Institute for Public Policy Research

Managing Diamond Dependency: Should Namibia Risk More to Gain More?

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By Martin Boer and Robin Sherbourne

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I. Abbreviations and Symbols

bln	**billion, thousand million**
BWP	**Botswana Pula**
C$	**Canada Dollar**
CDM	**Consolidated Diamond Mines of South West Africa**
CIS	**Commonwealth of Independent States. Part of the former Union of Soviet Socialist Republics (USSR)**
DTC	**Diamond Trading Company (London)**
DIAND	**Department of Indian Affairs and Northern Development (Canada)**
DRC	**Democratic Republic of Congo**
GDP	**Gross Domestic Product**
GE	**General Electric Company (Fairfield, CT, USA)**
GRN	**Government of the Republic of Namibia**
IBA	**Impact and Benefit Agreement (Australia)**
IBA	**Impact Benefits Agreement (Canada)**
IMF	**International Monetary Fund (Washington, DC, USA)**
IPPR	**Institute for Public Policy Research (Windhoek, Namibia)**
JASSONA	**Jewellers Association of Namibia**
JSE	**Johannesburg Stock Exchange (South Africa)**
N$	**Namibia Dollar**
mct	**million carats**
mln	**million**
NAMCO	**Namibian Minerals Corporation**
NamDeb	**NamDeb Diamond Corporation (Windhoek, Namibia)**
NSX	**Namibian Stock Exchange**
NWT	**The Northwest Territories (Canada)**
ODM	**Ocean Diamond Mining (Cape Town, South Africa)**
RSA	**Republic of South Africa**
Samicor	**Sakawe Mining Corporation (Samicor) (Windhoek, Namibia)**
SEA	**Socio-Economic Agreements (Canada)**
US$	**US Dollar**
ZAR	**South Africa Rand**
%	**per cent**

II. Executive Summary

In September 2003 the IPPR produced a briefing paper entitled "Getting the Most Out of Our Diamonds: Namibia, De Beers, and the Arrival of Lev Leviev," which described the present state of the diamond industry in Namibia and how the arrival of a serious new industry player is likely to present policy-makers with difficult choices. A further conclusion was that far more research was needed in order to come to a clear understanding of the issue of what Namibia can do to maximise the benefits it derives from its diamond resource. This research paper is an attempt to do just this. Over the past six months the IPPR has conducted more detailed research which seeks to understand the trends taking place in the international diamond industry and which compares Namibia's diamond industry with that of six other major diamond producing countries: Angola, Australia, Botswana, Canada, Russia and South Africa.

Based on the analysis presented in the first four sections of the report, the final section outlines 18 options which Namibian policy-makers should consider in their efforts to maximise benefits to the overall economy from the country's rich diamond resource. Some of these may be immediately relevant to the current discussions between the Government and De Beers over the terms of the new sales agreement due to come into effect in 2005. Other options might only become more important in the longer term. However, it is important that the larger longer-term picture is not lost sight of.

The intention behind listing as many options as possible is that everything should be considered before being dismissed. Clearly several of the options are contradictory and mutually exclusive. Others may be considered by many to be irresponsible. Our intention at this stage is not to recommend which options to pursue. The one option we find unambiguously convincing is that Namibia requires more ongoing research into the diamond industry and that this research is made available, not just to a few select individuals in Government, but to a wider range of policy-makers and the general public.

Finally, for all investments, the degree of reward is linked to the degree of risk. This is no different for the options faced by Namibian policy-makers in maximising benefits from diamonds. Responsible policy-making demands that extreme caution is exercised in taking new risks given the economy's high degree of dependence on diamonds. At the end of the day, policy-makers will have to carefully weigh up whether Namibia should risk more to gain more.

III. Introduction

Diamonds are immensely popular precious stones that are bought the world over as the ultimate symbol of eternal love. Due to more than a little marketing by De Beers, the demand for these gems has risen over the last century to give rise to a global industry worth more than US$60 billion per year. And if De Beers has its way, an increase in branding and marketing will swell the market by another 25% to US$75 billion over the next decade. Because diamonds are the hardest substance known to man, diamonds are also used for industrial purposes. However, this paper will concentrate on gem diamonds. The big difference between gem diamonds and other commodities, like oil or natural gas, is that although they have no intrinsic functional value, they are highly sought after and easily transportable.

Despite its size and significance, the diamond industry is not particularly transparent. Many of the leading diamond producing countries are reluctant to release details about their diamond industries. Russia still considers diamond production figures to be state secrets. Most of the leading producer countries are in private partnerships with multinational mining groups and the terms of these deals are not made public. Only a handful of these mining companies, like BHP Billiton and Rio Tinto, are publicly listed and therefore obliged to publish financial results that conform to international standards. De Beers, which has long dominated the industry, decided to de-list from the Johannesburg Stock Exchange in 2001, but continues to publish an Annual Review and has a major publicly-listed shareholder in Anglo American. The cutting and polishing firms and retail stores, at the end of the diamond pipeline, are almost all family-held and provide almost no information about their commercial activities.

It is for these reasons that the Institute for Public Policy Research decided to produce this research paper, which examines the global diamond industry by comparing and contrasting the Namibian industry with models adopted by other diamond-rich countries: Angola, Australia, Botswana, Canada, Russia and South Africa. This analysis allows the study to conclude by putting forward a range of options that Namibia might wish to consider in further developing its diamond industry. However, since the focus of this paper is not solely on Namibia, it may also be of interest to those wanting a better understanding of the current state of the global diamond industry.

IV. The Diamond Industry in Namibia

De Beers dominates the industry, partners up with Government

Diamonds have played an important role in the Namibian economy since they were first discovered in Lüderitz in 1908. De Beers cornered the Namibian market in 1931 and was the sole producer through its wholly owned Consolidated Diamond Mines of South West Africa (CDM) until 1990 when Namibia gained its independence from South Africa and opened the diamond industry up to competition. In 1994, De Beers operations in Namibia were renamed NamDeb Diamond Corporation (NamDeb) and it became a 50-50 joint venture with the Government of the Republic of Namibia (GRN). There is a confidential sales agreement between De Beers and the Government which determines the share of profits that each receives. The parties view this as a confidential business agreement, the contents of which would not normally be made public. Negotiations for a new 5-year sales agreement will commence in 2004 before the current agreement expires at the end of 2005. In an earlier briefing paper, the IPPR concluded that the Government's strategy seems to have been successful by both partnering up with De Beers and allowing other companies into the market.[2]

Other companies welcomed to Namibia

At the same time the Government encouraged other companies to explore and mine on land and in Namibian waters. Ocean Diamond Mining (ODM), based in Cape Town, was founded in 1984 and mined in Namibia from 1990 to 1999 when it was taken over by the Namibian Minerals Corporation (Namco) which listed on the Namibian Stock Exchange (NSX) in 1995 and started operations in 1998. Namco went bankrupt in 2003 and many of its key assets were bought up Sakawe Mining Corporation (Samicor), owned by the Leviev Group of Israel. The Government received nothing for its 8% stake but has since received an 8% stake in Samicor. Another 17% of Samicor was given to black economic empowerment group Longlife Mining Corporation, the Namibia Youth Service and to the Samicor Employees Trust. Canadian company Diamond Fields International entered Namibia in 1998 while the Trans Hex Group, listed on the Johannesburg Stock Exchange (JSE), began producing in 2001. But in 2002, NamDeb still produced more than 80% of all rough diamonds[3].

A joint venture between Trans Hex and Diamond Fields was disbanded in 2002 and since then Trans Hex has subcontracted for NamDeb and in early 2004 was working on a short-term contract with Samicor. Diamond Fields utilised the services of South African mining contractor Lazig (Pty) Limited and later Gemfarm (Pty) Limited until marine operations were suspended in early 2004. Since then, the group has entered into a joint venture with Samicor and mining is expected to commence in May 2004. Diaz Point also works for NamDeb. This wave of consolidation means that in 2003 NamDeb will have produced nearly all of the diamonds in Namibia. Samicor began mining in 2004 but with its initial 150,000-carat production target, it is unlikely to have a market share of more than 10%. Whether Samicor will even reach this target remains to be seen, as most of its concessions remain unexplored, making it difficult to give any estimates for possible reserves.

[2] Boer and Sherbourne. 2003. "Getting the Most Out of Our Diamonds: Namibia, De Beers and the Arrival of Lev Leviev."
[3] The Chamber of Mines of Namibia. 2002. Annual Report. Page 5.

Diamonds form large part of economy, taxes, and exports

Diamond mining makes a contribution of around 10% to Namibia's Gross Domestic Product (GDP). The contribution to government tax and non-tax revenues is even higher because diamond-mining companies pay a tax of 55% of taxable income, a 10% royalty tax, and dividends from NamDeb as well as the usual 10% non-resident shareholders tax. In 2002, for example, Government received N$1.25 billion (US$119 million) from NamDeb, or 70% of NamDeb's N$1.78 billion (US$169 million) in pre-tax profits[4]. The contribution is likely to be much lower in 2003 and 2004 because of a stronger exchange rate as well as declining land reserves and the increased capital required to treat low value over-burden. By and large, however, the Government appears to have done quite well through this arrangement.[5] (See Table 1).

Table 1: Distribution of NamDeb profits to GRN and De Beers

(N$ mln)	*1990*	*1991*	*1992*	*1993*	*1994*	*1995*	*1996*	*1997*	*1998*	*1999*	*2000*	*2001*	*2002*
Distributable amount	95	270	225	361	347	321	565	621	366	669	1,120	1,516	1,780
Payable to GRN	70	180	225	249	254	230	398	435	263	532	834	1,065	1,246
of which, Royalty	61	87	95	114	120	143	185	201	166	237	308	339	408
of which, Mining tax	7	79	130	124	118	70	200	216	88	281	498	645	762
of which, Non Resident	3	14	0	11	9	9	17	19	10	14	29	45	53
of which, Dividend	0	0	0	0	6	7	(3)	0	(1)	(1)	(1)	36	23
Dividends to De Beers	25	90	0	112	94	91	167	186	104	137	287	451	534

Source: NamDeb

The overall contribution of the diamond mining industry to Government tax and non-tax revenues has almost tripled to 14.7% in 2002/03 from 5.7% in 1990/91. Another indicator of the importance of the industry to Namibia is the balance of payments, which show that in 2002 rough diamonds comprised 50% of all merchandise exports by value. It is therefore also Namibia's principal generator of foreign exchange. Despite the economic importance of the industry, diamond mining employed only 3,295 people in Namibia in 2002, down from 5,708 in 1992, according to the Chamber of Mines of Namibia. This is due to a combination of industry consolidation, technological improvements and the fact that marine mining is much less labour-intensive.

[4] For all currency conversions see Table 12 on page 74.
[5] NamDeb was the only diamond company internationally willing to present a breakdown of its profits and tax liabilities.

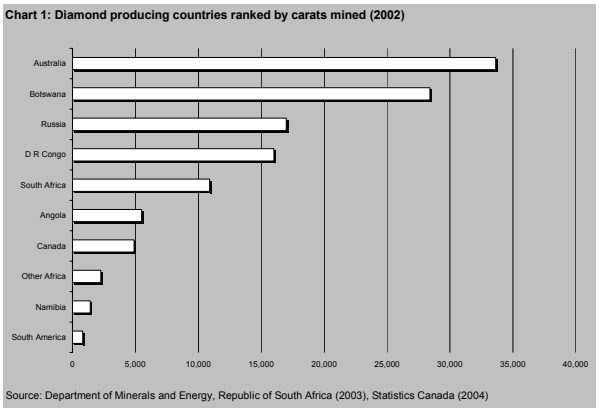
Table 2: Diamond mining in Namibia, industry-wide figures

Indicator	*1992*	*1993*	*1994*	*1995*	*1996*	*1997*	*1998*	*1999*	*2000*	*2001*	*2002*
Carats Mined (mln)	1.55	1.14	1.30	1.34	1.36	1.42	1.44	1.64	1.55	1.50	1.55
% Onshore	83%	73%	69%	66%	65%	62%	49%	44%	43%	50%	45%
% Offshore[6]	17%	27%	31%	34%	35%	38%	51%	56%	57%	50%	55%
Employees	5,708	4,673	4,645	4,448	3,933	3,758	3,414	3,569	3,335	3,246	3,295
Contribution to Gov Revenues (N$ mln)	209	296	272	216	294	704	361	412	680	1,051	1,493
% of Total Revenues	5.9%	6.9%	5.7%	3.7%	3.6%	12.4%	5.8%	5.7%	8.2%	11.5%	14.5%
Value Added, Current (N$ mln)	775	598	872	763	1,169	1,251	1,358	1,697	1,934	2,854	2,989
% of GDP	10.7%	7.9%	7.5%	6.0%	7.8%	7.5%	7.2%	8.2%	8.2%	10.5%	9.8%
Value Added, Constant (N$ mln)	1045	762	708	763	783	782	793	908	847	803	838
% of GDP	22.6%	-27.1%	9.2%	7.8%	2.6%	-0.1%	1.3%	14.5%	-6.7%	-5.1%	4.4%
Diamond Exports (N$ mln)	1,350	1,522	1,489	1,767	2,318	2,495	2,161	3,022	4,245	4,507	5,604
% of Merchandise Exports	36%	36%	32%	34%	37%	40%	32%	41%	46%	46%	50%

Sources: Auditor General Reports, Budget Documents, Central Bureau of Statistics, and the Chamber of Mines of Namibia

World's sixth largest producer by value

In 2002, the global diamond industry produced around 121 million carats of diamonds, worth around US$7.67 billion, according to the Department of Minerals and Energy in South Africa.[7] Namibia's production in terms of carats is relatively small, ranking it eighth in the world. But because 98% are of "gem quality" the country's annual production is worth around US$450 million, making it the sixth largest producer by value after Botswana, Russia, South Africa, Angola and Canada.



Although 2003 estimates are still too early to come by, the Canadian government estimates Canada is now the third largest producer of rough diamonds by value. The well-known diamond industry journalist and consultant Chaim Even-Zohar, in his preliminary pipeline for 2003, estimates Canada to be the sixth largest. Either way, when looking at the average value per carat of rough, Namibia's diamonds are the finest in the world at US$321, more than double that of second-place Angola.

[6] In Namibia there are three types of mining, "onshore", "offshore" in deep waters and "shallow water" operations closer to the beach. This report combines the latter two categories into "offshore".
[7] Government of South Africa, Department of Minerals and Energy. 2003. Page 24.

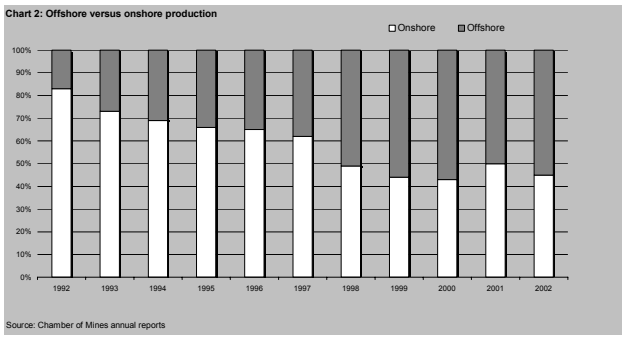
Table 3: Estimated rough diamond production by country in 2002

Rank	*Country*	*Carats ('000)*	*Value (US$ mln)*	*Value Per Carat (US$)*
1	Botswana	28,397	2,170	76.4
2	Russia	17,000	1,470	86.5
3	Angola	5,500	850	154.5
4	South Africa	10,900	900	82.6
5	Canada	4,900	504	102.9
6	Namibia	1,400	450	321.4
7	Australia	33,640	400	11.9
8	D R Congo	16,000	400	25.0
9	Other Africa	2,252	241	107.0
10	South America	800	70	87.5

Source: Department of Minerals and Energy, Republic of South Africa, Statistics Canada

Production moving offshore

Perhaps the greatest single trend in the industry has been its move from land-based operations to mining on the ocean floor, a technique pioneered by De Beers Marine, ODM and Namco. In the 14 years since independence, NamDeb is the only company that has managed to mine large quantities of diamonds, with the possible exception of ODM, which went bankrupt due to an accident with a sea crawler.



After almost a century of mining, very small amounts of diamonds remain below ground. De Beers estimated in 1991 that only around 2% of the diamonds in the ground in Namibia would remain unmined when land operations come to an end.[8] But Namibia is doubly blessed with extensive alluvial diamond resources found offshore. De Beers began marine operations in 1990 and produced some 29,000 of rough carats in its first year. By 2002, marine mining made up 55% of total NamDeb production.

Extent of deposits unknown

It is often said that Namibia has the richest diamond deposits in the world, but exact estimates are very hard to come by, in part because so little of the ocean floor has been explored. NamDeb declines to value its onshore and offshore concessions but industry insiders estimate privately that NamDeb can continue to operate, at present rates of extraction, for at least another 50 years.

Samicor said at a press conference in February 2004 that it estimates there to be at least 12 million carats in its offshore concessions.[9] The diamonds discovered so far have an average value of US$130 per carat, lower they claim than the prime concessions held by NamDeb. Samicor's most conservative estimate values its concessions at around US$1.6 billion. The *Economist Intelligence Unit* has also weighed in, estimating in

[8] Consolidated Diamond Mines. 1991. Page 5.
[9] Sakawe Diamond Corporation (Samicor). 2004.

