected

Source: UN, 1987

relatively low it has a high percentage of gem diamonds (95%) of which about a quarter are large diamonds over 1 carat in size.

Diamonds alone contribute about 8% in taxes and export duty to government revenue and also contribute 38% of the value of mineral exports (see below). Diamond mining is controlled under the Mines Ordinance by the Diamond Board. All producing mines have to deliver all diamonds to the board which then markets the diamonds through the *Central Selling Organisation (CSO)* in South Africa.

The diamond market is influenced by changes in production and buffer stocks. De Beers at times deliberately cuts back production at all mines selling through the CSO when demand is weak. For example, the CSO, which controls over 80% of world gem sales, exercises strict controls on the volume of diamonds sold and at times orders stockpiling to avoid price crashes. CDM which is the sole diamond producer in Namibia sells its diamonds to the *Diamond Purchasing and Trading Company (DPTC)* in South Africa which is 53% owned by De Beers and 16.8% owned by the Anglo-American Investments Trust.

De Beers is to open another diamond mine at Elizabeth Bay 30 km South of Luderitz in 1989. The mine is expected to begin production in 1991 with an output of 250 000 carats, and employ about 350 people. The project is expected to exploit previously uneconomic reserves left over from early German workings and the treatment rate will be about 4 million tons a year with a life span of about 10 years. However, the final recovery of the diamonds will take place at Oranjemund.

In addition actual tax collected from diamond mining in Namibia constituted the largest single source of internal state revenue during the 1970s. Its contribution ranged from 32.64% to 60.18% during the period 1974-81. On

average, during the period 1978-85, tax on diamond mines' income and diamond export duty contributed 20.15% of internal revenue.

Uranium

Namibia's known uranium reserves occur in three deposit types: in granitic rocks as at Rössing, in surficial sediments and in older sediments of the Karoo. The predominant uranium mineral is uraninite which constitutes 60% of uranium deposits.

Rössing mine is the sole producer of uranium in Namibia, the mine is the largest open-pit uranium mine in the world with an average grade of 0.04% uranium pentoxide. This makes Namibia the fourth largest uranium producer in the world outside the Eastern Bloc countries. Rössing uranium produces 17% of the western world's total output. The uranium is transported secretly to foreign countries in contravention of Decree 1 of the United Nations Council for Namibia banning prospecting, mining and removal of Namibia's minerals without the Council's approval.

Open market prices of uranium have fallen to 15 USD per pound (1987) due to oversupply of the mineral on the world market. In 1984 uranium mining was the largest single contributor to GDP (456 MZAR) and in 1986 it contributed 762 MZAR to total exports which was 46% of total value of exports.

Base minerals

The base metals produced include blister copper, lead, zinc, silver, cadmium and arsenic. Otjihase is the largest source of copper concentrate for smelting into blister and the sole producer of gold (which is recovered from blister). Copper smelting and lead refining are done at Tsumeb mine. As a result of falling metal prices in 1978, Berg Aukas, Otjihase and the Onganja copper mine were closed, and in 1980 Krantzberg and Brandberg West joined

them but the mines were later reopened as the metals market improved.

The proved zinc reserves of 836 kt in Namibia are distributed as follows: Tsumeb 315 kt, Rosh Pinah 90 kt, Berg Aukas 155 kt and Otjihase/Uis/Kombat 270 kt. Three main types of zinc minerals are presently exploited in Namibia, requiring different technologies for beneficiation and extraction. Zinc ores are either sulphidic (Tsumeb, Berg Aukas, Rosh Pinah), carbonaceous or siliceous. Namibia with proved reserves of 670 kt of lead ores accounts for 1.4% of world reserves and 20% of Africa's reserves.

Most of the tin comes from the Uis Tin Mine. The Uis tin deposits which probably comprise the largest tin-bearing pegmatite mine in the world occur as low grade ore (0.15%) within country rock. The proved, probable and possible reserves of tin in Namibia are 120 kt which is 2% of world reserves. In 1983 Uis mine produced 11.6% of total tin production in Africa. Tin concentrate from Brandberg West was shipped overseas for smelting into metal, and from Uis to the ISCOR refinery in South Africa.

Namibia's reserves of vanadium are comparable to those of South Africa, Finland and Peru. Reserves at Berg Aukas amount to 1.7 Mt. Vanadium reserves occur in Tsumeb mine and are associated with uranium at Rössing.

Cadmium is recovered as a by-product of zinc smelting and Namibian reserves at 5 kt are 0.7% of world reserves. The mineral is partly refined in Namibia and the rest is treated abroad from concentrates and fluedust and sold mainly to the UK and the US.