February 2004 that there are at least 1.5 billion carats of diamond reserves in Namibia, most of which are gem-quality and located offshore.[10] But because the ocean remains largely unexplored, any estimates by mining companies or Government will be necessarily approximate.

One of the benefits for Government in entering into a partnership with the main mining group is that it is able to help decide how quickly national diamond resources onshore and offshore should be depleted. Over the last five years NamDeb has been mining around 1.5 million carats per year but in early 2004 the annual target was raised to 1.7 million.

Aiming for a viable cutting and polishing industry

Like most other producing countries, the Namibian Government is also trying to foster a diamond manufacturing industry that cuts and polishes diamonds for export abroad. Government has offered incentives in the form of Export Processing Zone status, whereby taxes and duties are waived, and training grants are provided. So far seven factories have located themselves in Namibia that compete with low-cost cutting centres in India and China and with highly skilled ones in Antwerp, New York and Tel Aviv. These factories employ perhaps 270 Namibians. None of the factories in Namibia publish financial statements so it is hard to estimate how successful they are. The fact that at least one factory has gone out of business (NamDiamonds) and two others are not operating at the time of writing suggests that it is very difficult to compete with the leading diamond cutting centres.

Table 4: Diamond cutting and polishing factories active in Namibia

Title	Location	Owner	Founded	Staff	Annual Turnover
NamGem	Okahandja	NamDeb	August 1998	120	40,000 stones
NamCot Diamonds	Windhoek	Steinmetz	May 2001	100	4,000 stones/r month
Tornado Enterprises	Windhoek	Kurashkin, Slatkov	March 2000	N/a	N/a
Mars Investment	Walvis Bay	Mars	May 2002	50*	N/a
Hard Stone Processing	Windhoek	Seber NV	July 2002	N/a	500 stones capacity
LLD Diamonds Namibia	Windhoek	Leviev Group	Oct 2001	500 goal	Aims to cut 150,000 carats annually

Sources: Companies, The Namibian *at May 2002 launch

Adding value to other's rough

One popular misconception is that Namibian factories are cutting diamonds mined in Namibia. NamDeb has a marketing agreement with the Diamond Trading Company (DTC), the marketing arm of De Beers, whereby 100% of its rough diamonds are exported to London. Some of the factories in Namibia are owned or supplied by De Beers clients: the Steinmetz Group owns NamCot Diamonds and NamGem is in a partnership with Lazare Kaplan International. These clients buy parcels of rough

[10] Roger Murray, Economist Intelligence Unit. 2004. Page 7.

diamonds from the DTC in London that are comprised of rough diamonds that also originate from Botswana, Russia, Tanzania and South Africa. The rough that is shipped back to Namibia is unlikely to contain more than a small percent of Namibian stones. Despite requests for information by the IPPR, some of the other factories are unwilling to reveal where they source their rough. The newest manufacturer, LLD Diamonds Namibia, owned by the Leviev Group, aims to begin cutting and polishing in May 2004 and says it will source all its rough domestically from Samicor, which could mean producing as many as 150,000 carats of cut and polished diamonds annually. The Leviev Group has successful diamond polishing plants in Russia, India, China, South Africa, Ukraine and Armenia but it is uncertain whether it will be able to turn a profit at its new factory in Windhoek.

The only factory that has ceased operating is NamDiamonds, which was funded by US entrepreneurs wanting to create a line of Namibian jewellery. NamDiamonds began focusing on diamonds but eventually expanded to other gems and minerals when it had difficulty obtaining the necessary rough in Namibia. It was the only Namibian manufacturer to have ventured into branding but it ultimately failed to secure the necessary inputs. NamGem, the largest manufacturer, is currently supplying the Jewellery Association of Namibia with cut stones for its “Namibian Manufactured Fine Diamond” programme. Namibian branding efforts will be discussed further on in the report.

One of the reasons why the cutting and polishing factories were built in Namibia at all is the Diamond Act of 1999 which, among other things, gives the Ministry of Mines and Energy the right through Section 58 to force producers like NamDeb to make their rough available to the diamond processors. Although this section has never been invoked it has created concern among mining companies and hope among manufacturers. Another part of the Act, Section 59, gives the Government the right to test prices by selling up to 10% of a producer’s rough diamonds directly to the market. Both parts of the Diamond Act give the Namibian Government an extra level of security and bargaining power during negotiations.

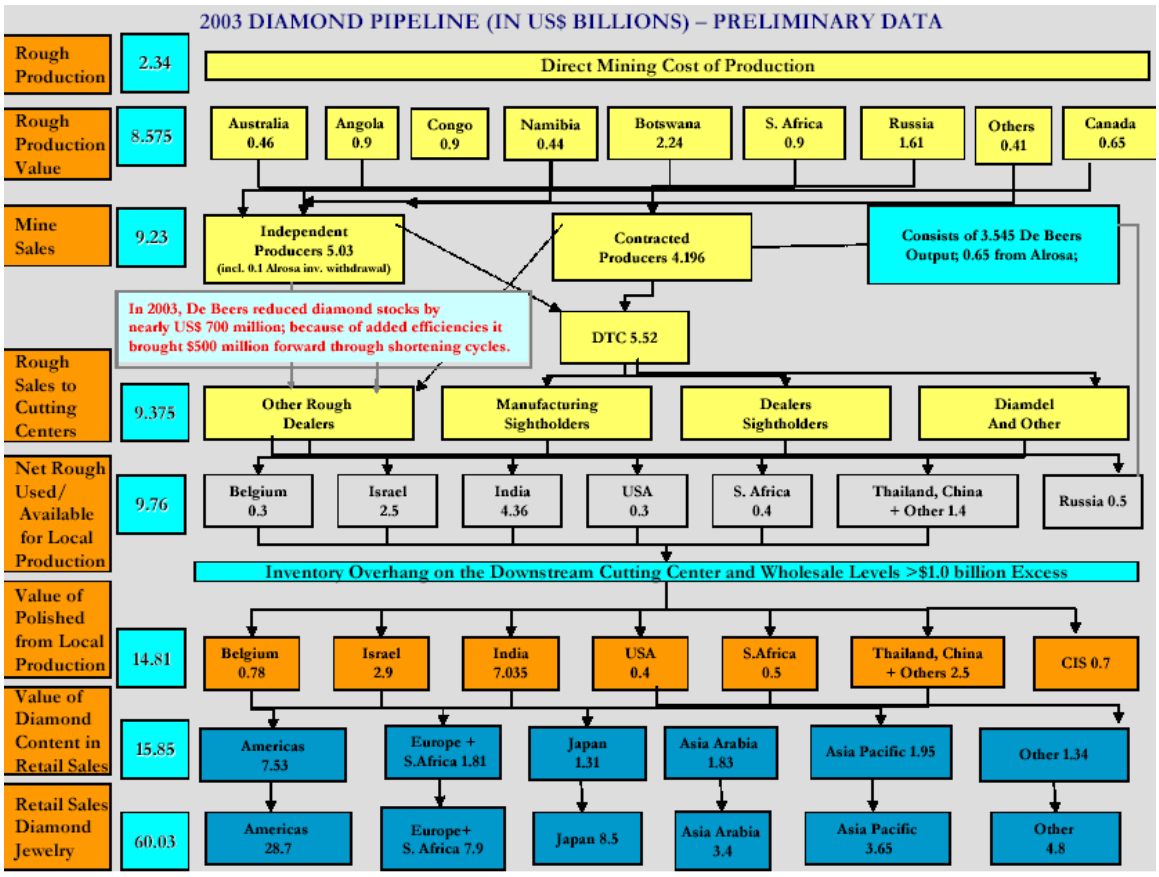
The diamond industry plays an important role in Namibia and looks set to continue to do so as the industry moves offshore. De Beers has long dominated the industry but since 1990 exploration, mining and processing have been open to competition with a number of mining companies having tried to turn a profit. So far, NamDeb seems to be the only company that has been successful over the long term. By comparison to their international peers, the Namibian government and NamDeb are both encouragingly transparent. However, the manufacturing industry remains secretive and hard to research. It is therefore unclear whether cutting and polishing is working in Namibia and if these businesses were set up for financial or rather for other more strategic reasons.

V. The World Diamond Industry

The global diamond business is a US$60 billion industry employing millions of people that spreads far beyond the countries where diamond deposits are found. Even-Zohar has organised the industry into a “diamond pipeline” that traces rough diamond production all the way from the mine to the retail consumer. By tracing the costs and benefits at each stage of production it is easy to see how much value is created along the way.

In his preliminary pipeline for 2003, Even-Zohar estimates that the direct cost of mining production is US$2.3 billion. Rough diamonds with a value of around US$8.6 billion are sold to the DTC and other marketing offices owned by mining companies for an estimated US$9.2 billion. This provides mining companies and the governments of the countries where they are produced with US$6.9 billion in added value. Keep in mind that mine sales and rough sales are not identical due to shifting inventories. (See Chart 3.)

Chart 3: The diamond pipeline 2003



Source: Printed with kind permission of Chaim Even-Zohar/Tacy Ltd.

Aber, Alrosa, the DTC, BHP Billiton, Rio Tinto, Trans Hex and other mining companies sell the rough diamonds to manufacturers and dealers for US$9.4 billion. These goods then head for India, Israel, the Far East, South Africa, New York and places to be cut, at which point in 2003 they were worth US$9.8 billion. Cutters and polishers, close to a million worldwide, cut diamonds into polished stones that are worth around US$14.8 billion. These polished diamonds are then sold onwards to jewellers and other retailers for US$15.9 billion, creating another US$1.1 billion in added value.

Sales, profit and value added

Sales or turnover: the value of all goods and services sold by a firm during a given period.

Profit: the excess of sales over expenses during a given period.

Value added: the total sales of a firm minus purchases of inputs from other firms during a given period. What is left is available for wages and profits.

A common mistake people make is to compare the turnover of a firm with the value added of a country and mistakenly conclude that companies are very large in comparison to national economies.

Then the retailers, with the highest premiums achieved in the U.S., Japan and Europe, sell the diamond jewellery for US$60.0 billion, more than tripling their value. So by the end of the process, after diamonds have travelled from Botswana to Beverly Hills, their value has risen by a factor of 26 from an original cost of US$2.3 billion to a market value of US$60.0 billion. It should be remembered that there are, of course, other inputs besides the diamonds, including jewellery manufacturing, branding, marketing, retailing, labour and the cost of gold, silver, platinum and other precious metals.

Retail sales are said to have low margins and the profitability of the global diamond industry is nowhere near US$60.0 billion but it has caused many diamond producing countries to wonder why so much of the value added has to occur downstream, far away from where the diamonds were mined. The paradox is that those countries that are most successful at cutting and polishing are not producers of rough. All diamond-producing countries, with the exception of Angola, have national or local regulations in place that support domestic cutting and polishing industries. Since 2000 Angola has sold its rough diamonds to Lev Leviev and Sylvian Goldberg, who own 49% of Ascorp.[11] Canada does not provide any federal support nor does it have diamond manufacturing legislation but the territorial Government of the Northwest Territories (NWT) in Yellowknife provides a range of assistance programmes ranging from training schemes to loan guarantees. Many non-producing countries, like Belgium, India and Israel, also have assistance programmes in place for diamond manufacturers.

The past – a cosy gentlemen's club

De Beers has historically been referred to as a cartel. For most of the twentieth century the diamond business was controlled by De Beers and in many ways it still is despite its declining market share. Historically, De Beers controlled about 80% of rough diamond production through its mines in South Africa, Botswana, Namibia and Tanzania, as well as marketing arrangements with Angola, Australia, Russia and others. De Beers considered itself the guardian of the industry and would "mop up" whatever rough diamonds became available. It was also the major spender on diamond marketing on

[11] As will be discussed later, their exclusive arrangement will be scaled down to 25% in 2004.

which much of the industry relied. This way De Beers could to a large extent control both supply and demand. Even the 20% of the market not directly controlled by De Beers was largely influenced by the DTC's price book, which divides gem diamonds into about 16,000 categories each with its own price.

De Beers also heavily invested in advertising and marketing to boost demand for diamonds on the basis of their beauty, luxury and scarcity. De Beers has, to a large extent, succeeded in convincing men around the world to buy a diamond engagement ring for the women they love. However, according to the DTC, diamond retail sales have underperfomed since 1992 against growth in average incomes and growth in luxury goods in particular.[12]

Depending on the level of demand for diamonds in the market, De Beers would adjust its production levels and inventories so as to release onto the market an optimal amount of rough diamonds to its select group of clients in Antwerp, Johannesburg, Lucerne, Switzerland and London. It was this sort of a monopolistic situation that led the US Justice Department to open an anti-trust investigation against De Beers in 1945. De Beers is currently trying to resolve the outstanding legal issues related to this suit. One of the effects of the suit has been that for almost 60 years no De Beers director has been able to set a foot into the world's largest retail market for fear of being indicted, although members of the Oppenheimer family are known to have visited the US on several occasions.

The monopoly enjoyed by De Beers was acceptable to its customers because De Beers only controlled the first part of the pipeline. The DTC sold the rough diamonds to their clients, who in turn distributed the rough into the cutting centres of Antwerp, New York, Tel Aviv, Johannesburg and later Mumbai. Clients were carefully selected and obliged to buy the assortments of diamonds offered by the DTC on a take it or leave it basis. The DTC therefore had a significant information advantage over its clients and this was enhanced by the significant stockpiles that existed.

Diamond manufacturing was a unique business comprised of thousands upon thousands of small, family-owned businesses that were passed down along the generations. After a diamond was polished it was sold onwards to jewellery manufacturers that would set the gems into rings, necklaces and other types of jewellery. Then these were passed on to jewellery distributors who would in turn sell them onwards to retailers, the bulk of which were based in wealthy cities like New York, London and Tokyo. Each stage of the process was final and different parts of the pipeline remained distinct.

By the 1970s, India was able to regain some of its former glory as a diamond producer by entering the diamond manufacturing business. India has been gaining market share ever since. Belgium and the Netherlands, despite having no diamond deposits of their own, became the centres for diamond trading and diamond finance. Dutch banking group ABN AMRO, for example, is the leading lender to the industry in Mumbai, New York, South Africa, Moscow, Dubai, Hong Kong, Tokyo, the Netherlands and Switzerland.[13]

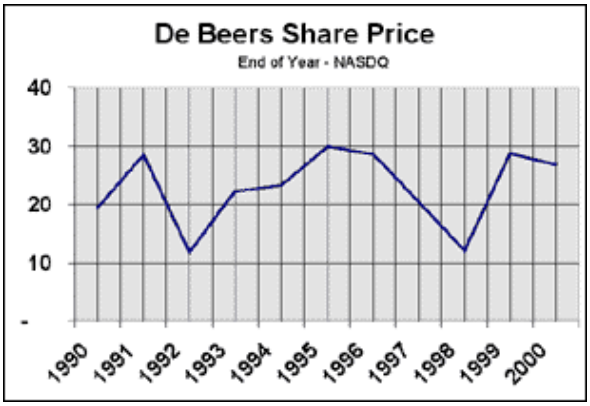
[12] DTC. "Supplier of Choice."
[13] Even-Zohar. From Mine to Mistress. Page 436.

For most of the twentieth century the diamond industry was an ordered business, with little overlap, where everyone more or less knew their place and where information was hard to come by. This order was upheld because De Beers served as custodian of the entire market, releasing just enough rough diamonds into the pipeline for the shops to be able to meet retail demand.

The present – diamonds are forever but monopolies are not

This ordered pipeline that runs from mine to the consumer is now rapidly being transformed, almost entirely due to De Beers, which is stepping down from its role as guardian of the industry to one of a strong competitor. In many ways this volte-face was forced on De Beers by producing countries, increased competition and regulatory bodies, the sheer cost of holding and managing inventories as well as its own drive to improve shareholder value. The De Beers share price hardly rose during the course of the 1990s. (See Chart 4.)

Chart 4: De Beers share performance, 1990-2000



Source: Rapaport News, Nasdaq

The pipeline still exists today but the players are no longer content staying in their places. Producer countries now want to capture as much of this value as possible. Almost every producer country is trying to create viable cutting and polishing industries. Although moving further down the pipeline is not always economically viable, governments often argue a boost in employment is a strong enough goal in itself. In Canada, which is one of the newest sources or rough diamonds, the Government of the Northwest Territories is moving into a new area by sponsoring branding and marketing campaigns.

This has forced De Beers as a mining company to examine how exactly it adds value to diamonds through mining, sorting and marketing. Mining companies are also no longer content to sell their rough to manufacturers. Vertical integration is sweeping the diamond industry and all the big players are opening factories and forming alliances with retailers. Alrosa and BHP Billiton have moved down the pipeline, selling directly to retailers. Even

Supplier of Choice

The Supplier of Choice programme is essentially a marketing strategy launched by the DTC in July 2003. The DTC says diamond sales are being outpaced by other luxury products and therefore wants to shift the industry culture to one of demand by focusing on the consumer. It is doing this by paring down its exclusive club of clients (known as sightholders) to those willing to tighten their distribution channels, increase advertising, branding and boost consumer confidence. Those remaining sightholders benefit because the DTC pledges to be their principal, even exclusive supplier. On the other hand, those sightholders that have been dropped will now have to source their rough diamonds elsewhere.

De Beers, which has had a hand in cutting and polishing for more than 30 years, is now encouraging through its new Supplier of Choice programme that its clients increase branding, marketing and advertising efforts.

Table 5: Major diamond mining groups, 2002

Company	*Alrosa*	*BHP Billiton*	*De Beers*	*Rio Tinto*	*Trans Hex*
Headquartered	Russia	Australia	South Africa	UK	South Africa
Publicly-Listed	No	Yes	No	Yes	Yes
Total sales (US$ mln)	1,557	800	5,534	400	82
Where mining	Angola, Russia	Canada	Botswana, Namibia, South Africa, Tanzania	Australia, Canada	Angola, Namibia, South Africa
Diamonds sold (US$ mln)	1,557	800	5,534	400	82
Active downstream	Polishes some of its production	CanadaMark program	Jewellery shops, advertising, NamGem, LMVH	Polishes some of its production	None

Sources: Company reports

While mining companies are going downstream, some manufacturers, most notably Lev Leviev, are going upstream and securing their own sources of rough. Leviev has a marketing deal with Ascorp in Angola, owns mineral rights in the Urals and has formed his own offshore mining company Samicor in Namibia. He is the first manufacturer to have captured the entire pipeline from mining to his own high-end "Vivid Collection" jewellery line, comprised of pieces priced from US$50,000 to a few million dollars each.[14]

The Kimberley Process

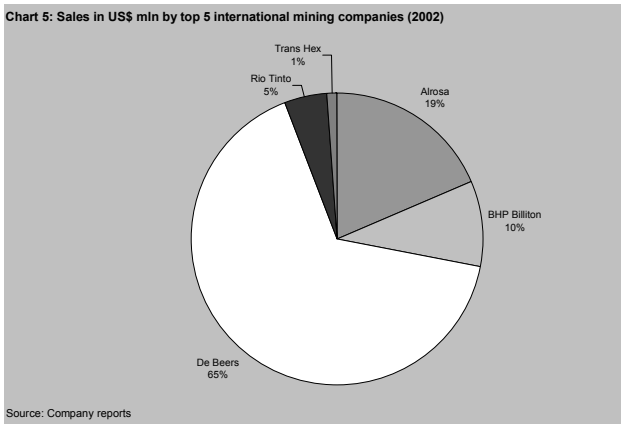
This process began in 2000 as an effort by diamond producing countries in Southern Africa to prevent conflict diamonds from entering the market. Although civil wars have largely ended, there is still illicit diamond smuggling occurring in Angola, the DRC and Sierra Leone. The initiative now includes 60 countries that are involved in the production, export, import and trade of diamonds. The members are obliged to provide each other with statistics on their diamond production, which will make it much easier to trace diamonds from mine to market. Under this scheme every rough diamond must be traceable to its country of origin, thereby eliminating so-called "blood diamonds" from legitimate trade. This process has been credited for allowing peaceful African countries such as Namibia and Botswana to once again attach positive national images and values to their diamonds.

The jewellers themselves, at the very end of the pipeline, are moving into cutting and polishing. Tiffany & Co. went all the way upstream by buying a 14.7% stake in Aber Diamonds, which in turn owns a 41% stake in the Diavik Diamond Mine. The US jeweller also opened Laurelton Diamonds polishing factory in Yellowknife and pledged to buy a minimum of US$50 million in rough diamonds annually from Aber over 10 years. This blurring of roles has come at a time when several other factors are transforming the industry. One of the most important developments for governments and the diamond industry in general is the Kimberley Process, which aims to bring transparency and accountability to the global supply of rough.

[1414] Forbes Magazine. 2003.

The Kimberley Process does not apply to polished diamonds. But if companies keep their flows traceable, it does make it very easy to create origin branded diamonds. In Canada, for example, the Government of the Northwest Territories has provided a support programme for branding being done by companies located there.

De Beers has been subject to more competitive pressures in recent years. In 2000, it lost out to Rio Tinto a chance to buy Ashton Mining's 40% stake in the Argyle mine in Australia, the largest by volume in the world, although among the lowest in value. In the early 1990s, BHP Billiton and Rio Tinto beat out De Beers in raising a stake in the massive Canadian diamond rush. However, De Beers is scheduled to begin construction at Snap Lake in 2005. De Beers left Angola after it was unable to guarantee security of tenure but informal negotiations are continuing. Following the joint notification of a new trading agreement between De Beers and Alrosa in Russia, the European Union competition authorities are investigating the company's relationship with Alrosa. In another lawsuit, former mine workers have filed a US$6.1 billion lawsuit in the American state of Nevada against De Beers and Anglo American for alleged discriminatory practices under Apartheid.



Yet De Beers remains the most powerful player in the industry by a long shot. In 2003, De Beers produced 43.88 million carats of rough diamonds, worth US$3.55 billion, up 23% from the US$2.88 billion worth of rough diamonds produced the previous year. De Beers says that it achieved record diamond sales in 2003 of US$5.52 billion, up from US$5.15 billion in 2002.[15] One of the reasons why De Beers has seen an increase in production is because of increased consumer demand, which has led to a significant selling down of its inventories. De Beers has abandoned its role as guardian of the industry and now positions itself as "Miner of Choice, Partner of Choice and Employer of Choice." De Beers estimates that it still markets 60% of the world's rough diamond production, with 45% coming from its own mines and 15% from its trading activities with Alrosa. However, Russia has suggested it may appease the EU concerns by cutting its sales allotment to De Beers by 25%.

One of the results of De Beers' new business model is its Supplier of Choice programme. As a result of its aim to supply the right diamonds to those diamantaires who are able to market and distribute those diamonds most effectively and most efficiently, there has been a reduction in the number of sightholders. De Beers aims, however, to give its sightholders greater assurance of supply. The new policy has impacted heavily on the very competitive cutting and polishing industry, especially among those who now no longer have access to the world's leading supplier of rough. Some of the disgruntled former sightholders have said they may file a lawsuit against De Beers in the US.

[15] De Beers. 2004. Annual Review. Page 16.

Meanwhile, India continues to win business away from the traditional cutting centres and its success is no longer limited to the cheaper goods. China, which also has very low wage costs, is muscling in on the lower end of diamond polishing. These factors have all created considerable consternation among polishers in Antwerp, New York and Tel Aviv. Some have reacted by setting up plants in India and other low-wage countries.

A related problem for manufacturers is their debt overhang. Peter Goss, Senior Vice President at ABN AMRO, the industry's largest lender, estimates the cutting and polishing industry's debt load rose to US$8.66 billion in 2003, up 26% from US$6.88 billion, because clients, especially in India, have both had to pay higher prices for rough and have built up huge inventories.[16] Some of the increased debt burden can be attributed to De Beers because sightholders bought additional rough during the period in which the DTC was destocking in 2002-03. The pressures on the cutting and polishing industry may lead to increased consolidation, whereby smaller companies will be unable to compete against firms with massive economies of scale and international reach. The ability of the biggest manufacturers to move large amounts of rough diamonds between their various cutting operations, thereby seeking out the most profitable locales, may make it hard for countries to build up manufacturing industries of their own.

The price of rough diamonds has also been increasing recently and is expected to continue doing so over the long term. Even-Zohar estimates that rough prices increased 18%-20% in 2003 while polished prices rose by a mere 4%-5%.[17] One of the reasons is that inventories at mining companies have fallen and polishers have stocked up. De Beers, Alrosa, Rio Tinto and other mining companies held stocks worth more than US$22 billion just a few years ago. Now they are estimated to have only as little as US$3 billion to US$4 billion left.[18] The manufacturers are now bracing themselves for an era with excess demand over supply, which will surely send prices even higher. A pared down De Beers, together with its mining partners, may actually be more profitable than in the days when it dominated the entire market.

In short, this is a historic period for the global diamond industry. De Beers is paring down and tightening its customer base and no longer willing or able to serve as guardian of the industry. Instead it is experimenting with branding and direct retail sales while trying to overcome legal obstacles in the US and in Europe. Despite all this deep-rooted change, De Beers has not sacrificed the fundamental characteristic of its marketing system and allowed countries to develop industries based on their own rough production. With other mining companies increasing their diamond mining operations, competition in this industry is stronger than it has been for almost a century. Meanwhile, in manufacturing there is continued competitive pressure due to ever more limited access to and higher prices for rough, a large debt overhang and relatively lower prices for polished diamonds. All the while, China and India threaten those cutters and polishers unable to relocate some of their operations themselves to low cost centres.

[16] Russell Shor. 2003
[17] E-mail from Even-Zohar, dated 8 March 2004.
[18] Russell Shor. 2003

The future – global competition among equals?

The diamond industry is headed for an increase in rough prices, greater competition across the pipeline and vertical integration. Those diamond companies that survive the shakeout will control larger shares of the pipeline and may become more profitable.

Over the next few years new mines will be coming on stream in Canada and Zimbabwe but they are relatively small. With no new massive deposits foreseen and lead times for new mines as long as five years, rough prices are expected to increase over the medium-term. Because the DTC no longer sets prices for the whole industry there is expected to be greater volatility with many competing tenders by other mining groups. But because the DTC has a sales target and all those planned advertising campaigns will cost money, rough prices will probably continue to climb.

De Beers, BHP Billiton, the Leviev Group and Rio Tinto will go head to head across Africa, fighting for market share in Namibia, Angola, Botswana, the Democratic Republic of Congo (DRC), Russia, Zimbabwe and wherever else opportunities present themselves. The manufacturing business will also become increasingly competitive with large players like Rosy Blue, Lev Leviev, Lazare Kaplan and Schachter and Namdar aiming to grab bigger market shares. These companies will enter into preferred marketing arrangements with mining companies, market their own brands, link-up with retailers and move their operations to increasingly low-cost centres. The big players will grab the lion's share of the global rough market for themselves. Smaller cutting and polishing operations, some by now heavily indebted, will compete for leftovers and many will have to close up shop, especially in the higher-wage centres.

Those manufacturers that do survive in North America, Europe, Israel, Australia and Southern Africa, will specialise in niche markets, like high quality gems or certain colours, which coupled with government support, preferential access to quality stones, the latest technology and world-class skills will enable them to remain competitive against India, China, Thailand and Sri Lanka.

Hundreds of brands have already popped up across the globe. Most of these are unlikely to survive. Brands that are placed directly on the shelves by the same vertically integrated companies that produce them have the strongest chances for success because their exposure to consumers will be so much greater. The branding revolution has only just begun and what difference it will eventually make to the everyday consumer is unknown. It is obvious that certain jewellers enjoy a worldwide reputation for selling high-quality jewels. But whether specific brands of diamonds will be able to do so is unclear. The Government of the Northwest Territories says that Canadian diamonds are already sought after and recognised in Japan for being "high quality", in part because these diamonds are high quality but also because they are far removed from conflict diamonds.[19]

The biggest threat to the market, as always, is that demand will collapse. Diamonds have remained a luxury for centuries but consumers are notoriously fickle and could decide overnight that diamonds are *passé*. The DTC claims that its research shows four out of five customers say they prefer the real thing. But worries over "blood diamonds"

[19] Government of the Northwest Territories. 2003. "Towards a national diamond strategy". Page 35.

and recent allegations that diamonds (like other methods of currency) were used to fund terrorist activities could depress consumer demand.

NGO's dedicated to stamping out "blood diamonds" did initially target the consumer industry but after engaging with industry and governments shifted to the Kimberley Process, which is effectively an import/export regime that stops conflict diamonds from entering the supply chain. This then assists the consumer to have complete confidence in the natural diamonds they are buying. Whatever the validity of such a regime, the fur industry is a good example of what can happen when American and European consumers turn their back on a product.

On the supply side, synthetic diamonds have long been a threat. Scientists have been able to produce diamonds in laboratories since the 1950s but only now are the quality and the price of these so-called "cultured diamonds" posing a serious threat. Both Apollo Diamond and Gemesis in the US aim to mass-produce beautiful synthetics for a fraction of the price that naturally-produced diamonds cost. Although to date, these companies have not demonstrated the ability to contain production costs. Whether consumers will embrace these synthetics is anyone's guess but the consequences for the diamond industry could be catastrophic. That said, De Beers has also been researching synthetics and company officials have said that De Beers believes there is a strong future for synthetics in industrial applications.

The diamond industry is likely to become more international, transparent competitive and vertically integrated over time. Smaller companies will have to create marketable niches to be able to survive the competition. Only a few brands are likely to survive the inevitable shakeout now that hundreds of different brands have been launched. The ones that do survive, most likely linked to multinational mining, manufacturing and jewellery companies, will do very well. But the industry continues to face the eternal threat of consumer demand for natural diamonds coming to a halt. This could come due to worries over "blood diamonds" or terrorism, because they prefer cheaper synthetics, or diamonds may simply become unfashionable.

VI. The Major Diamond Producing Countries Compared

The following table compares the seven most important rough diamond producing countries Angola, Australia, Botswana, Canada, Namibia, Russia and South Africa across the areas of economic performance, taxation, regulation, exploration, mining, cutting and polishing, branding and marketing, indigenisation, mining ownership, the role of De Beers, industry statistics and competition.

Table 6: Country comparison of diamond industry components

Country	***Angola***	***Australia***
Economic overview		
Real GDP 2004 (annual % change) -a	10.6	3.7
Current GDP 2004 (US$ bln) –a	13.4	509.1
GDP at PPP 2004 (US$ bln) -a	35.1	626.6
Population 2002 (mln) –b	13.9	19.6
Per Capita Current GDP 2004 (US$) -a	894.7	25,096.6
Per Capita GDP at PPP 2004 (US$) -a	2,343.6	30,888.3
Exports of goods and services 2003 (as % of GDP) -c	53.3%	18.4%
Diamond exports 2002 (as % of merchandise exports)	N/a	N/a
Industry, value added 2002 (as % of GDP) -b	N/a	N/a
Diamond exports 2001 (as % of total exports) -a	9.0%	N/a
Taxation		
Corporate tax -d, e, f	35.0%	30.0%
Royalty tax –d (On profit in Australia, Canada; sales elsewhere)	5.0%	22.5%
Export levy –d	3.5%	None
Total government revenues 2002 (US$ bln) -a, u, v	N/a	N/a
Government tax and non-tax revenues 2002 (US$ bln) -a, v	N/a	N/a
Government diamond revenues 2002 (US$ mln) -r	65.8 (2001)	N/a
Government diamond revenues 2002 (as % of total revenues)	N/a	N/a
Government diamond revenues 2002 (as % of sales)	9.0% (2001)	N/a
Special tax structure	Some withholding taxes	Royalties vary on whether production is for export or local manufacturing.
Regulation		
Institutional structure –r	National Director of Mines; Security body Corpo de Seguranca de Diamantes (CSD) also regulates diamond mining sector.	Department of Minerals and Energy - Western Australia

Botswana	*Canada*	*Namibia*	*Russia*	*South Africa*
3.6	3.2	4.7	3.5	3.2
5.8	860.4	3.5	461.1	155.4
19.2	1,082.2	12.2	1,492.3	415.3
1.8	31.4	1.8	144.1	43.6
3,667.6	26,802.8	1,671.6	3,239.1	3,287.7
12,078.5	33,711.4	5,894.1	10,482.3	8,787.4
49.4%	38.1%	44.6%	34.7%	26.7%
N/a	N/a	50.0%	N/a	N/a
N/a	N/a	35%	N/a	31%
85.0%	N/a	32.3%	N/a	3.5%
25.0%	21% and 4%-12% by NWT	55% and 10% non-resident tax for foreign companies	24%; value added tax of up to 18.0%	30.0%
10.0%	5.0% to 14.0%	10.0%	None	8.0% Proposed
None	None	None	None	15.0%
2.44	121.1	Unknown	N/a	25.8
2.43	113.1	966.1	N/a	25.8
N/a	N/a	155.3	N/a	N/a
N/a	N/a	14.5%	N/a	N/a
N/a	N/a	34.5%	N/a	N/a
The agreement over Debswana's profits, split between De Beers and Government, is confidential.	The federal government collects taxes in the Northwest Territories.	The agreement over NamDeb's profits, split between De Beers and Government, is confidential.	Taxes have been climbing down sharply and the excise tax has been eliminated altogether.	There is a 15% export levy on rough diamonds but De Beers is exempt. Rough diamond importers face no duties.
Ministry of Minerals, Energy and Water Affairs	Department of Indian Affairs and Northern Development (DIAND) administers land rights	Ministry of Mines And Energy; Diamond Commissioner	The Ministry of Natural Resources of the Russian Federation is the Federal mineral reserve management body	Department of Minerals and Energy, The South African Diamond Board

Country	*Angola*	*Australia*
Diamond mining legislation –r	Law on Geological and Mining Activities (1992), Diamond Law (1994), Law on Special Regime for Diamond Reservation Zones (1994), Decree 4B (1996) on Rules of Taxation for the Mining Industry, Decree 8A (1996) on Customer Regime for the Mining Sector, Decree 7A (2000) on Diamond Concession Size Reduction, Decree 7B (2000) on Single Marketing Channel for Diamonds	Diamond (Argyle Diamond Mines Joint Venture) Agreement Act of 1981, Mining Act 1978
Special provisions –r	Only Endiama, or companies affiliated with Endiama, can hold diamond-mining rights.	Act allows Minister to order allocation of rough to local producers