Tungsten is known to occur in Krantzberg and Brandberg West. Namibia's mine production of concentrate varies between 68 and 116 t of contained tungsten per annum. Most tungsten production comes from Uis tin mine and the Brandberg West mine. Tungsten has experienced an erratic price regime on the European market.

Industrial minerals

Industrial minerals in Namibia include: arsenic, sulphur, trona, feldspar, fluorine, selenium, phosphorus and common salt. Arsenic is produced principally as a by-product of copper and lead mining. Arsenopyrite is found in large quantities in the tailings and ores of Tsumeb mine, as well as other deposits in similar geological settings. Feldspar occurs in Rössing, Karibib and many other places. Salt production from the area around Swakopmund has been a relatively important part of Namibia's mineral industry for the past 45 years and the prospect for further production is virtually unlimited on the coastal strip. Salt is produced from salt pans and in 1987 124 kt of coarse salt were produced.

Precious minerals

Gold and silver are produced in small quantities in Namibia. Small deposits of gold occur in Rehoboth and the blister copper contains traces of gold that is recovered. De Beers in collaboration with Anglo American Corporation of South Africa has decided on the development of Namibia's first gold mine, Navachab, at a cost of ninety million rands.

Navachab gold mine is expected to start production in November 1989.

Silver is produced as a by-product of copper and lead and orebodies also occur at Oamites but they are less significant. At the end of 1979, reserves amounted to 2.1 million tons of a grade of 18.5 g/t. In 1982 silver production at 49.9 t represented 3.8% of Africa's total silver production and 0.4% of world production. The United Kingdom and the United States are the major markets for Namibian silver.

Energy minerals

Substantial reserves of sub-bituminous coal have been identified in Namibia in the Aranos Region on the north bank of the Nossob River, and a second coalfield was discovered on five adjoining farms North East of Windhoek. CDM located a large bituminous coal field between the Aranos and the Botswana border and the deposits are located at depths of 250 and 300 meters within an area of 2,6 million hectares. Coal is also known to exist near Toscanini 23 km north-west of Swakopmund and also in the eastern Caprivi which may be an extension of Wankie coalfield (Zimbabwe).

There is evidence of onshore oil potential in the Etosha Region of northern Namibia but drilling of this has been hindered partly by the fact that it is in the war zone. Several multinational corporations have been prospecting for oil in Namibia and methane gas has been discovered in the Kudu well, 120 km off the Orange river mouth, which according to some sources has a potential to supply 30% to 60% of South Africa's current liquid-fuel requirements. The Botswana Geological survey has shown that the Nossob basin has oil potential and the same basin extends into Namibia.

Conclusion

In many ways the mining sector is one of the most important sectors of the Namibian economy because of its potential contribution towards wider, national, social and economic development. Indeed, in order to foster socio-economic development, a substantial part of the resources collected in the form of "rent" from this sector will need to be spent on development in general and industrial development in particular.

Therefore the Namibian mining sector should be rehabilitated so that its earnings are ploughed back into the economy and the over-mining (particularly of diamonds) activities of mining companies are arrested. Overall, the economy's dependence on the mining sector in terms of government revenue, export earnings and GDP, is evident.

In 1986 the economy improved (grew by 3.1% in real terms) as a result of a 7% rise in real value added in mining, marking a return to growth after having declined for seven years. Diamond mining activities recorded an 11% rise in real terms and uranium mining a 3% increase. However, in 1987 although GDP rose major sectors showed a decline and mining declined by 2.6%. Diamond mining showed real

Table 11

Export earnings from mining (ZAR)

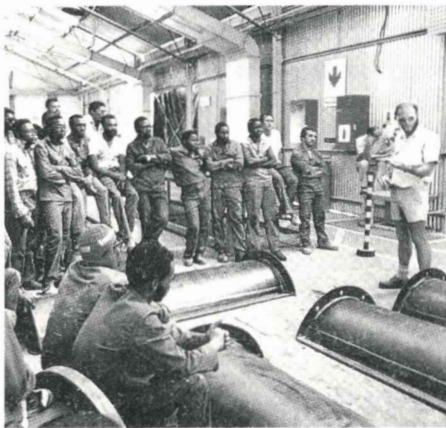
	1984	1985	1986	1987
Total exports	1.101	1.594	1.993	1.810
Mining exports	851	1.290	1.652	1.322
% of total exports	77.3	80.9	82.9	73.0
Diamonds		409	616	650
% of total exports		25.7	30.9	35.9
Uranium		585	762	700
% of total exports		36.7	38.2	38.7

Source:

EIU, 1989

output growth, at 2%, due to the favourable prices and slightly higher output.