Botswana	*Canada*	*Namibia*	*Russia*	*South Africa*
Mines and Minerals Act of 1999	Canada Mining Regulations of July 1999	The Diamond Act of 1999; The Minerals (Prospecting and Mining) Act of 1992	Russian Federal Act (Law) on Subsoil Resources (amended 1995), Federal Act on the Continental Shelf of the Russian Federation, Federal Act on Production Sharing Agreements, Federal Act on Precious Metals and Gemstones	Minerals and Petroleum Resources Development Act (2002); Diamonds Act of 1986, to be replaced by the Minerals Beneficiation Act in 2004; Mineral and Petroleum Royalty Bill (proposed)
Government has option to acquire 15% stake in new mines; Mining licenses are valid for up to 25 years	In the NWT, mining companies are strongly urged to negotiate Impact Benefits Agreements (IBA) with affected local Aboriginal groups and Socio-Economic Agreements (SEA) with both affected Aboriginal groups and the territorial government. So far, these SEAs have contained commitments to make rough available to local manufacturers.	Polished diamonds are exempt from royalty taxes. Section 58 of the Diamond Act gives the Government the right to secure a regular supply of rough from producers for manufacturers; Section 59 allows the Government to test international rough market prices.	Alrosa has a monopoly share in the industry	Diamond producers have to offer up rough diamonds above 10.8 carats to domestic manufacturing first

Country	***Angola***	***Australia***
Exploration		
Active companies -g, h, l	Alrosa, BHP, Petra Diamonds, Trans Hex exploring; Endiama says it has received 17,000 requests	De Beers (Nullagine), Rio Tinto (northern Kimberleys), Southern Era/Caldera (Western Australia), Stockdale/Caldera (Gunanya)
Money spent 2001 (US$ mln) -j	N/a	350.0
Tax breaks for exploration	Exploration and evaluation expenditures are depreciated over 5 years. Equipment can be imported on a duty free basis.	Offers tax write offs on exploration
Mining		
Diamonds first discovered	1912 (Mussalala stream)	1851 (New South Wales); 1979 (Argyle)
Kimberlite deposits -d	Yes	Yes
Alluvial deposits -d	Yes	No
Marine deposits -d	No	No
Mining companies active -i, k, l	Alrosa/Endiama/Odebrecht (Catoca), SDM/Odebrecht/Endiama (Luzamba), Trans Hex/Endiama (Luarica and Fucauma), Small operators, artisans	Rio Tinto (Argyle)

Botswana	*Canada*	*Namibia*	*Russia*	*South Africa*
African Diamonds (Orapa), Southern Era/Tsodilo (Gcwihaba), Trans Hex/Tsodilo (Ngamiland)	BHP, De Beers (Victor, Gahcho Kué, Fort à la Corne), Rio Tinto, Tahera Resources (Jericho), and around 200 other companies spending 40% of global exploration resources over 60 prospecting areas	Afri-Can (Gibeon); De Beers/Trans Hex, Samicor/Diamond Fields (Leviev) active offshore	Alrosa (Yakutia, Anabarsk), Archangel (NW Russia), Rio Tinto (Karelia)	De Beers, Rio Tinto, Southern Era; many smaller companies
N/a	330.0	3.4 (2002)	N/a	128.0
N/a	Tax relief and tax credits are provided for exploration	There are deductions for exploration	Special tax breaks given to foreign companies investing in exploration	Tax deductions available
1967 (Orapa)	1991 (Lac de Gras)	1908 (Lüderitz)	1954 (Yakutia)	1866 (Hopetown)
Yes	Yes	Yes	Yes	Yes
No	No	Yes	Yes	Yes
No	No	Yes	No	Yes
Debswana (De Beers, Government): Orapa, Jwaneng, Letlhakane, Damtshaa	BHP/Fipke & Blusson (Ekati), Rio Tinto/Aber (Diavik),	NamDeb, De Beers, Government NamDeb: Mining Area 1, Daberas, Elizabeth Bay, Atlantic 1 Ocean, Samicor/Leviev and Diamond Fields/Trans Hex (offshore), Diaz Point Exploration and smaller operators	Alrosa (Udachny, Aikhal, Mirny and Anabar)	De Beers (Finsch, Kimberley, Koffiefontein, Namaqualand, The Oaks, Premier and Venetia), Trans Hex (Baken Mine, Bloeddrif, Reuning, Saxendrift/Brakfontein and offshore) and smaller operators

Country	***Angola***	***Australia***
Mines in the pipeline	Six mines in the prospecting phase; Endiama says there are 370 Mct of existing untapped diamond reserves	None
Destination of rough - l	Alrosa production to be sold by Alrosa, Lazare Kaplan, Lev Leviev and other foreign firm.	Valuable pink and white gems processed locally, Argyle sells rest in Antwerp
Employees (2002) -i, j, k, m, n, r	At least 290,000, mostly independent artisans	725
Production 2002 (mln of carats) –j, w	5.5	33.6
Industrial/gem ratio –c, s	87% gem, 13% non-gem	25% industrial, 70% near gem, 5% gem quality (of which <1% are pinks and reds)
2002 Global rank -j	6th	1st
2002 Global production by percentage – j, w	4.5%	27.5%
Production value 2002 (US$ mln) -j, w	850.0	400.0
2002 Global rank -j, w	4th	7th
2002 Global value by percentage – j, w	11.1%	5.2%
Production value 2002 (US$ per carat) -j, w	154.5	11.9
Current GDP 2002 (US$ bln) -a	11.6	399.1
Production value 2002 (as % of GDP)	7.3%	0.1%
2008 Estimated global value by percentage - o	13.0%	2.0%
2008 Global rank (estimated) -o	4th	8th

Botswana	*Canada*	*Namibia*	*Russia*	*South Africa*
None	Jericho (Tahera Corp) to start in 2005; De Beers (Snap Lake) to come on board in 2006	May 2004: Samicor to start mining in its offshore concessions. And May 2004 in joint venture with Diamond Fields.	None	None; Exploration offshore
To DTC in London	Approximately 10% by value made available to local (NWT) cutting factories.	NamDeb to DTC in London, Samicor aims to process locally	Half to DTC in London, other half processed locally	Some processed locally. De Beers to DTC in London. Trans Hex has tenders in South Africa, Antwerp.
6,300	1,490	3,315	40,247	16,547
28.4	4.9	1.4	17.0	10.9
73% gem, 27%non-gem	Gem quality and industrial	98% gem, 2% non-gem	Half industrial, Half gem/near gem	70% gem, 30% non-gem
2nd	7th	8th	3rd	5th
23.3%	4.2%	1.1%	13.9%	8.9%
2,170.0	504.0	450.0	1,470.0	900.0
1st	5th	6th	2nd	3rd
28.3%	6.5%	5.9%	19.2%	11.7%
76.4	102.9	321.4	86.5	82.6
5.0	727.8	2.9	346.6	104.8
43.4%	0.1%	15.5%	0.4%	0.9%
22.0%	16.0%	4.0%	22.0%	12.0%
1st (tie)	3rd	6th	1st (tie)	5th

Country	***Angola***	***Australia***
Life of mines from 2004 (years remaining) -j, q, t	Catoca (40), Luzamba (N/a), Luarica (N/a), Fucauma (4)	Argyle (2007 - may be extended through 2020)
Mineral rights ownership -r	Government owns the mineral rights. Endiama and companies it partners with can only exploit these rights.	Local state of Western Australia owns the mineral rights.
Cutting and polishing		
Number of Companies active -o	0	1
Companies active -o	N/a - Alrosa, Lazare Kaplan and Lev Leviev may build factories as part of new marketing deal.	Rio Tinto (Argyle)
Employees (2002) -j, k, o	Not applicable	50
Source of rough	Not applicable	Rio Tinto (Argyle)
Sizes of rough -s	Not applicable	High-value
Production 2002 ('000s of carats)	Not applicable	N/a
Production value 2002 (US$ mln) -k, t	Not applicable	N/a
Cost per carat 2003 (US$) - o, p	Not applicable	N/a

Botswana	*Canada*	*Namibia*	*Russia*	*South Africa*
Orapa (25), Jwaneng (25), Letlhakane (9), Damtshaa (29)	Diavik (19), Ekati (14)	NamDeb: Mining Area 1 (20), Daberas (10), Elizabeth Bay (10), Atlantic 1 Ocean (Unknown)	N/a	De Beers: Finsch (25), Kimberley (30), Koffiefontein (10), Namaqualand (7), The Oaks (8), Premier (8), Venetia (17), Trans Hex: Baken Mine (16), Bloeddrif (?), Reuning (?), Saxendrift (?)
Government owns the mineral rights.	Provinces own mineral rights. Because the Northwest Territories are not a province, the federal government owns mineral rights. Leases are 21 years long.	Government owns the mineral rights.	Mineral rights owned by the Government and its subjects	Government owns the mineral rights for all land. For now, royalties must only be paid for mining conducted on government-owned land.
3	7	6	150	30-something factories of 376 licensees
Diarough, Shacter Namdar, Diamond Manufacturing Botswana	E Schrieber/Sirius, Arslanian Cutting Works, Schacter Namdar/Canada Dene, Tiffany & Co./Laurelton, HRA, Gem Star, Diamants du Saint-Laurent	NamGem (De Beers, Government) and Lazare Kaplan, B Steinmetz, Leviev, Seber NV, Tornado Enterprises, Mars Investment	Alrosa, Lazare Kaplan, Lev Leviev, Rosy Blue, Smolensk Kristall Corporation and many others	Steinmetz, Lev Leviev, Rosy Blue, Schachter Namdar, Rand Diamond Cutting Works and others
500	250	270	7,000	1,950
Open market	Diavik, Ekati; Open market	Open market	Alrosa	Local production and open market
0.70 to 2 carats	Mid to high quality	0.70 to 3 carats	0.01 to +5 carats	Gem quality
N/a	33 (aim) in NWT	N/a	N/a	115
>$50.0	45.8 in NWT	N/a	700.0	134.0
30 to 40	80.0 in NWT	30 to 40	30.0	30 to 40

Country	***Angola***	***Australia***
Government support	Not applicable	Rio Tinto was asked to sort rough domestically and to promote local manufacturing throughout the life of Argyle
Branding and marketing		
Kimberley process signatory	Yes	Yes
National diamond strategy	No	No
National branding schemes	None	None
Industry branding schemes	None	None

Botswana	*Canada*	*Namibia*	*Russia*	*South Africa*
Debswana created Teemane Manufacturing Company (sold in 2003) at Government behest	NWT Government provides financial assistance, training and loan guarantees of up to C$10 million to new factories. NWT negotiated mining companies make a certain amount of rough diamonds available for local processing in the NWT.	Government asked NamDeb to create NamGem factory. Government provides Export Processing Zone status, which waives taxes and duties. Manufacturers also exempt from 10% diamond royalty tax.	Alrosa makes 50% of production available to local manufacturers, including any diamond of 10.8 carats and up, often at below market prices.	Mining groups have to give domestic manufacturers first refusal on any diamond above 10.8 carats.
Yes	Yes	Yes	Yes	Yes
No	Forthcoming	No	No	No
None	None – But NWT Government certifies diamonds mined, cut and polished in NWT as “Canadian Arctic”.	None	None	None
Debswana producing line of "Botswana Diamonds"	Many different brands (BHP's Aurias, Rosy Blue's Canadia, etc); BHP also has CanadaMark program	“Namibian Manufactured Fine Diamond” by Jewellery Industry; LLD Diamonds Namibia says it will launch a Namibian brand	None	None

Country	***Angola***	***Australia***
Indigenisation		
Types of programs in place	Government shares in profits.	If mining on Aboriginal land, an Impact and Benefit Agreement (IBA) must first be signed before a mining license will be issued.
Mining ownership		
Government involvement in industry	State-owned Endiama must have a 51% stake in any new projects	None
De Beers		
Presence of De Beers in country -r	De Beers ceased investing in Angola in May 2001 after changes in legislation meant that the government could not give security of tenure. De Beers continues to look for opportunities to re-enter negotiations with Endiama.	Argyle sales contract with De Beers 1982-96, not renewed since.

Botswana	*Canada*	*Namibia*	*Russia*	*South Africa*
Debswana is funding various development initiatives; Meanwhile, NGO survival international claims bushmen are being displaced to make way for diamond mines	Impact Benefit Agreements (IBA) call on companies to meet certain local hiring and spending targets, training and other support to affected Aboriginal groups.	Government encourages companies to "Namibianise" staff and take on black economic empowerment groups. Samicor gave 10% stake to Longlife Mining Corp., a BEE group.	Government shares in profits.	The Empowerment Charter for the South African Mining Industry (2002) calls on mining companies to ensure black economic empowerment companies have an ownership of 15% within five years and 26% within 10 years.
Debswana, 50-50 JV with De Beers	None	Owns 50% of NamDeb, 15% of De Beers Marine Namibia, 50% of NamGem; Owns 8% stake in Samicor	Alrosa, state-owned monopoly	None
De Beers in 50-50 partnership with Government. Debswana has unusual privilege of 14.95% stake in De Beers	De Beers has proposed mine, Snap Lake, in final stages of permitting and scheduled to come on stream in 2007. Also projects in Ontario (Victor), Saskatchewan and Nunavut.	De Beers has been active since 1920 as CDM, now as NamDeb. Produces more than 80% of diamonds. Also owns NamGem cutting and polishing factory. Regular 5-year marketing agreement comes up for renewal in 2005.	De Beers buys US$800 million of rough from Alrosa in an exclusive marketing arrangement, the other 50% is processed locally	De Beers is headquartered in Johannesburg and operates seven mines here. It is also exploring offshore.

Country	***Angola***	***Australia***
Diamond industry statistics		
Data availability	Very difficult to find anything	Government treats diamond data as confidential. There is no information on the cutting and polishing industry.
Competition		
Level of competition in diamond mining	State controlled monopoly of mines; chaos on the alluvial end	One company mining, but others free to explore. (De Beers failed to win bid for stake in Argyle for possible non-financial reasons.)

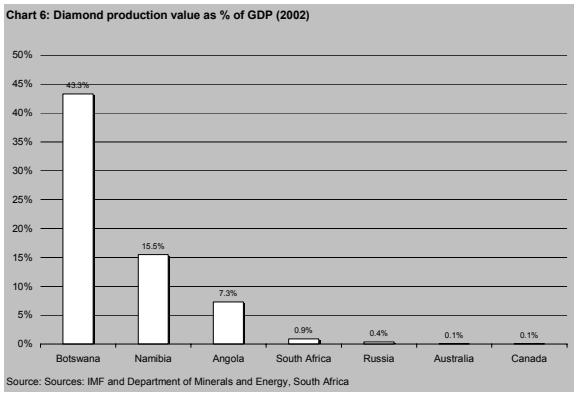
Botswana	*Canada*	*Namibia*	*Russia*	*South Africa*
Government diamond revenues are not public. There is no information on the cutting and polishing industry.	Government diamond revenues are not public. There is no information on the cutting and polishing industry.	Although not all publicly available, Government and NamDeb make mining information available. There is no information on the cutting and polishing industry.	Although the Government still considers diamond production to be a state secret - mining company Alrosa is very transparent. There is little information on the cutting and polishing industry outside what Alrosa provides. Alrosa reserves the right to test up to 5% in the market.	Diamond data is treated as confidential by Government and listed under "other mining" in official statistics. There is no information on the cutting and polishing industry.
One company mining, but others free to explore.	Very open.	Very open. So far, only NamDeb has been able to turn a profit.	Open, as long as you partner up with Alrosa	Very open.

Sources: a = International Monetary Fund's World Economic Outlook (WEO), b = World Bank's World Development Indicators (WDI), c = Economist Intelligence Unit, d = IMF Working Paper 03/167; e = Australia Department of Minerals and Energy, f = KPMG, g = Business Day, h = Towards a National Diamond Strategy (Government of the Northwest Territories), i = Rio Tinto, j = Department of Minerals and Energy, South Africa, k = Diamond Facts 2003, Government of Northwest Territories, l = De Beers, m = The Chamber of Mines of Namibia, n = Alrosa, o = Indian and Northern Affairs Canada, p = eAfrica, q = NamDeb, r = From Mine to Mistress, s = Natural Resources Canada, t = Debswana, u = Department of Finance (Canada), v = National Treasury (South Africa), w = Statistics Canada.

VII. The Issues

Dependency syndrome – how diamonds contribute economically

The seven countries in this study produced US$6.67 billion of rough diamonds in 2002, about 80% of the US$7.6 billion world total. But the economic contribution that diamonds make to their respective economies vary significantly. In Botswana, for example, diamonds make up about three-quarters of foreign exchange earnings, more than half of government tax and non-tax revenues and a third of the gross domestic product. Diamonds have transformed Botswana over a 30-year period from arguably the poorest country in the world to one of Africa's richest with free education and medical care for all. In 2002, the production value of diamonds was equivalent to 43.4% of Botswana's GDP.



But economic growth has been accompanied by relatively little diversification and few employment opportunities. Debswana only employs 6,300 people in a country of 1.8 million. The Government and Debswana are actively trying to reinvest profits into diversifying the economy. By contrast in Canada, diamonds do not even register among their leading commodities and rough diamond exports account for about 0.1% of the GDP. Diamonds get a little more respect in the Northwest Territories, where the industry is injecting millions into the local economy and has virtually eliminated unemployment. South Africa may be known for its diamonds but the economy gets a far greater boost from coal, gold and platinum. In mineral-rich Australia and Russia, diamond deposits are substantial but they compete with a number of other important commodities.

In 2002, the largest producer by value was Botswana, followed by Russia, South Africa, Angola, Namibia, Canada and Australia. Canada is expected to quickly rise to third place, now that the Diavik mine is producing, and may already have done so in 2003. Together the seven countries in this study produced 88% of total rough diamonds by value in 2002. The other significant producers are the DRC, Guinea, Central African Republic, Sierra Leone, a number of South American countries, China, Ghana and Tanzania. (See Table 7).

Table 7: Mining sectors compared 2002

Country	*Angola*	*Australia*	*Botswana*	*Canada*	*Namibia*	*Russia*	*South Africa*
Kimberlite deposits	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Alluvial deposits	Yes	No	No	No	Yes	Yes	Yes
Marine deposits	No	No	No	No	Yes	No	Yes
Companies active	Alrosa, Endiama, Odebrecht, SDM, Trans Hex	Rio Tinto	De Beers	Aber, BHP, Rio Tinto	De Beers, Diamond Fields, Diaz Point, The Leviev Group, Trans Hex	Alrosa	De Beers, Trans Hex
Mines in the pipeline	Six in prospecting phase	None	None	De Beers (Snap Lake), Tahera (Jericho)	Offshore concessions.	None	Offshore
Industrial/gem ratio	87% gem, 13% non-gem	25% industrial, 70% near gem, 5% gem quality	73% gem, 27%non-gem	Gem quality and industrial	98% gem, 2% non-gem	50% industrial, 50% gem, near gem	70% gem, 30% non-gem
Mineral rights ownership	Govt	Local state of Western Australia	Govt	Provinces but Govt in case of NWT.	Govt	Govt	Govt

Sources: De Beers, Economist Intelligence Unit, From Mine to Mistress, Government of Canada, IMF, Natural Resources Canada and Rio Tinto

Angola is a different case. Diamond production corresponds to about 7.3% of GDP, dwarfed by sales of crude oil, but the industry "employs" more than 290,000 people, almost entirely in the illegal sector. This number is likely to decrease as Angola continues to clamp down on illegal mining activities.

Table 8: Employment in the diamond mining, polishing industries 2002

Country	*Angola*	*Australia*	*Botswana*	*Canada*	*Namibia*	*Russia*	*South Africa*
Total Population (mln)	13.9	19.6	1.8	31.4	1.8	144.1	43.6
Diamond mining	>290,000	725	6,300	1,490	3,315	40,247	16,547
Diamond polishing	0	50	500	250	270	7,000	1,950
Total diamond workforce	>290,000	775	6,800	1,740	3,585	47,247	18,497

Sources: Alrosa, From Mine to Mistress, Government of Canada, Government of South Africa, Rio Tinto, The Chamber of Mines of Namibia, World Bank

In Namibia the diamond industry contributed N$1.49 billion (US$142 million) to government revenues in 2002, about 14.5% of total government tax and non-tax revenues. Rough diamonds also made up 50% of merchandise exports and were therefore also the largest foreign exchange generator. Although the South Africa rand has been especially strong over 2003 and 2004, eating into profitability, diamonds will most likely continue to make a large contribution to Namibia's economy in the future. The potential of the diamond mining industry to create jobs is likely to be extremely

limited over the coming years as the industry moves offshore. A more realistic strategy is to ensure that the diamond mining industry is run as efficiently and profitably as possible to maximise revenues and skills transfer. So, the only way for Government to keep employment levels high in diamond-related sectors is to experiment with manufacturing and jewellery. The conclusion of this report will examine some of the options that exist if Namibia decides it wants to boost employment in downstream industries.

The role of rough diamond production varies considerably among the countries featured in this study. Generally, their impact is much higher in countries with smaller populations and economies like Namibia and Botswana than in larger richer ones like Canada and Australia. In those countries where diamonds play a large role they are responsible for a large chunk of the GDP, manufacturing exports and the generation of foreign currency although the impact on employment is relatively small. The diamond industry's sheer size in Namibia and Botswana inevitably means that governments of the two countries have to take a far more involved approach than in countries where the industry is relatively small.

Diamonds are different – how diamonds are taxed

Although the industry is able to predict the value of diamonds produced with a fair amount of certainty, it appears to be much more difficult for governments to determine how much revenue they will collect and how much value is being created through mining and downstream activities. Namibia is the only country that separates diamonds revenues in published government revenue accounts and value added from diamonds in the national accounts. Part of the problem is that in most diamond producing countries there is only one dominant producer – albeit Alrosa, BHP, De Beers or Rio Tinto. Where there is only one company active, many governments claim that publishing detailed figures would be a breach of confidentiality. In Russia the industry is still treated as a state secret although the state diamond monopoly Alrosa now publishes detailed balance sheets. Unfortunately some analysts have questioned the veracity of their figures.

Botswana vs Namibia Tax Rates

In both South African countries the government receives about 70% of the profits of their joint venture with De Beers, Debswana and NamDeb respectively. They both have a royalty tax of 10% but the corporate tax rate in Botswana is much lower at 25% than 55% in Namibia. So what gives? Botswana levies a "variable dividend" that is calculated so as to raise government's share after taxes to whatever amount has been agreed upon.[20]

All seven countries have corporate tax rates in place that range from 25% to 55%. There are also diamond royalty taxes in quite a few countries and export levies on rough diamond production. But the true tax revenues are obfuscated by how governments interact with mining companies. In Angola and in Russia the leading mining group is a government monopoly. In Botswana and Namibia the Government is a 50-50 shareholder with De Beers. Arrangements between mining companies and government are secretive in all the countries examined in this study. It is estimated in Namibia that Government receives between 70% and 80% of NamDeb's pre-tax profits through both taxes and a shareholder dividends. In Botswana,

[20] Hazleton. 2002. Page 3.

the ratio is about the same. Namibia has given manufacturers EPZ status, waiving exports taxes and duties although at least one manufacturer has complained that it has yet to receive any of the Government's promised training grants. Other jurisdictions, like the Northwest Territories in Canada have provided manufacturers with support, primarily loan guarantees.

In all countries diamond industries are treated and therefore taxed differently than other industries, in part because of government ownership. This does not seem to stop government estimates from often differing dramatically from how many rough diamonds end up being produced.

Diamonds are different – how diamonds are regulated

The diamond mining industry is heavily regulated in every country. Minerals are often considered of national importance and Governments are reluctant to let them be exploited and depleted by foreign companies. In Angola and Russia foreign companies can only enter the market if they partner up with the state. The partnerships in Botswana and Namibia essentially ensure the same thing – namely that the country retains full control over its natural resources. Australia, the Government of the Northwest Territories in Canada and Russia all have programmes in place that favour domestic manufacturing. It is hard to determine if any model is superior. In many ways it depends on what the country's priorities are. In the case of Russia there has clearly been an emphasis on boosting employment. This is also a driver in the Northwest Territories of Canada. Botswana and Namibia, although giving mixed signals, have emphasised revenue generation by not demanding that local producers supply manufacturers with a substantial amount of rough. Instead, they have tried to strike a compromise by encouraging De Beers to supply rough diamonds for manufacturing from the DTC.

The diamond industry is also being regulated internationally through the Kimberley Process but unfortunately much of the data will not be made public to a wider audience than the respective governments so it is hard for outsiders to assess whether the initiative is meeting its goals. To date only South Africa and Canada have submitted data to the Kimberley Process.

There have been calls in Namibia for the diamond industry to be deregulated. Not all citizens understand why not everyone can mine natural resources, especially ones as valuable as rough diamonds. In countries that have alluvial diamond deposits, especially Angola, it is difficult to regulate the industry closely because the resources are spread out over such a large territory. No country, in this study at least, has a complete *laissez faire* approach to its diamond resources. But governments can influence the value rough diamonds create for the economy by deciding to stress the export of rough diamonds, which maximises revenues, or the creation of a manufacturing industry, that can create substantial employment opportunities. There is a clear trade-off between revenues and direct employment creation. This trade-off is especially acute in Namibia due to the present tax structure, which waives royalties and other taxes on exports of polish.

Spending and getting – finding diamonds costs money

Exploration for new diamond deposits continues all over the world, across Africa, Canada, South America and Asia. Most countries provide write offs and other tax breaks for exploration and surveying. It is estimated that about US$245 million is being spent annually on global diamond exploration, much of it by De Beers, Rio Tinto and BHP Billiton but there are significant junior operators as well. Canada is still the prime focus with the diamond rush having extended from the Northwest Territories to 60 prospecting areas across 11 provinces and territories. The Canadian government estimates that about 40% of all diamond exploration dollars being spent globally are dedicated to searching for Canadian deposits.[21] The *Economist Intelligence Unit* estimates that 50% of all diamond exploration is spent in Canada and another 27%, or US$66 million, in Sub-Saharan Africa.[22] The countries believed to have the highest probability of delivering a new mine are Angola, Canada, Russia, Zimbabwe, South Africa, Botswana and India.

In Angola there are six mines in the prospecting phase and Endiama estimates there to be 370 million carats of existing untapped diamond reserves. Beyond Angola, the only mines of note coming on stream over the next few years are in Canada. De Beers expects its Snap Lake project, in the Northwest Territories, to become active in 2006. The mine is estimated to contain 33.3 million carats, at an average value of US$83 per carat. The group is also active in Ontario, where the Victor Project is currently undergoing a pre-feasibility study. The Tahera Corporation expects its Jericho mine to start producing in 2005. Tahera expects 3.1 million carats to be mined over an eight-year operating life. The search for alluvial diamonds also continues to take place offshore in Namibia and in South Africa. In 2002, N$33 million (US$3.1 million) was spent on exploration in Namibia, most of which was undertaken by NamDeb both onshore and offshore. This represents only 1.4% of global diamond exploration and suggests Namibia may want do more in the form of tax breaks or pressuring companies operating in Namibia already to spend more on exploration. Samicor said in February 2004, that it aims to spend about N$25.5 million (US$3.79 million) annually in 2003-2006 on surveying and sampling.[23] NamDeb will spend approximately N$200 million (US$29.7 million) over the same period.

The fact that so much diamond exploration occurs across the globe proves investors continue to view diamond mining as a sound business. Depending on where economically viable mines are found, certain countries and regions of the world will see their importance in the industry shift dramatically. This could have a negative effect on countries that are currently heavily dependent on the diamond mining industry. Namibia appears to be lagging behind in diamond exploration spending.

Diamonds aren't forever – how long will present reserves last?

Mining companies generally estimate the lives of diamond mines in periods of 20 years, although some mines have been producing for much longer than that. The Kimberley mine in South Africa, for example, has been producing since 1871 and was estimated in 2003 to have another 30 years of life due to dump retreatment. It is not expected that

[21] Government of the Northwest Territories. 2003. "Towards a national diamond strategy". Page 11.
[22] Roger Murray, Economist Intelligence Unit. 2004. Page 7.
[23] Sakawe Diamond Corporation (Samicor). 2004.

any of the leading diamond producing countries will cease diamond production anytime in the near future. There are also estimated to be many more mining opportunities across these countries, some of which will only become economically feasible after further technological improvements. Some mining companies, like BHP Billiton, De Beers and Rio Tinto, do publish life of mines but these often are only for 20-year periods.

Only a limited amount of information is available to the public on the extent of existing diamond resource deposits or on their commercial viability. This is all the more surprising given that some countries are so heavily dependent on their diamond industries for government revenues and economic development. Clearly the life of deposits is a critical economic planning and public policy issue.

From mine to manufacturer – diamonds are exported for processing

Most of the diamonds mined in Namibia and all of the diamonds mined in Botswana are mined by NamDeb and Debswana, which are partnerships between De Beers and the national governments. The majority of diamonds mined in South Africa are also mined by De Beers. These rough diamonds are sold through marketing agreements to the DTC in London. De Beers is also committed to buying up half of Russia's production through a five-year agreement signed in December 2001. These diamonds are then sold to a select list of sightholders, pared down by 20% in late 2003 to a list of 84 gem and three industrial clients who meet regularly at "sights" in London and Johannesburg.

BHP Billiton, Rio Tinto and Trans Hex all have similar arrangements through their marketing offices in Antwerp and South Africa. Angola sells its rough exclusively to Lev Leviev and partner Sylvian Goldberg through a marketing arrangement that will be redrafted in 2004 to include Alrosa, Lazare Kaplan and another foreign firm as buyers.

In all of the countries in this study, with the exception of Angola, it has been decided that a certain amount of manufacturing must be done locally. In Russia the figure is at least 50%, which has attracted most of the world's major polishers to Moscow and Smolensk. The Government of the Northwest Territories in Canada has negotiated arrangements with the producers under which allocations of rough diamonds, so far around 10%, are provided to manufacturers in the Northwest Territories. The manufacturers do not purchase everything that is offered but say they buy everything commercially suitable. It will be interesting to see how negotiations evolve between the territorial government and De Beers over the proposed Snap Lake mine. Richard Molyneux, Chief Executive of De Beers Canada, said during the review and permitting process for Snap Lake that De Beers is committed to providing "exclusive Canadian goods", or rough diamonds produced in Canada, to the local manufacturing industry.[24]

In South Africa, local manufacturers have to be given first refusal on rough and all stones of 10.8 carats and more must be processed domestically. In Australia, Rio Tinto was asked to find a way to cut some of its diamonds locally and decided to cut its high-quality pinks and reds in Perth. It is difficult to gauge how successful this has been because there is no public information available about this factory.

The governments of Botswana and Namibia, in their partnerships with De Beers, have also demanded that a local cutting and polishing factory be built, although the size of

[24] Mackenzie Valley Environmental Impact Board. 2002. Page 81.

these industries pales beside their annual output of rough. Angola is once again the exception, exporting 100% of its rough. But Alrosa, Lazare Kaplan and Lev Leviev have all said they would be willing to build factories as part of new marketing deal with Ascorp.

The countries that have been most successful in cutting and polishing their rough diamonds locally are the ones that have created legislation or consultative processes calling on the producers to do so, namely, Russia, South Africa and the Government of the Northwest Territories in Canada. Australia has pressured Rio Tinto to find a way to manufacture some of Argyle's supply, which it has done by focusing on a top-end niche. It is unclear that there would be any cutting and polishing factories in these countries without the legislation. One exception may be the cutting and polishing company HRA, which uses new technologies to polish profitably in a relatively expensive part of Canada (Vancouver). Although Russia and South Africa have relatively large industries, they are generally declining in employment numbers and continuing to lose business to India and China.

Regardless of how much more money governments may have been able to raise in export royalties, almost every country has chosen to force a certain amount of rough diamonds to be processed locally. The rough diamonds that are exported usually end up being sold to polishers in leading cutting centres like Antwerp, Johannesburg and London and low cost cutting centres.

Cutting costs – the international cutting and polishing industry

After a rough diamond is mined from the earth or the ocean floor it is cut and polished into anything from a small industrial diamond to a large valuable gem. Cuts have to be performed in such a way that the colour and clarity are also maximised. The skill of a cutter therefore can make a big difference when it comes to the final value of the polished diamond. But for the much smaller industrial diamonds, unsuitable for jewellery, the margins often run into the pennies and quantity becomes more important than quality. This wide disparity in the type of cutting required has supported different types of cutting centres around the world.

The cheapest goods tend to be cut in India and other Asian countries where labour costs are very low. In less than 40 years India has built the world's largest polishing centre out of nothing. India now cuts about 80% of the world's production in carats and about a third of its 900,000 cutters are dedicated solely to diamonds from the Argyle mine in Australia. Therefore India obviously has a competitive advantage over Australia when it comes to labour costs.

Over the last few years, China, where labour costs are also very low, has begun taking business in lower quality diamonds away from India. There are now 30,000 Chinese polishers, compared to zero in 1975. Thailand and Sri Lanka have also built centres whose employment dwarves the traditional centres in New York, Antwerp and Tel Aviv. (See Table 9).

Table 9: Cutting and polishing workforce and labour costs

	1975	*2003*	*Cost US$/Carat*
India	200,000	900,000	4-12
China	0	30,000	10-20
Russia/CIS	15,000	7,000	30
Thailand	0	6,000	20
Southern Africa	8,000	1,950-2,100	40
Antwerp	15,000	1,000	75
Sri Lanka	0	1,500	15
Tel Aviv	7,500	1,500	60
New York	500	250	120
Canada	0	250	65-80
Total	**246,000**	**949,600**	

Source: De Beers, Indian and Northern Affairs Canada

Many of the most expensive goods are still being cut in New York, which has the highest labour costs but also some of the best expertise in the world. Antwerp and Tel Aviv also have very skilled polishers that work mostly on high-end gems. Employment in these traditional centres probably now numbers 2,750, compared to at least 23,000 in 1975.

Making the cut? – manufacturing in diamond producing countries

This division between India/China and New York/Antwerp/Tel Aviv does not provide the diamond producing countries with much room. Russia is the most successful, with 7,000 polishers because Alrosa not only guarantees the better 50% of its output but also provides price discounts of up to 30% to local producers. So although labour costs are relatively high in Russia and other Commonwealth of Independent States (CIS) the government has made them relatively competitive in both low-end and high-quality diamond polishing but at the cost of reduced prices for its rough. South Africa enjoys a 70-year history in polishing and has the necessary skills base and infrastructure to compete with the other established centres. That said, both Russia and South Africa have seen the numbers of their polishing industries fall by more than half since 1975.