The mining sector, in general, accounts for more than 80% of exports by value while other sectors (agriculture and manufacturing) account for the remainder. In respect of export earnings, direct and indirect tax revenue and investable surplus the mining sector provides about half of the national totals and therefore it is important that the mining sector be kept efficiently functioning to facilitate development of other sectors and to build forward and backward sub-sectors related to mining and thereby integrate the sector effectively into the rest of the economy.



The legacy of years of colonial domination in Namibia has resulted in a one-sided path of economic growth and a heavy dependence on the mining sector. Given the instability of the minerals market, the depreciating nature of the resources and the substantial possibilities for expanding agricultural and industrial participation in the economy, there is need to broaden the Namibian economic base and make the economy less vulnerable to external shocks and at the same time formulate a path for sustained economic development. Indeed, there is need for caution to avoid the country getting trapped into a false sense of well-being as was the case in Zambia in the first few years of independence.

THE EEC AND THE NAMIBIAN MINERALS SECTOR

The SYSMIN facility

In addition to STABEX, which is a financing scheme for ACP states heavily dependent on agriculture exports, another scheme to cater for countries heavily dependent on mining was inaugurated at the Lome III convention called SYSMIN.

This special financing facility for mining was created with the intent of helping ACP countries whose economies are dependent on mineral exports. It was meant to help them cope with declining capacity to export minerals to the EEC and the corresponding decline in export earnings and also to help the countries re-establish the viability of the mining sector and to foster economic development.

SYSMIN's prime objective is to help restore the viability of the mining industry in the ACP countries concerned (rehabilitation, maintenance, rationalisation). Where this aim is found to be unattainable, the system may be used to back diversification measures. The aid is still in the form of contributions to clearly defined projects, generally, but not necessarily, in the mining sector.

The minerals covered under Article 177 of Lome III include: copper, manganese, phosphates, bauxite, alumina, tin and iron ore of which none is very significant to Namibia and hence it does not qualify for SYSMIN aid under the first window since its major minerals (diamonds and uranium) are not listed in Article 177 of the Convention.

However, since Namibia derives more than 20% of its export earnings from mineral exports (excluding precious minerals, oil and gas) it should by derogation on a case-by-case basis from Article 177 qualify for funds allocated under this facility in as far as the production, marketing and utilisation of its minerals is concerned. Export earnings

from minerals, excluding diamonds is presented in Table 11, and is evidently well above the 20% threshold: Under the second window a fall in production, or export capacity, of 10% is enough to qualify for SYSMIN support. Unfortunately SYSMIN support only becomes available after the fall rather than being a mechanism to prevent an expected fall. In Namibia's case a post-independence fall in capacity due to an exodus of professionals can reasonably be expected and therefore SYSMIN funds should be made available immediately on independence. In the next section expected areas of support are considered.

Post-independence support

Ownership

The Namibian mining industry is dominated by foreign mining houses, particularly South African and British transnationals. One of the immediate strategies of the post-independence government will be to try and redress this ownership and control pattern. From SWAPO policy statements, it is clear that they do not intend to opt for wholesale nationalisation but rather for increasing the retained value for the country by imposing a more equitable tax regime and/or minority equity holdings.

In this regard Namibia could learn much from the strategies of other third world countries and assistance will be needed in redrafting the mining law. Other states in the region such as Zambia, Botswana and Zimbabwe have, over the years, increased their understanding of the intricacies of mining "rent" and the maximisation of retained value. In addition, organisations such as the Commonwealth Secretariat have developed an impressive analytical capacity in this regard.

The possibility of legislating for a nominal government stake in the mining companies should be considered, if only to give it a seat on the board.

Manpower

Ownership and control are directly related to manpower. Decades of racist colonial education has resulted in a dearth of qualified Namibian manpower. Any nationalisation strategy would only be viable if there were Namibians experienced and qualified to run the mining operations. In 1984 22% of the labour force was white (3,900), which included almost all of the managerial, professional and skilled categories. In the same year, at Tsumeb, all 500 graduate employees, plus 85% of all specialists, were white.

Therefore, a crash training program for mining personnel needs to be implemented and funded as a priority. In ad-

dition to training at outside institutions, the possibility of rapidly creating a Namibian "School of Mines" such as the Zimbabwean institution in Bulawayo, needs to be assessed. In the short term candidates could be trained at other facilities in the region such as the Institute of Technology in Ndola (Zambia) and the Bulawayo School of Mines for non-professional staff and the School of Mines at the University of Zambia and the Departments of Mining Engineering and Metallurgy at the University of Zimbabwe for professional staff.

In the medium to long term, given the importance of the mining sector, facilities need to be created in Namibia,

both for formal training and for in-house artisanal training on the mines. This will require both funding and support for aspects such as curriculum development, course content, etc... In addition, provision for training by mining companies could be incorporated in the mining legislation.