Rio Tinto in Australia is able to succeed because it has cornered a niche market of pinks and reds. These diamonds command very high prices globally and would have to be cut by the most skilled polishers anyhow. Rio Tinto can presumably afford to hire the best cutters for its top-end goods.[25] Botswana, Namibia and the Government of the Northwest Territories in Canada have all encouraged the creation of local manufacturing industries in the hope that they would create economic growth, boost employment and diversify their economies away from diamond mining. But despite Government hopes and forward-looking pronouncements by factory managers, there is no evidence shown to IPPR that these factories are economically viable and have the potential for future growth.

The IPPR was able to only find one publicly listed diamond manufacturer, Lazare Kaplan International of New York, which operates in Namibia and Russia among other places.

[25] Surprisingly, Rio Tinto makes almost no mention of its factory on its website and in official publications.

The firm announced in an earnings release that it made a net profit during the year ending 31 May 2003 of US$1.09 million on sales of US$203.2 million. Its website contains no financial information whatsoever.

When asked how they knew that these industries are succeeding in their countries, several government ministries we interviewed said the only proof they could offer is that the cutting and polishing factories are operating at all. But it is not unreasonable to think that some factories are operating at a loss, being kept afloat for non-economic reasons by governments providing them with loans or waivers on royalties, mining companies reluctantly supporting loss-making factories and by the manufacturers themselves, who may be trying to buy goodwill in an effort to secure access to rough diamonds. Not a single cutting factory anywhere in the world is willing to make its financial records available to the public. This is mainly because most of them are small, family-run businesses and almost all of them are privately held. But a lack of financial transparency makes it difficult for the IPPR to analyse the sector properly.

There are several reasons why manufacturers may be failing in producer countries. The first, of course, is that labour costs are much higher in these countries than in Asia. Neil L McFadden, chief executive of Canada Dene Diamonds says he pays his workers an annual salary of C$42,000 (US$31,870), compared to the equivalent of C$1,500 (US$1,138) in other centres. Botswana and Namibia (as well as South Africa) are said to have third-world labour forces with first-world labour laws. This makes it hard to compete with India and China. It should also be noted that in Namibia, in particular, it is reportedly difficult to obtain work permits and renewals for foreign experts to come in and train Namibians. Another problem is that producers, which have their own marketing arrangements, by and large control rough diamonds.

A good way to circumvent this problem is to find a niche by cutting high-end diamonds, like the “pinks” in Australia, because producer countries (save Canada) still have lower labour costs than New York, Antwerp and Tel Aviv.

But this leads to a different problem of not having the necessary skilled labour. It takes tremendous time and investment to train workers to be able to cut rough diamonds, especially on the higher end. Importing experienced foreign workers can cut corners but often the whole reason of a cutting factory was to boost domestic employment. Factories in some countries, especially in Canada’s Northwest Territories, have seen high turnover rates because unemployment is low and the work does not appeal to everyone. Every time a new group of workers have to be recruited the profit margins shrink even further.

Selling the dream – Leviev promises to cut and polish

So far producing countries show no signs of wanting to give up on their manufacturing hopes. Indeed, there are branding initiatives underway in Australia, Canada and Russia that depend upon diamonds being mined and polished domestically. Debswana and NamDeb are experimenting with initiatives that only require the diamond to be polished locally. Regardless of the country of origin, government and companies hope such branded diamonds can command a premium in the market although so far there is little evidence of this being true.

One of the big differences will be between the centres where factories are cutting their own rough (Angola, Australia, Canada, Leviev/Namibia, Russia, South Africa) versus the

countries that are polishing batches of diamonds purchased from the DTC or elsewhere (Botswana, non-Leviev/Namibia). Those countries that are cutting their own rough – as opposed to assortments from all over the world – may be able to brand and market their diamonds more effectively when based on country of origin.

Lev Leviev states he believes he can cut and polish economically in both Botswana and Namibia. He has already built a factory that aims to employ 500 cutters in Windhoek, making it the largest diamond polishing operation in Africa. His group has recently lobbied the Botswana government, promising it could create a factory for 10,000 workers if he could only get access to some of its rough diamonds. Jacob Nkate, Botswana's Minister of Trade and Industry, has said he supports the project but rough would have to be bought on the open market since Botswana has an exclusive contract with De Beers.[26]

The cutting and polishing industry is not transparent. It has been extremely difficult for the IPPR to find information of any kind about the factories operating in producer countries and beyond. It is clear from numerous interviews and visits to factories that low-wage India and China continue to put pressure on the rest of the world. But obviously money is being made in other countries as well; otherwise business models would not have been accepted in the first place. Or would they? It is not always clear that these factories were built for purely financial reasons because higher profit margins can be achieved elsewhere. This suggests that there may also be strategic reasons, like the presence of Article 58 in Namibia, that may be attracting the polishers to these countries.

Joining the brand wagon – branding and marketing campaigns

> "It is possible that Canadian diamonds will attract a premium. Whether individual diamond brands can successfully differentiate and achieve a sustainable premium remains to be demonstrated."
> – Rio Tinto Diamonds, "Industry Review 2002".

Diamonds are being branded, marketed and advertised like never before. De Beers has advertised diamonds as a gem of beauty for much of the last century but there has been virtually no branding of specific brands, lines, cuts or countries of origin. The DTC estimates that the ratio of advertising to sales is 1% to 2% in the diamond industry compared to an average of 10% in other luxury goods markets[27]. The DTC points to branding as one of the reasons why sales in other goods have outpaced diamond jewellery sales.

De Beers has partnered up with LVMH Moët Hennessy Louis Vuitton and licences the world's leading luxury product group to independently develop the De Beers brand and is encouraging its clients to spend more money on advertising and marketing. Through these efforts De Beers hopes to increase the value of global diamond sales by 50% over a 10-year period. In 2003, the DTC spent US$180 million on marketing and De Beers estimates that another US$272 million in quality marketing and advertising was spent in the industry.[28]

[26] Diamond Intelligence Briefs. 2004. Page 2996.
[27] DTC. "Supplier of Choice."
[28] De Beers. 2004. Page 11.

But the change is also very much driven by Canada, which has taken a very proactive role in the diamond world. A key driver has been the Government of the Northwest Territories, which began developing its Certification Programme and origin branding in March 1998. The concept is based on the branding by origin of other products, such as Champagne, which by law can only come from one region in France. Because the NWT does not own the rights to its minerals, the territorial government has been thinking of creative ways beyond diamond royalties that would maximise benefits to the region. By creating a cutting and polishing industry and lines of Canadian goods, Yellowknife and the surrounding communities could share in the newfound diamond wealth. The territorial government believes Canadian-origin brands command premiums in Canada, Japan and the US. BHP Billiton said in March 2003 that it is achieving "significant premiums" on its branded CanadaMark and Aurias diamonds.[29]

Made in Namibia? – the country of origin debate

This has led to a lively debate between the federal government in Ottawa and the territorial government about the "country of origin issue"; essentially they are asking what constitutes a Canadian diamond. The Government of the Northwest Territories and Yellowknife-based cutters argue that it has to be both mined and polished in Canada because manufacturing is part of the process of the creation of the consumer product – a polished diamond. The NWT government says a majority of the diamond and jewellery industry in Canada agrees with its mined, cut and polished approach.

Ottawa and some mining companies argue a diamond only has to be mined in Canada and can be manufactured anywhere else in the world. The Competition Bureau of Canada ultimately came out in favour of the mining companies when it issued a guideline in November 2001 that what mattered most is where the mineral came from and that the refining process does not fundamentally alter the product. In general, the Bureau ruled it "would not take exception to the representation of a diamond as being a "Canadian diamond" if it could be demonstrated that the diamond originated from a Canadian mine."[30] This contrasts with the approach in other producer countries such as Botswana and Namibia that are developing origin brands based on where the diamond was cut and polished rather than on where it was mined.

The NWT government allows polishers to place a "Canadian Arctic" logo on any diamonds that are mined, cut and polished in the NWT. There are also various industry initiatives. BHP Billiton, for example, has launched the first brand from a single mine, with its Aurias brand, which hails from Ekati and is cut and polished both in Canada and overseas and then sold in retail outlets in North America, Australia and Singapore. Rosy Blue, Backes & Strauss and Beny Sofer & Sons market the Canadia brand through their Tri-Star partnership. Charm Jewelers have the Glacier Fire Diamond and Basal Diamonds the Polar Ice diamond and Sirius Diamonds the Polar bear brand.

In May 2003, BHP launched another form of branding, the CanadaMark program, that guarantees the origin of the diamond and is meant to complement whatever brand the retailers use themselves. BHP will annually make $150 million of Ekati diamonds available to retailers, under its CanadaMark program, and expects the diamonds to command premiums of up to 20%.

[29] BHP. 2003. Page 16.
[30] Government of Canada, Competition Bureau. 2001. Page 2.

It will be interesting to see what De Beers will do with its Snap Lake output. The company only sells mixtures of its rough that do not differentiate between countries of origin. When De Beers does make rough available, like to its cutting and polishing factory NamGem in Namibia, it sells them a mixture of diamonds from all over the world. Also, initiatives by De Beers in Botswana and South Africa are not country exclusive. This approach may cause problems in Yellowknife because of their diamond branding ambitions. So far, De Beers has not had to compromise on its belief that is has the right to control the sales of its own rough.

Although De Beers has traditionally focused on the upstream, it is experimenting with branding and marketing as well. In Botswana, Debswana has launched a line of "Botswana diamonds" that will be targeted towards tourists. The rough is sourced from the DTC but polished locally. The group also has launched a De Beers retail outlet in London in December 2002 and three more in Tokyo in September 2003 that sell high-end De Beers-branded diamonds.

The Jewellers Association of Namibia (JASSONA) launched a programme in 2000 entitled "Namibian Manufactured Fine Diamond" whereby diamonds supplied by NamGem can be marketed as having been manufactured in Namibia. Over the 2000-2003 period, the association estimates that jewellery shops have bought around N$1.58 million (US$209,000) worth of polished diamonds. Of the five shops participating in the programme, three are in Windhoek and two are in the coastal town of Swakopmund. The programme currently only sources its polish from NamGem but the JASSONA says it is open to other manufacturers. NamGem also sells polished diamonds to Ghost Town Tours, a diamond tourism operator that since early 2002 has been leading tours of Kolmanskop, an abandoned town outside Lüderitz where diamonds were first discovered in Namibia. The group had 27,000 clients in 2003, mostly tourists from Germany, South Africa, the UK and other countries, that bought N$1.88 million (US$249,000) worth of polish over the 2001-2003 period. Both initiatives suffer from the fact that these diamonds can only be marketed as "manufactured in Namibia" rather than actually stemming from Namibia.

Ultimately, it is still too early to gauge how successful brands will be. It is well-known that certain retailers, like Tiffany & Co. and Harry Winston, can charge a premium but whether specific lines of diamonds will do the same is hard to predict. There are certainly already many brands in a market that mainly cater to customers that want a diamond because of its uniqueness. So far Southern African countries have not succeeding in testing whether diamonds from Southern Africa carry any sort of premium in any market since all branding initiatives use diamonds sourced from the DTC.

Spreading the benefits – diamonds and social equity

Beyond searching out for opportunities in downstream business, Governments are also trying to use their mineral resources as a means of achieving social equity. This consists of two elements: creating racially balanced employment within the diamond industry and creating employment based on revenues from the industry.

Debswana, half owned by the Government of Botswana, established a venture capital company, Peo Holdings (Pty) Limited, to promote small and medium sized businesses.

The fund has BWP23 million (US$4.85 million) and by early 2004 had invested in 34 companies, of which only three have failed, according to Debswana. The investments have also created 450 jobs. Another BWP10 million (US$2.11 million) initiative is Masedi (Pty) Limited, which was founded in 1998 to promote a sustainable agricultural industry.

NamDeb is a prominent philanthropist in Namibia and is proud about the amount of Namibians that work in the company, from the managing director on down. Other mining companies, like Samicor, have given shares in their company away to Government and black economic empowerment groups.

In South Africa, the new Empowerment Charter for the South African Mining Industry (2002) calls on mining companies to ensure black economic empowerment companies have an ownership of 15% within five years and 26% within 10 years. Anglo American, De Beers, Trans Hex and other companies are busily positioning themselves to conform to the new rules. Empowerment schemes have been criticised for making a small elite of businessmen very wealthy.

In Australia and Canada there are Aboriginal groups that often own, or at least live on the land, where mining takes place. In these cases mining companies are strongly urged to enter into impact agreements with local Aboriginal groups: Impact and Benefit Agreements in Australia and Impact Benefits Agreements in Canada. These agreements are intended to ensure that local people benefit from mining projects. The agreements focus on employment and training and include scholarships, business opportunities, revenue sharing and even direct cash transfers. They also include environmental aspects and reclamation procedures.

In the Northwest Territories in Canada, there are also Socio-Economic Agreements (SEA) on the construction and operation of mines negotiated between the mining company, the territorial government and the Aboriginal groups. These include purchase targets and employment targets. The Ekati Mine, for example, pledged to purchase 28% of its construction and 70% of its production costs in the North. Furthermore, it aims have a production workforce that is 31% Aboriginal and 62% Northern. (See Table 10).

Table 10: Mining companies' hiring and spending commitments in Canada

Mines	***Ekati***		***Diavik***	
Construction	Target	2003 Actual	Target	2003 Actual
Hiring of Northerners	33.0%	46.8%	40.0%	44%
Hiring of Aboriginals	14.5%	20.6%	N/a	22.0%
Spending locally	28.0%	51.5%	38.0%	74.0%
Production				
Hiring of Northerners	62.0%	78.0%	66.0%	73.0%
Hiring of Aboriginals	31.0%	29.6%	40.0%	37.0%
Spending locally	70.0%	85.0%	70.0%	74.0%

Source: BHP Billiton, NWT Government, and Rio Tinto

Diavik has made similar pledges. Up to 2003, the only target the mines had been unable to meet was the hiring target for Aboriginals during the production phase, partly because unemployment was very low, employment at the mines was greater than originally

forecast and the “two-week on, two-week off” schedule did not appeal to everyone. In its negotiations, De Beers has pledged a hiring target of 40% of NWT residents during construction and 60% during operations. They may face similar problems in reaching these targets in an increasingly competitive market.

There are various schemes in place around the globe, ranging from direct ownership to employment targets, which try to promote social equity through regulating the diamond mining industry. These programmes are usually not limited to the diamond mining industry alone and are part of wider government schemes to level the playing field for its citizens. The Northwest Territories have shown to be particularly successful in getting mining companies to hire and spend locally.

The visible hand – government involvement in the diamond industry

Because minerals are natural resources which generally belong to the state, governments often partner up with mining companies, especially where a private company would otherwise run a substantial part of the economy. In Angola and Russia, the government has a monopoly on (formal) diamond mining, which allows them to keep close track of the way their resources are exploited. Angola is open to foreign investment but Endiama must receive a stake of 51% in any new venture.

In Botswana and Namibia, the governments have entered into 50-50 partnerships with De Beers whereby they have an input on how many diamonds are produced and also earn shareholders dividends on profits. Both governments have representatives on the board of De Beers. Because of Debswana’s importance to De Beers it makes up more than 70% of total diamond output by value it received a 14.9% stake in De Beers when the company was de-listed in 2001.

But even Botswana, long seen as friendly to De Beers, has commissioned British consulting firm LEK to undertake a wide-ranging review of Botswana’s diamond industry. The review is expected to be completed by May 2004, ahead of negotiations between Government and De Beers for a new 5-year marketing agreement and the lease on Jwaneng mine. Government officials believe that the results of this review could have significant implications for their diamond industry.

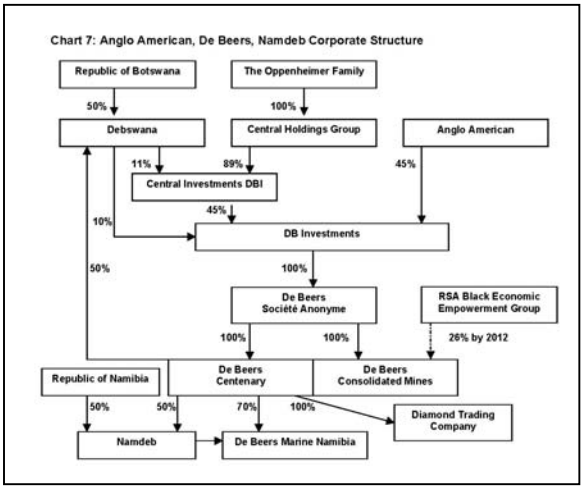
State monopolies and the joint ventures found in Southern Africa provide Government with plenty of oversight. Although the Government plays a smaller role in Australia, Canada and South Africa, the size of their diamond mining industries, as a percentage of GDP, are also much smaller. Botswana and Namibia entered into agreements with De Beers because there was no national alternative to the world’s leading diamond mining group. Now that so many Batswana and Namibians have worked for De Beers, there may be a possibility in the future that these countries would want to nationalise their diamond industries.

Governments have chosen to take a direct stake in diamond mining for one of two reasons: the industry is unusually important (Botswana, Namibia) or the Government directly controls a number of industries (Angola, Russia). In Australia, Canada and South Africa the governments have no direct stake in the companies. The choice is entirely up to the governments themselves but again it

is clear that the government takes a larger role in countries where diamonds are more important to the national economy.

Keeping its sparkle – De Beers in the diamond industry

Despite a loss of market share in recent years, De Beers unquestionably remains the most important force in the industry. De Beers traces its roots back to 1880 when British colonialist Cecil Rhodes founded the company in Kimberley, South Africa. In 1929, the Oppenheimer family took control and continues to do so today. The family directly holds 40% of De Beers but it also owns a share of Anglo American, which holds a 45% stake in De Beers. There has been speculation that the Oppenheimers are engineering a buy out of Anglo American's stake, although Anglo American said in February 2004 that its stake is not for sale.[31] The company markets 60% of world rough diamond production and has more information about the diamond industry than any other company in the world. It is presently mining in Botswana, Namibia, South Africa and Tanzania, has an exclusive trading agreement with Russia, is about to open two mines in Canada and is exploring for new deposits across the globe.



But that is not to say that this is an easy period for the international mining giant. The group faces competition like never before from Alrosa, BHP Billiton, Lev Leviev, Rio Tinto and others. It is trying to negotiate its way back into Angola and to position itself in Zimbabwe but with so many competitors it is possible that De Beers will see its global market share diminish further over the time.

As mentioned earlier, De Beers faces an anti-trust investigation in the US, is being reviewed for its Russian agreement by the EU and is being sued in the US by former South African mine workers. But the group is lobbying aggressively and is optimistic that its Supplier of Choice programme will help soften its image as a cartel. Some analysts believe De Beers will actually be more profitably now that it is not serving as guardian of the industry. De Beers and the DTC have tightened the window of time between diamonds being mined and selling them to one sight cycle. Inventories have been depleted to less than US$2 billion, making for a leaner and more agile operation.

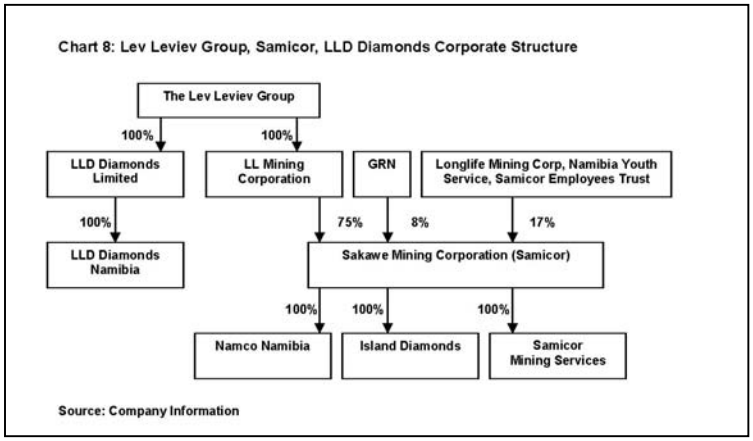
De Beers and its DTC marketing arm continue to play the leading role in the diamond industry and are expected to continue to do so over time. The group has been at the centre of the branding revolution, the establishment of the Kimberley Process and is fighting to keep its market share in a more competitive market. Insiders and outsiders alike testify to the dramatic changes it has undergone in the last ten years. Ironically it has returned to being a privately held company just at the same time when it pushed through difficult reforms to create more shareholder value. It faces a number of important legal hurdles that, if cleared successfully, may leave the company in a stronger position than it ever was as the

[31] Even-Zohar. 2004.

industry custodian. It is important to note that De Beers has not so far considered compromising the fundamental nature of its marketing system nor has it ventured directly into downstream activities nor have any of its joint ventures with governments involved public listings on stock exchanges.

Rough diamond – the arrival of Lev Leviev

Much of this research paper focuses on De Beers, in part because it has dominated both the Namibian and the global diamond industry for close to a century. But the most significant rival to De Beers must surely be Lev Leviev, the self-made Israeli diamond tycoon who has captured the entire diamond pipeline from mining to retailing and is also active in real estate, infrastructure development, metals, chemicals, high-tech development and hotels. Although the Leviev Group of Israel, and its related companies, are said to have made Leviev a billionaire, there is surprisingly little information available about the group. The Leviev Group is not publicly listed and as of April 2004 does not even have a website. From what information is available there are three important areas of consideration: his background, Angola and Namco.



Leviev was born in Tashkent, Uzbekistan, what was then part of the Soviet Union. His family immigrated to Israel where he apprenticed at a diamond polishing plant, served in the military, and then in 1977 created his own polishing factory. Within a number of years, his export volume reached US$250 million. Leviev became a DTC sightholder in 1987 but after a falling out with De Beers over access to Russian rough in 1995 decided to go his own way, trying to acquire access to rough diamonds from governments directly. His empire now includes polishing plants in Russia, India, China, South Africa, Ukraine, Armenia and Namibia, as well as eight marketing agencies around the world. By 2003, the Leviev Group's annual turnover had reached more than US$2 billion. Leviev also acquired control in 1997 of Africa Israel Investments Ltd., one of Israel's largest companies, with holdings and assets valued above US$1 billion. One of the only public interviews with Leviev appeared in *Forbes Magazine*. In its cover story the New-York business magazine values Leviev at US$2 billion.

Because his vast networks of companies are not as transparent as publicly listed ones, questions have been raised about the origins of his money. When Leviev prepared a bid for 40% of Australia's Argyle mine the banks supporting him pulled out at the last minute. "Sources say it was a lack of transparency in Leviev's business. Even if his hands are clean, Leviev has dealt with people whose mitts are dirty," *Forbes Magazine* claims.[32] The article goes further to say that Leviev was probably the principal conduit for the Russian government liquidating its stockpile of rough diamonds in the mid-1990s and

[32] Berman and Goldman. 2003.

that some of the proceeds were used for illegitimate uses like Kremlin slush funds. Leviev writes it off as "cheap gossip."

In 1996, Leviev invested US$60 million in Angola in exchange for 16% of the largest diamond mine. By January 2000, Leviev beat out De Beers to a concession to market 100% of Angola's rough diamonds throughout the world. He thereby promised to buy close to US$1 billion in rough diamonds annually. But according to *Forbes* Leviev was unable to absorb this many diamonds, leading to smuggling and a drop in taxes. This led the Angolan government to end the exclusive agreement in August 2003. The Government then announced Leviev would have to share his access to Angola's rough with three other international polishing groups.

Leviev's entry into Namibia began in May 2001 when he became the controlling shareholder of marine mining company Namco, which was suffering from financial and operational difficulties linked to an accident that destroyed one of its sea crawlers. Leviev invested more than US$30 million in Namco but ultimately failed to make the mining group profitable. When the company went bankrupt the Namibia government received nothing for its 8% stake. Many creditors received one cent for each Namibian dollar they were owed. Leviev, on the other hand, was able to buy Namco's key concessions and mining rights for a mere US$3 million.[33] Although the lack of Namco's profitability has been blamed on the crawler, *Forbes* chalks it up to a disagreement between Leviev and Namco's other shareholders that led Leviev to force the company into bankruptcy and to buy up all the concessions for a "pittance".[34]

There is no proof that Leviev has done anything illegal in his past business dealings. But it is clear that his companies, which do not even release annual reports, lack the amount of transparency normally found among multinational companies. His experience in Angola suggests Leviev may make promises that are hard to keep and the Namco bankruptcy portrays Leviev as a tough businessman, who allegedly destroyed the company to squeeze out other shareholders while the Namibian Government was left with nothing. It is important then that countries being courted by Leviev, like Namibia and Botswana, find out more about his companies and their ability to be able to deliver on promises before agreements are entered into.

Culture shock – the impact of man-made diamonds

> "If you go into a florist and buy a beautiful orchid, it's not grown in some steamy jungle in Central America. It's grown in a hothouse somewhere in California. But that doesn't change the fact that it's a beautiful orchid."
> – Kevin Castro, a Utah jeweller quoted about synthetic diamonds in *WIRED* magazine.

Scientists have been trying to fabricate diamonds since at least the mid 19th century. General Electric Company (GE) began successfully making synthetic diamonds in the 1950s for industrial purposes. Although GE was able to make diamonds two carats in size, it found that doing so was generally more expensive than buying polished diamonds on the market. The global diamond industry is profitable because demand for diamonds outstrips their limited supply. De Beers has successfully promoted the idea that a diamond is the best symbol for eternal love

[33] Maletsky. 2003.
[34] Berman and Goldman. 2003.

because the gems are rare, millions of years old and beautiful to behold. If a company can successfully market synthetic diamonds that are widely accepted as substitutes to the naturally produced ones, polished diamond prices could sink like a stone and the diamond industry will collapse. De Beers counters that demand for natural diamonds has never been stronger and claims global research shows the vast majority of women favour natural diamonds.

Although this scenario of the diamond industry collapsing may seem far off, two US firms Gemesis and Apollo Diamond both announced in late 2003 that they have inexpensively created "cultured diamonds" that look exactly like naturally formed diamonds. Whether these diamonds are "real" or not has caused strong debate within the industry.

Privately-held Gemesis, based in Sarasota, Florida, claims its diamonds possess the same chemical, optical, and physical properties as their earth-derived counterpart and the group says it "takes pride" in reproducing nature's most beautiful gem. Gemesis has been experimenting with a Russian-designed machine since 1996 that uses high pressure and temperatures to imitate the geologic conditions that created diamonds billions of years ago under the earth's surface.

Carter Clarke, the founder of Gemesis, said in an interview with *WIRED* magazine (September 2003) that he plans on building 250 such machines in his 30,000 square foot factory.[35] The group is already marketing their diamonds in the US and in Europe.

De Beers has been doing whatever it can to raise public awareness of synthetics, which it argues are not diamonds at all. To a De Beers man buying a synthetic for your loved one would be akin to presenting her with a fake fur or jewellery made out of paste. The company is also supplying diamond labs with equipment that can separate synthetic diamonds from real ones.

Apollo Diamond in Boston, Massachusetts, has another possibly more effective method that uses chemical vapour deposition to grow what it describes as "100% diamond crystals that match or exceed the purity and beauty of the finest naturally mined diamond gemstones in the world." *WIRED* claims these synthetics are virtually indiscernible from real diamonds (a claim which De Beers disputes) because they precipitate as nearly 100% diamond.

The million dollar question is whether the general public will embrace cultured diamonds as acceptable substitutes (like cultured pearls) or not (like fake fur). One worrying trend, noted in the aforementioned article, is that some retailers have already begun selling Gemesis gems without disclosing they are synthetic. It is too early to tell how consumers will react to synthetics, especially if they ever become readily available at much lower prices than their natural counterparts, but more than a few countries have their economies riding on the outcome. Botswana and Namibia, which have had difficulties diversifying their economies away from their reliance on rough diamond production, are especially vulnerable.

[35] Davis. 2003.

Mine of information – disclosure in the diamond industry

Public information about the diamond industry, as has already been noted earlier in the report, is pretty patchy. There are numerous trade journals, newsletters and books about the industry that contain excellent information but these are often expensive or difficult to obtain. One authoritative text, Even-Zohar's From Mine to Mistress: Corporate Strategies and Government Polices in the International Diamond Industry, which was indispensable for this study, retails at US$495.00. There are also a number of non-governmental organisations that have trained their eye on the industry, especially around the issue of conflict diamonds, but their research tends to be more political than economic in nature. The mining companies that are publicly listed, or have cross-listings like De Beers, are analysed by financial institutions, but this information is often proprietary and difficult or expensive to obtain.

Not all of the countries involved in the diamond business have traditions of transparency and public accountability but it is staggering how little information most of the countries are willing to provide. Namibia is the only country that lists diamond revenues and value added as a separate mining category in their budget and national accounts documents. It also calculates the value added by the industry.

Governments often decide that diamond production is sensitive information, especially when there is one dominant firm. The agreements between Governments and corporations are not in the public domain and although this may be normal business practice, it may suggest to outsiders that the companies and governments are avoiding public inspection.

VIII. The Options

Managing diamond dependency: the options

Namibia may play a relatively small role in the global diamond industry but, as explained above, diamonds are a vital part of the Namibian economy. It is in the best interests of the country to safeguard its precious stones and to maximise whatever benefits it may derive from them. Having examined the structure of the Namibian and international diamond industry and identified the key issues faced by the different stakeholders, this research paper concludes with 18 options that should be considered by Namibia in assessing how to maximise the benefits it derives from its diamond resource.

Option 1: Developing a diamond strategy

The first option involves the government developing a national diamond strategy. This strategy would include the government's priorities, concerns and ambitions for this important industry. Like in Canada, which is developing a strategy of its own, this strategy would ultimately be released as a public document. The policy would rest on the following assumptions:

- The diamond mining sector is by the far the most important industry in Namibia. The government needs to have a clear strategy to ensure that it is maximising the benefits of this natural resource over the coming years.

- The diamond industry is changing globally and important decisions need to be made by government, business and other stakeholders as to how the country can best position itself through these changes.

- In a democracy like Namibia it is important that citizens, who ultimately own the natural resources, understand, and contribute to, the decisions being made over how these minerals are being developed.

The objective of this first recommendation is for Government to decide in what direction it wants the diamond industry to move forward. It would weigh out various options and make a clear decision on how this industry should be developed. It would also state how revenues should be invested for the future of the country. Various stakeholders should be brought into the consultative process. The final document should be published and distributed widely to ensure that Namibians are aware of how the diamond industry is being developed.

Option 2: Maximising government revenues from diamond mining

The second option involves focusing government policy on maximising government revenues from diamond mining to the exclusion of everything else. The policy would rest on a number of basic assumptions:

- In the absence of new onshore deposits, the potential of the diamond mining industry to directly create new jobs is very limited as the industry moves offshore.

- A world-class, efficient, and highly profitable diamond mining industry has the potential to generate substantial revenues for government.

- The most cost-effective way of creating jobs in Namibia is to maximise diamond industry revenues to government and to spend these revenues in a way that maximises growth, employment creation and diversification elsewhere in the economy, for example on education, tourism promotion or lending to new businesses.

- The net economic benefit from creating a subsidised diamond cutting and polishing industry is likely to be negative given Namibian wages, skills, and labour regulations.

- Creating a cutting and polishing industry fails to reduce the economy's dependence on diamonds anyway.

The objective of maximising revenues excludes any undertaking that reduces the profitability and revenue-generating potential of the diamond mining industry such as the establishment of NamGem, which has reduced the profitability of NamDeb, or the implementation of Section 58 of the Diamond Act which would involve the loss of royalties on the export of rough diamonds. This option is not so very different from the strategies pursued by Namibia and Botswana. The objective of this option could be made clearer and perhaps politically more acceptable if diamond revenues to government accrue to a special fund designed to promote long-term productive investment in the economy rather than treated simply as another recurrent revenue in the national budget. Such a clear linkage would highlight the fact that the country's future depends on its use of the resources available in the present. This could also help reduce the ever-present danger in government that revenues are used to fund unproductive expenditures that produce no long-term benefits. It could be argued that the Peo initiative in Botswana is in practice something similar, more isolated from the political pressures that drive national budgets.

The revenue maximisation objective would be enhanced if government were a shareholder in the diamond mining companies. The Government is already a 50% shareholder in NamDeb and an 8% shareholder in Samicor. In theory, shareholders should be in a better position to scrutinise a company's financial position and profitability. By ensuring the appropriate tax legislation was in place and seeking independent expert advice, the Government could ensure it was obtaining the revenues it was due. As a shareholder, the Government should also be in a better position to predict revenues and foresee their implications on state finances. A public announcement of expected revenues would enhance revenue performance and accountability. The problem with Government shareholdings in private companies is that, as part owner, Government may lose the ability to make decisions in the national interest rather than in the private interests of particular companies.

Option 3: Increasing the rate of resource depletion

The third option is to increase the rate at which Namibia's diamond resource is depleted by accelerating extraction. This option would rest on a number of basic assumptions:

- The present rate of extraction of about 1.7 million carats a year has been agreed upon by shareholders and that this number is determined by optimising profits subject to the size of the known resource, the cost of production, technology, prevailing interest rates and the price of rough diamonds.

- We do not know how this will be affected by the arrival of new entrants into the diamond mining industry but we expect a similar optimisation exercise to have been undertaken.

- There is an expectation that the price of rough is likely to rise over the coming years given demand is likely to increase whilst supply is likely to remain limited. An increase in production by Namibian mining companies, a small contributor to world rough diamond output, would make little difference to the world price but would make significant difference to the contribution the industry makes to the national economy.

The objective of this option would simply be to expand the output of the diamond mining industry in Namibia and bring forward revenues to Government. We assume the present rate of depletion is determined by solving what is essentially a private sector profit optimisation problem. It is possible that the value private and public agents place on revenue today as opposed to revenue tomorrow differ. Furthermore, if revenues tomorrow are associated with greater risk, for example if synthetic diamonds replace natural diamonds, Government may choose to bank today's certain revenues rather than face riskier revenues tomorrow. One implication of this strategy would be that the economy becomes more rather than less dependent on diamonds, at least in the short to medium term.

Option 4: Maximising employment

The fourth option is to maximise the employment opportunities that can be derived from Namibia's diamond resource. This option would rest on a number of basic assumptions:

- Employment creation is more important than raising incomes or generating revenue for the Government.