The training of around four thousand technical and administrative cadres is a daunting task and will take at least one generation, even if given the necessary resources and priority.

Marketing

A strategy to increase local control in the short-term is that of state control of minerals marketing. This would go

Table 12
SADCC Mineral output including Namibia

Mineral	Volume				% of world production 1985	Value	Principal SADCC producer 1985 (%)
	1970	1975	1980	1985			
Oil Mt	5.07	8.75	6.78	11.51	.4	1 778	Angola 100
Copper kt	774.51	770.46	734.41	580.37			Namibia 10
Diamonds Mct	5.651	6.772	7.338	14.959			Botswana 88
Gold kg	13.780	11.500	11.780	15.294			
Nickel kt	8.59	15.57	30.52	29.44	3.7	147	Botswana 67
Fe-Chrome kt	163	231.11	244.87	209.53	na	130	Zimbabwe 100
Cobalt kt	2.052	1.953	3.650	4.729	17.3	128	Zambia 93
Steel kt	163	544.70	852.30	734.90	.1	105	Zimbabwe 99
Asbestos kt	220.98	299.14	283.88	199.11	4.7	60	Zimbabwe 87
Coal kt	4 619	4 972	4 672	4 170	.1	56	Zimbabwe 73
Chromite kt	503.90	875.70	552.50	526.50	5.2	21	Zimbabwe 100
Zinc kt	100.16	90.22	64.59	79.90			Namibia 71
Tin kt	2.154	1.757	2.024	2.731			Zimbabwe 99
Iron ore kt	9 456	9 090	1 621	1 098	.1	12	Zimbabwe 100
Silver t	92.71	82.13	158.43	126.73			Namibia 65
Lead kt	80.30	72.20	57.70	56.60			Namibia 86

Source:

IMR SADCC Minerals Databank

some way in increasing the retained value by limiting transfer pricing. In general, when foreign mining companies are faced with limitations on retained profits and, more importantly, the repatriation of after tax profits, they will resort to other methods of maintaining a return on the operation, such as transfer pricing.

Both Zambia and Zimbabwe have experience in state marketing authorities (Memaco and the MMCZ) and could give valuable advice to the new government. Funds would therefore be necessary to study the feasibility of setting up a Namibian Minerals Marketing Authority. Twin Trading, a NGO in London, has some experience in this regard.

Although the new government should be wary of measures that might frighten off capital, control or monitoring of minerals marketing should be seen as a minimum strategy given the limitations imposed by the heritage of a century of colonialism and concomitant neglect of indigenous training.

Small scale mining

Namibia has numerous mineral deposits that would be amenable to small scale exploitation, particularly pegmatites, requiring a lower level of technical and administrative competence. Small scale mining ventures have been successful in Zimbabwe, where there are over 500 small scale operations, mainly in gold mining.

These Zimbabwean operations rely heavily on a wide range of government support structures such as the Chief Government Mining Engineer's Office which administers loan schemes and hire purchase schemes, and supplies technical and managerial advice, the Government Metallurgical Laboratory which carries out free assays and analyses, the Government Roasting Plant which takes in refractory gold ores and the Institute of Mining Research which

offers a wide range of subsidised services.

A similar scheme could be implemented in Namibia but would require extensive funding for the initial capital costs of the support facilities and would also, in the short-term, have to be principally manned by foreign personnel. Seed funding will also be required to set up a small-scale mining loan scheme and equipment hire-purchase schemes. Zimbabwe's depth of experience in this regard should be actively tapped.

A vibrant indigenous small scale mining sector employing appropriate technology would go a long way in bringing the benefits of mining to the common people in a reasonable time period. Indigenous control of the medium to large scale mining operations will be a long time in coming.

The SADCC and the Namibian minerals sector

The admission of Namibia as the tenth member of the SADCC could strengthen economic cooperation in Southern Africa and at the same time reduce the domination of the South African regime in sub-Saharan Africa.

Namibia is well endowed with mineral wealth and its membership would increase the regional resource base for uranium, diamonds, copper, silver and lead, zinc, coal and natural gas. Table 12 presents regional (SADCC) mineral output with the inclusion of Namibia.

From the above information it is clear that the admission of Namibia as a SADCC member state would increase regional mineral output, lead will increase by 86%, zinc by 71%, silver by 65%, tin by 55% and copper and gold by about 10% each. The membership of Namibia will also mean the addition of a new mineral, uranium, to the regional range.

Therefore, the independence of Namibia, will greatly enhance and give further impetus to the viability of

SADCC. Other than being a source of the strategic uranium, Namibia could also serve as an important market for other SADCC countries and also could, in the long term, provide ports (Luderitz and Walvis Bay) for other landlocked members and thereby reduce pressure on the east coast ports.

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