- There is a trade-off between maximising profitability and revenues and maximising direct employment in the diamond industry.

- It is more cost-effective to generate direct employment opportunities in the diamond industry than doing it indirectly by raising revenue and spending this revenue on creating employment elsewhere in the economy. If the efficiency of government spending is low, this becomes a more attractive option.

- There are spin-offs to the national economy from encouraging direct employment generation that may be hard to quantify but are nonetheless significant.

The objective of this option would be to create as many jobs as possible in both the diamond mining and cutting and polishing industries. On the mining side, Government would be willing to forgo profits and revenue to create jobs. An incomes policy in the mining industry would help to keep unskilled wages at the same level as the rest of the economy. Labour-intensive options would be chosen in preference to capital intensive ones. Diamond mining companies would be required to purchase locally produced goods and services even if they cost more and reduce profitability.

On the cutting and polishing side, Government would forgo royalty revenue (some N$408 million (US$38.8 million) in 2002 from NamDeb) and opt to invoke Section 58 in order to create local jobs. *The Namibian* quotes a Samicor executive as saying 550 workers could cut and polish 25,000 carats of rough a month in Namibia. Using this ratio, if all 1.5 million carats of rough Namibian diamond were to be cut and polished locally, this may create approximately 2,750 jobs yielding a cost per job of some N$150,000 (US$22,000). Employing unskilled workers in the public sector or subsidising wages in the private sector are likely to be far cheaper options than this.

Option 5: Keeping options open

The fifth option is to encourage entrants into both the diamond mining and the diamond cutting and polishing industries to spread risk to Namibia, spur innovation, enhance competition, and gain information. This option is based on the following assumptions:

- Namibia should not put all its eggs in one basket and rely on just one diamond mining company, however sound.

- Namibia should try to maximise the benefits from its diamond resources by encouraging competing offers from mining companies and cutters and polishers.

- Namibia should maximise the information it has about what is on offer in the diamond industry.

Consciously or subconsciously Namibia has pursued this option for many years. Ever since the Government has become a joint shareholder in NamDeb with De Beers, it has continued to encourage other companies to explore and mine diamonds in Namibia. With the possible exception of ODM, only one company NamDeb has consistently lived up to expectations. There are dangers with this strategy. One is that as a shareholder in more than one company, Government may be faced with choices that are hard to reconcile with ownership responsibilities. Another is that the wrong sort of entrants may be encouraged. The negative fallout from conflict diamonds has shown that the diamond industry is particularly vulnerable to bad publicity. If a single company in Namibia receives bad publicity because it deals with conflict diamonds, treats its workers badly, or carries out environmentally unsound operations, there is a risk that all diamonds from Namibia will be tarred with the same brush. The less information there is available on companies operating in Namibia, the greater this danger becomes.

Option 6: Buying into De Beers

The sixth option involves Namibia becoming a shareholder in De Beers by purchasing a portion of shares from Anglo American. The option is based on the following assumptions:

- The Government is still a junior partner in the global diamond mining industry although it has a representative, the permanent secretary of the Ministry of Mines and Energy, sitting on the board of De Beers sa.

- Becoming a shareholder would enhance the Government's influence over De Beers.

Buying De Beers shares from Anglo American may be an expensive way of enhancing influence over De Beers. The Government may not feel that further influence is worth the cost. It would also compound Namibia's risks and vulnerability to fluctuations in the diamond market.

Option 7: Nationalising NamDeb

This option involves Government disbanding its partnership with De Beers and turning NamDeb into a parastatal 100% owned by Government, thereby giving Government full control over the whole enterprise. This option is based on the following assumptions:

- A joint venture between Government and a private company is unusual and creates conflicts of interest. NamDeb should either be government-owned or private but not a combination of the two.

- Government can expropriate property in the public interest subject to the payment of just compensation as laid out in Article 16 of the Constitution.

- If NamDeb became a parastatal it could be more closely monitored by Government and 100% of its profits would go to Government. A Namibian citizen currently heads NamDeb and there may now be enough local talent to run the company without foreign ownership and expertise.

- By operating on its own, Government may also be able to increase NamDeb's overall profitability by bypassing the DTC and selling rough diamonds directly to the market.

De Beers has played a unique role in Namibia for almost a century but that alone is no reason why it should continue to do so. The only other country to have a similar arrangement is Botswana, which is currently reviewing its own relationship with De Beers. Government receives about 70% to 80% of NamDeb's pre-tax profits but it could receive 100% if it moves forward on its own. It is uncertain whether there now exists enough talent within Namibia to run a world-class diamond operation, but it is an option worth considering. Although such a move would go against the general thrust of Government policy pronouncements, an argument could be made that in this case diamonds are a strategic resource and therefore a special case.

Option 8: Privatising NamDeb

This option involves Government disbanding its partnership with De Beers and putting the whole company up for tender to the highest bidder. This option is based on the following assumptions:

- Government has no business holding a 50% stake in such an important company. Benefits from diamond mining are best derived by creating a vibrant and competitive industry with a variety of players with Government holding the ring through clear tax policies and regulations.

- Through privatisation Government would receive 50% of a company which held N$6.9 billion (US$656 million) in assets in 2002. Concessions and assets could be tendered off to mining groups, including De Beers. This would create a substantial windfall for Government.

- By allowing other world-class mining operations into concessions that have traditionally been held by De Beers, the Government may see the value of government revenues increase after the industry is opened up to competitive bidding.

Without changes to corporate taxation, Government currently receives a much higher percentage of pre-tax profits from NamDeb, through its 50-50 partnership, than it would from a purely private company. But it may be that another mining company may be able to operate the concessions in a much more profitable manner, thereby increasing the overall government tax and non-tax revenues.

Option 9: Partially privatising NamDeb

This option involves NamDeb selling off a limited shareholding by listing a portion of shares on the Namibian Stock Exchange. This option is based on the following assumptions:

- Government and De Beers wish to raise money.

- Namibian investors other than Government should be able to buy into the country's most important industry.

- A public listing would force greater disclosure of information, intensify shareholder scrutiny and improve performance and at the same time boost the NSX.

Nowhere have Governments and De Beers publicly listed joint ventures. De Beers can raise money more cheaply internationally. However, such a move would encourage more research and analysis into Namibia's diamond mining sector and bring about far more openness and accountability than at present. This could lead to more predictability, better performance, greater profits and government revenues.

Option 10: Creating a single SADC diamond company

This option involves greater cooperation and perhaps even closer links between Southern Africa's governments and diamond companies. It is based on the following assumptions:

- Four SADC countries Botswana, Namibia, South Africa, and Tanzania produced about 34% of the world's diamonds by carats and 47% by value in 2002. Angola and DRC produced a further 17% and 15% respectively. Together these shares of production give these countries the potential to influence the world diamond industry to a much greater extent than they can individually.

- SADC countries have a lot to gain by sharing information and enhancing cooperation on diamond mining and cutting and polishing.

- Angola and the DRC have the potential to create ordered and productive diamond mining industries that conform to international norms.

- De Beers is still essentially a Southern African company with only limited operations outside Africa.

Cooperation and information sharing between SADC countries appears to be limited at present. De Beers and other companies seek to reach individual mining and marketing agreements with individual SADC governments. Forming a single SADC-based diamond mining, sorting and marketing company would create a very powerful international company which would probably infringe international competition law in the same way as OPEC. Such cartels usually have the effect of encouraging competition and exploration elsewhere leading to the eventual weakening of market power over time.

Option 11: Specialising in marine diamond mining

This option envisages the Namibian public and private sectors getting involved in research and development as well as the manufacturing of marine diamond mining machinery. It is based on the following assumptions:

- Namibia is the only country in the world where marine diamond mining takes place to any significant extent.

- Namco as well as De Beers Marine South Africa (now De Beers Marine Namibia) have developed underwater mining technology but non-mining companies in Namibia have played little part in this.

- The operational environment makes Namibia an ideal place to design and test marine diamond mining equipment.

Namibia can boost its participation in R&D that has practical implications for its key industry by offering to contribute towards the technology of marine diamond mining. This could be accomplished through research programmes at institutions of higher education

or by scholarships and bursaries to individual Namibian students through links with De Beers.

Option 12: Promoting cutting and polishing

This option is similar to option two, the maximising employment option, but has the following assumption:

- Because Namibia produces rough diamonds, it is in an advantageous position to develop a cutting and polishing industry. Namibia stands the greatest chance of industrialising by adding value to its own raw materials. It is unacceptable that Namibia exports its diamonds rough.

These assumptions are all highly questionable from an economic perspective yet they are convictions shared by many policy-makers and ordinary people in Namibia. There is no locational advantage in the diamond industry – diamonds are cheap and easy to transport. Wages and skills rather than the presence of raw materials are the main determinant of a country's success in achieving industrialisation. It is questionable whether focusing on diamond cutting and polishing really constitutes economic diversification. The cost of promoting this policy has already been outlined above. If cutting and polishing is to become a commercially viable activity in Namibia, it may only be possible within a much more ambitious framework of branding, marketing, design and retailing. This will require skilled and ambitious Namibian entrepreneurs who are capable of raising significant amounts of capital. Security will also become a larger problem as more and more rough diamonds remain within Namibia. In the absence of this broader framework, cutting and polishing is likely to remain a token activity designed to address political concerns at the lowest possible cost. It remains to be seen whether LLD Diamonds Namibia can prove the accepted wisdom wrong.

Option 13: Branding and marketing Namibian diamonds

This option involves developing a distinctive Namibian brand of diamonds based either on diamonds that are mined in Namibia or on diamonds that are cut and polished in Namibia or both. The option is based on the following assumptions:

- A certain proportion of consumers would be willing to pay a premium for a diamond produced under non-exploitative conditions from a peaceful but exotic part of the world.

- The country of origin of a diamond, either where it is mined or cut and polished, is important to a significant number of consumers.

These assumptions remain largely untested. Branding of diamonds, with a few exceptions, is a relatively new concept across the industry. No one has yet demonstrated that the country in which a diamond is mined has the potential to make any appreciable difference to its value. Pioneering such an initiative is likely to be both costly and risky. A large proportion of brands fail to become established with consumers. A further hurdle is that selling a diamond on the basis of its country of origin would strike at the very heart of the marketing agreement with De Beers and the whole strength of the DTC system.

Option 14: Exploiting the value chain and creating a jewellery industry

This option involves Namibia taking the initiative and creating a vertically integrated diamond company that captures as much of the value in the diamond pipeline as possible. It is based on the following assumptions:

- The potential to create value from Namibia's diamond resource has been fully exploited in mining and sorting. The remainder of the diamond pipeline – valuation, cutting and polishing, marketing, jewellery design and manufacture and retailing – has hardly been addressed by policy.

- Established jewellery manufacturers and retailers would be interested to exploit Namibian diamonds as an input into their business.

- The potential exists to cultivate Namibian expertise in all aspects of jewellery design and manufacture in a profitable way.

This option would involve invoking Section 58 under the condition that whoever was given access to Namibian rough would have to be able to develop the whole range of downstream activities using Namibian labour. It could involve Namibia setting up retail outlets of its own in the major cities of rich market countries. Government may have to underwrite the long-term training this would require but it may prove more cost-effective and have a wider range of benefits than simply promoting cutting and polishing. Such an initiative would possibly be strengthened if Namibian educational institutions offered relevant courses for students. Something similar has already been attempted in the deep-water fish industry.

Option 15: Promoting diamond tourism

This option involves using Namibia's reputation as a producer of high quality diamonds as an additional tourist attraction. It is based on the following assumptions:

- A commercially significant number of tourists are interested in finding out more about Namibia's diamond industry.

- The diamond industry can open itself up to more tourist initiatives.

- A worthwhile number of diamonds could be sold to tourists who come to Namibia as "Namibia diamonds", either because of their origin or where they were cut, polished and turned into jewellery.

NamDeb has already made preliminary investigations into the tourist potential of Oranjemund but few attractions are available to tourists that are interested in this aspect of Namibia. One of the only options at the moment is Ghost Town Tours, which guides tourists through an abandoned (but stunning) diamond town. NamDeb and other mining companies could team up with tourist companies to further develop these attractions. Both partners would have to gain financially and tourist activities would have to be such that they did not hinder the smooth running of the mining operations. One entrepreneur has attempted to create a line of Namibian jewellery using diamonds from non-Namibian

sources for sale to tourists without success. Debswana has rather half-heartedly attempted to create a range of Botswana jewellery using DTC diamonds for sale to tourists. The initiative is currently being revamped.

Option 16: Maximising Namibian business opportunities abroad

This option involves encouraging Namibian Foreign Direct Investment abroad by promoting Namibian cutting and polishing firms to establish operations in countries which have a much better chance of creating a vibrant cutting and polishing industry than Namibia. It is based on the following assumptions:

- With its high wage, low skill labour force and relatively highly regulated labour market, Namibia is unlikely to become a competitive place for diamond cutting and polishing companies.

- Although attracting FDI to Namibia is important for growth and development, encouraging Namibian FDI to other countries is equally important.

Namibian businesses could link up with Indian, Chinese or other businesses to form joint ventures cutting and polishing Namibian rough in more competitive environments. Namibia would gain to the extent that Namibian business people would no longer have to compete with one arm tied behind their backs would gain useful international business experience and would repatriate profits back to Namibia to pay shareholders.

Option 17: Investing in synthetic diamonds

This option involves Namibia becoming involved in producing synthetic diamonds, either as a shareholder or as a research partner. It is based on the following assumptions:

- Namibia is extremely dependent on diamonds and, unlike De Beers, has no real safety net if artificial diamonds catch on with rich world consumers.

- Namibia has to boost its spending on useful R&D and diamonds would be an area which would make national sense.

- Namibian research institutions currently produce little research that is relevant to the Namibian economy and register an extremely limited number of patents if any.

Namibia should attempt to participate in some of the research and development of artificial diamonds through its links with De Beers. This could start modestly by seconding Namibian researchers to selected research establishments or by Namibia purchasing its own machines and developing its own technology. The question is whether there are any scientists in Namibia capable of contributing to research on artificial diamonds?

Option 18: Encouraging diamond research and constant comparisons

This option involves Namibia establishing a greater capacity to undertake research on the diamond industry at home and abroad. The option is based on the following assumption:

- The international diamond industry is a complex and rapidly changing one. Namibia needs to keep abreast of developments if it is to be assured that it is getting the most from its diamond resource.

The question here is whether the required research capacity can be bought in from independent expert consultants on an ad hoc basis or whether a more permanent Namibian capacity needs to be established. It is interesting to note that research into the diamond industry is presently dominated by financial sector analysts, industry consultants or campaigning NGOs. There is certainly a lack of publicly available information on the diamond industry within SADC. Namibia needs to ask itself whether there is a need for something more homegrown and more public interest, possibly to serve SADC rather than single member states.

Table 11: Key options Namibia should consider

	Description of option
1	Developing a Diamond Strategy
2	Maximising government revenues from diamond mining
3	Increasing the rate of resource depletion
4	Maximising employment
5	Keeping options open
6	Buying into De Beers
7	Nationalising NamDeb
8	Privatising NamDeb
9	Partially privatising NamDeb
10	Creating a single SADC diamond company
11	Specialising in marine diamond mining
12	Promoting cutting and polishing
13	Branding and marketing Namibian diamonds
14	Exploiting the value chain and creating a jewellery industry
15	Promoting diamond tourism
16	Maximising Namibian business opportunities abroad
17	Investing in synthetic diamonds
18	Encouraging diamond research and constant comparisons

Based on the analysis presented in the first four sections of this report, this final section has outlined as many options as possible which Namibian policy-makers should consider in their efforts to maximise benefits to the overall economy from the country's rich diamond resource. Some of these may be immediately relevant to the current discussions between the Government and De Beers over the terms of the new sales agreement due to come into effect in 2005. Other options might

only become more important in the longer term. However, it is important that the larger longer-term picture is not lost sight of.

The intention behind listing as many options as possible is that everything should be considered before being dismissed. Clearly several of the options are contradictory and mutually exclusive. Others may be considered by many to be irresponsible. Our intention at this stage is not to recommend which options to pursue. The one option we find unambiguously convincing is that Namibia requires more ongoing research into the diamond industry and that this research is made available, not just to a few select individuals in Government, but to a wider range of policy-makers and the general public.

Finally, for all investments, the degree of reward is linked to the degree of risk. This is no different for the options faced by Namibian policy-makers in maximising benefits from diamonds. Responsible policy-making demands that extreme caution is exercised in taking new risks given the economy's high degree of dependence on diamonds. At the end of the day, policy-makers will have to carefully weigh up whether Namibia should risk more to gain more.

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X. Currency Conversions

When converting between local currencies and US dollars the following exchange rates were used:

Table 12: Annual average exchange rates for foreign currency per US dollar

In US$	*Botswana Pula (BWP)*	*Canada Dollar (C$)*	*Namibia Dollar (N$)*	*South Africa Rand (ZAR)*
1999	4.6236	1.4858	6.1176	6.1176
2000	5.0982	1.4856	6.9461	6.9461
2001	5.8283	1.5485	8.6096	8.6096
2002	6.3383	1.5704	10.5140	10.5140
2003	4.9537	1.4009	7.5544	7.5544
2004	4.7382	1.3179	6.7266	6.7266

Sources: Econstats (http://www.econstats.com) Last accessed 26 April 2004